

OPEC bulletin

9-10/06

Seminar Special



142nd OPEC Conference warns of oversupply

September 2006 – A special month for OPEC?

September 2006 was a special and a not-so-special month for OPEC.

Especially the second week.

This began with the 142nd Meeting of our Conference on the Monday, at our Secretariat in Vienna, where the focus, at least as far as the outside world was concerned, was on the near-term outlook for the market. In the light of the substantial moderation in oil prices in the preceding weeks, the Conference adopted a cautious, watchful approach, by agreeing that “Member Countries would take the necessary steps to ensure that supply and demand remained in balance, with prices at reasonable levels, supplying to the market the needed volumes.” At the same time, it “stressed its determination to ensure that crude oil prices remain at acceptable levels and Member Countries recorded their preparedness to respond rapidly to any developments which might jeopardize their interests.” Otherwise, the Conference would wait until December’s Extraordinary Meeting in Nigeria, before taking any market-related decisions that might then be considered necessary.

Tuesday saw the opening of the Third OPEC International Seminar at the historic Hofburg Palace in Vienna, and here the emphasis was on longer-term issues, as was clear from its title, ‘OPEC in a New Energy Era: Challenges and Opportunities’. As OPEC Conference President, Dr Edmund Maduabebe Daukoru, said in his welcoming address: “This theme has been chosen ... to reflect the fact that there have been fundamental changes to both the character and the dynamics of the world energy industry since the turn of the century, and that this may, in turn, affect the way the industry addresses the challenges that lie before it.” The partici-

pants included Ministers from OPEC’s 11 Member Countries and other oil-producing and oil-consuming nations, top officials from intergovernmental bodies, chief executives of national and international oil companies, and renowned academics.

Around 40 presentations later, Dr Daukoru concluded the two-day event on the Wednesday with the overriding message that “fossil fuels during the so-called new energy era will continue to dominate the global energy mix and will continue to be vital for supporting the forecast expansion in global economic growth, which, under normal conditions should stay robust.”

Full details of both the Conference and the Seminar can be found in this issue of the OPEC Bulletin.

It is clear from these two important events how much OPEC cares about the welfare of the international oil market, for both now and the future, and the lengths to which it will go to ensure order and stability at all times, to the benefit of producers and consumers alike.

But the story does not end here! OPEC goes even further than this.

For a less-heralded, but, in its own way, equally significant event occurred at the Secretariat on the Thursday. This was the first meeting of the newly constituted Editorial Board of the Organization’s specialist quarterly academic journal, the OPEC Review. As many readers know, OPEC has been producing this subscriber journal for 30 years and, during this period, it has established itself as a respected scholarly publication, offering its global readership high-quality papers on energy economics. Next year, it will be relaunched, to enhance its effectiveness as a channel for academic

discourse, and the Editorial Board, together with a newly designated General Academic Editor, the renowned energy specialist Professor Sadek Boussena, is part of the revamped administrative structure. OPEC considers it extremely important to have its own acclaimed academic journal, to demonstrate to the world at large how seriously it takes the need to access the very latest high-quality research to provide an intellectual base to its actions in the market and elsewhere.

And the Friday? Well, everyone needs time to recover!

But even more was to come in the third week of September. This saw top OPEC officials participate in two high-level meetings in Saudi Arabia on an issue which is gripping the global consciousness more than almost any other at the present time – climate change. One was the First International Conference on the Clean Development Mechanism and the other a Roundtable on Carbon Capture and Storage organised jointly by the European Union and OPEC as part of the wide-ranging energy dialogue they established last year. This demonstrated the importance OPEC attached to multilateral issues which relate to the provision of modern energy services, with particular emphasis on the needs of developing countries, sustainable development, and the eradication of poverty.

Clearly, with all of this happening, September 2006 was a special month for OPEC.

But was it really so special?

After all, OPEC was merely doing what it has been doing for decades – actively caring for the welfare of the oil market. The only difference to normal was that all this was happening within the space of one very hectic month. ■■

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 Rafael Ramirez, Venezuela; Arne Walthers, IEF;
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 Funsho Kupolokun, NNPC; Christophe de Margerie, Total

Session Three: Downstream challenges and opportunities

Chairman: Mohamed Bin Dhaen Al Hamli, UAE (p40)
Speakers: Claude Mandil, IEA; Dr Shokri Ghanem, Libya; Guoqiang Tang, China;
 Jeroen van der Veer, Royal Dutch Shell; Dr Martin Bartenstein, Austria



Cover shows the Hofburg Congress Centre, the venue of the Third OPEC International Seminar on *OPEC in a new energy era: challenges and opportunities*, held in Vienna, Austria, from September 12–13, 2006 (see pp22–87).

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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 coordinate 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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The OPEC Bulletin welcomes original contributions on the technical, financial and environmental aspects of all stages of the energy industry, including letters for publication, research reports and project descriptions with supporting illustrations and photographs.

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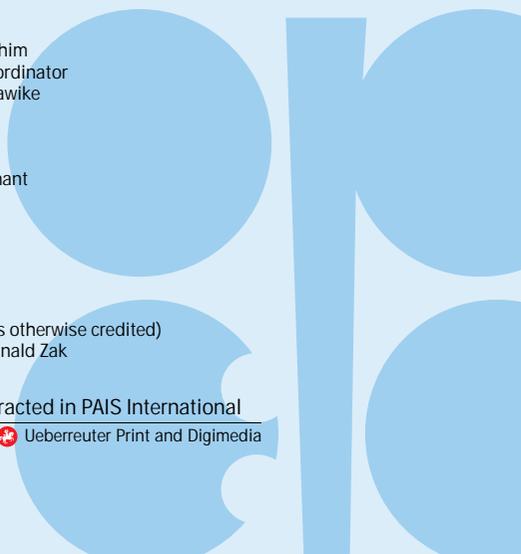
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As concerns over effects of crude oil oversupply heighten ...

OPEC Conference calls
on non-OPEC producers
to step up cooperation
in controlling output

OPEC has called on non-OPEC producers to continue cooperating with the Organization over oil production levels, following concerns that crude prices might fall too low next year as a result of a growing oversupply in the market.

The 142nd Meeting of the OPEC Conference, held in Vienna in September, highlighted the important role played by all oil-producing nations — OPEC and non-OPEC countries alike — in securing oil market stability.

In a communiqué issued at the end of the Ministerial Meeting, the Conference reiterated that it needed the help of non-OPEC producers to achieve market stability with prices that were “reasonable and consistent with robust economic growth.”

The Ministers pointed out that a fair level of price should be sufficient for providing steady revenue streams for the producing countries and the industry as a whole, as well as being conducive to the expansion of upstream



Arriving at the OPEC Secretariat in Vienna to attend the 142nd Meeting of the OPEC Conference are Ali I Naimi, Saudi Arabian Minister of Petroleum & Mineral Resources (pictured left) and Dr Chakib Khelil, Algerian Minister of Energy and Mines (below).



and downstream capacity, so that demand for crude and oil products could be comfortably met in the future.

Members of OPEC have been pumping close to capacity for some time as part of the Organization's bid to keep the market adequately supplied, as well as take the heat out of rising prices, which, despite the higher output, have still managed to virtually triple since 2002.

The higher production and prices have obviously spelled good news for the development of Member Countries' economies. The situation has also given a welcome boost to potential investment opportunities in the industry, an area that is becoming increasingly important for securing the industry's future.

However, in reviewing the oil market situation during the Conference, OPEC's Ministers were reminded of the fact that the increases in production they had instigated over the past few years — amounting to around 4.5 million b/d since 2002 — had contributed to a build-up in stocks to a level well in excess of their five-year average.

Abdullah bin Hamad Al Attiyah, Qatar's Second Deputy Prime Minister and Minister of Energy and Industry, arrives at OPEC headquarters.



Below: Dr Chakib Khelil, Algerian Minister of Energy and Mines (c), Hamid Dahmani (r), Algerian Governor for OPEC, and the Algerian Ambassador to Austria, Taous Feroukhi (l).





Dr Edmund Maduabebel Daukoru, President of the OPEC Conference and Nigerian Minister of State for Petroleum Resources.



Left: Pictured at the plenary session is the Iranian delegation, headed by Sayed Kazem Vaziri Hamaneh (l), Minister of Petroleum, accompanied by the Iranian National Representative to OPEC, Javad Yarjani.



Heading the Saudi Arabian Delegation is Ali I Naimi (l), Saudi Minister of Petroleum & Mineral Resources, pictured here with the Saudi Ambassador to Austria, Omer Mohammed Kurdi.

Although this had undoubtedly reduced anxiety in the marketplace over a potential supply crunch occurring, on the other side of the coin such high inventories posed a potential threat to oil prices, especially if the non-fundamental elements supporting price levels today, such as geopolitical tensions, were suddenly removed.

More worrying for the Ministers was a report showing that, against this background of crude oil supply outstripping demand, production from non-OPEC producers, which fell back somewhat in 2005, was forecast to rebound strongly.

Figures provided by the OPEC Secretariat said that output from non-OPEC producers was expected to rise by one million b/d this year, and to almost double that to 1.8m b/d in 2007.

It is this rebound in supply — incidentally the highest for non-OPEC since 1984 — that has sent alarm bells ringing within OPEC. It inevitably points to a worsening of the imbalance between supply and demand, making next year potentially difficult.

And with prices already falling back — the OPEC Basket declined by over \$5/b between August and September — OPEC's Ministers decided to act quickly by urging pro-

ducers outside the Organization to cooperate in supporting oil market stability.

Asked about the slump in prices ahead of the Ministerial talks, OPEC Conference President Dr Edmund Maduabebe Daukoru said the development was "worrisome and unmitigated."

He acknowledged that, due to a slowdown in demand, coupled with higher output from non-OPEC producers and the very high stock levels, prices had suffered a partial meltdown — falling from \$78/b to around \$67/b in just 30 days — which represented one of the biggest short-term price drops in recent years.

Daukoru, who is Nigeria's Minister of State for Petroleum Resources, pointed out that as OPEC built up its output capacity, "we see it (the market) going back to the classic relationship between stocks and price — the higher the stocks, the lower the price."

He explained that when OPEC's spare production capacity was low, the market simply ignored stock levels — and the prices "kept galloping ahead". OPEC was now building up its spare capacity — a fact that was reassuring people on supply, and resulting in the usual market dynamics beginning to apply.



Dr Hussain Al-Shahristani, Iraqi Minister of Oil and Iraq's Ambassador to Austria, Tariq Aqrawi (r).



Dr Shokri Ghanem (l), Chairman of the People's Committee, the National Oil Corporation of the SP Libyan AJ, with Dr Edmund Maduabebe Daukoru, President of the OPEC Conference and Nigerian Minister of State for Petroleum Resources, and Dr Mussam H Al-Dujayli (c) from the Iraqi Delegation.



Mohamed Bin Dhaen Al Hamli (l), Minister of Energy of the United Arab Emirates; HRH Prince Abdulaziz Bin Salman (r) from Saudi Arabia; and the UAE's Ambassador to Austria, Ahmed Fahad Al-Dosari (c).



“That is why we now have to take stock levels more seriously than before. The market is oversupplied. We have had almost four good years, and we do not want to leave anything to chance,” he stated.

The Conference President observed that OPEC for some time had been on “autopilot” with regard to its production policy decisions, but now it was perhaps “time to take manual charge again”.

The oversupply problem was also brought to the attention of the Ministers by the Organization’s Ministerial Monitoring Sub-Committee, which, after studying the situation, recommended that the Conference urge all Member Countries to strictly enforce output quotas at a time of increasing concern about falling oil prices.

The Sub-Committee, comprising the Oil and Energy Ministers of Iran, Kuwait and Nigeria, studies supply,

Heading the Indonesian delegation to the Meeting is the Ambassador to Austria, Triyono Wibowo (r), here with Dr Maizar Rahman, Indonesian Governor for OPEC and Chairman of the OPEC Governing Board.

demand and pricing data ahead of each OPEC Ministerial Meeting to offer advice to the Ministers on what policy decisions to adopt.

Sub-Committee Chairman Sayed Kazem Vaziri Hamaneh, Iran's Petroleum Minister, said in a brief interview afterwards that supply from both OPEC and non-OPEC producers was higher than demand, which was moderating at the moment.

"Stocks are also at a very high level — maybe at levels we have not seen in the past, due to the fact supply has been at such high levels for some time. This has put some considerable pressure on prices," he maintained.

The Minister explained that during a time of higher prices, some producing fields that were not economical with lower prices had come onstream, meaning that more supply was available. This was a trend that could continue in the months ahead.

After detailed discussions, the Sub-Committee saw no reason to adjust OPEC's current production ceiling of 28m b/d, but recommended that the Ministers sought strict adherence to this level of output.



Above: Abdullah bin Hamad Al Attiyah (r), Qatar's Second Deputy Prime Minister and Minister of Energy and Industry and Abdulla H Salatt, Qatar's Governor for OPEC and Senior Advisor to the Minister.



Ms Siham Abdulrazzak Razzouqi (l), head of the Kuwaiti delegation and Kuwait's Governor for OPEC, with Sayed Kazem Vaziri Hamaneh (c), Iranian Minister of Petroleum and Hossein Kazempour Ardebili (r), Iranian Governor for OPEC and Senior Advisor to the Iranian Minister.



Rafael Ramirez (c), Venezuelan Minister of Energy & Petroleum being questioned by members of the press, with Iván A Orellana (r), Venezuelan Governor for OPEC.

Over the years, OPEC has learned — often to its cost — that close scrutiny of the international oil market, and especially good foresight, coupled with speedy action, are essential for successfully overcoming potential problem areas.

“It used to be a case of the old adage ... closing the gate after the horse has bolted, but fortunately, nowadays, OPEC’s Ministers are more adept at staying one step ahead of the game. They are now seeing problems materializing on the horizon and are acting quickly and effectively before they come to fruition,” commented one OPEC Conference observer.

He said the Organization was fully cognizant of the fact that its policy of maximizing production, although commendable in ensuring more-than-adequate supply and instilling confidence in the consuming countries, had a potential downside.

“Everyone who has been in this industry knows the effects a glutted market can have on the market — we have suffered single digit oil prices because of that in the past. The secret is to get a feel — an insight — into the way things are likely to go and from its many years of experience, OPEC now does that increasingly well,” he added.

OPEC remains committed to its proactive policy of supporting market stability and is continuing with its production capacity expansion plans to ensure that a comfortable supply cushion is in place for all demand eventualities.

This policy has the overriding aim of bringing about market conditions that will support world economic growth levels. OPEC is especially concerned about the effects sustained high crude prices could have on the economies of oil-importing developing countries, where



Conducting the final press conference are Dr Edmund Maduababe Daukoru (l), President of the OPEC Conference and Nigerian Minister of State for Petroleum Resources, and Dr Hasan M Qabazard (r), Director of OPEC's Research Division.

it knows that reasonable price levels are essential for allowing much-needed socio-development programmes to proceed unhindered.

In support of this caretaking role, the OPEC Conference said its Members would take all necessary steps to ensure that supply and demand remained in balance. The Ministers again stressed their determination to ensure that crude oil prices remained at acceptable levels.

They stated that they would continue to vigilantly monitor supply and demand fundamentals and, in the light of the many downside risks already identified, empowered the Conference President to "make the necessary consultations prior to the December (OPEC) Meeting, should market conditions so warrant."

Said the OPEC communiqué: "Member Countries recorded their preparedness to respond rapidly to any developments which might jeopardize their interests."

Barring any action in between, the Conference said it would review market developments at its 143rd (Extraordinary) Meeting in Nigeria on December 14.

At the press briefing held at the close of the Vienna Ministerial talks, Daukoru did not define a price band that the Organization was seeking to establish, but said such a price should be "very, very reasonable".

He added: "There are very deep explorations going on off the coast of West Africa and in the Gulf of Mexico and that sort of exploration needs robust prices, or no one will make the commitment to exploration. That is what we mean by a reasonable price, for everyone."



Dr Edmund Maduabebe Daukoru (l), President of the OPEC Conference and Nigerian Minister of State for Petroleum Resources and Mohammed Barkindo (r), Acting for the OPEC Secretary General.

OPEC's message on importance of security of supply “finally getting through” — *Daukoru*

OPEC Conference President, Dr Edmund Maduabebe Daukoru, has said that the Organization's conviction that security of demand must go hand-in-hand with security of supply as a means of achieving oil market stability was finally gaining recognition within the industry.

“We are pleased to see that this message is finally getting through,” the Nigerian Minister of State for Petroleum Resources told the plenary session of the 142nd Meeting of the OPEC Conference.

He stressed that without producer confidence that predictable, reliable demand for oil would emerge, the incentive to undertake the necessary investments for capacity expansion could be in jeopardy.

OPEC, said Daukoru, was particularly pleased about the broader-based approach towards the issue of energy security that emerged from consuming countries at the G8 Summit in St Petersburg, Russia in July.

“We hope that this will bring to an end the narrow viewpoint on this important issue that has been prevalent for decades in policy circles, which stressed only security of oil supply,” he stated.

Turning to oil prices, Daukoru said that since the last OPEC Meeting in Caracas, Venezuela in June, the price of the OPEC Reference Basket had reached new record highs, exceeding \$70/b, before softening considerably ahead of the September OPEC talks.

He noted that the high price trend had again persisted, despite the oil market remaining well-supplied with crude, with commercial stocks at very high levels — both in absolute volumes and days of forward cover.

The specific reasons for the summer price peaks were the outbreak of hostilities in Lebanon, fears of hurricanes in the US Gulf, coupled with the sudden shutdown of the Prudhoe Bay oil field in Alaska. These were in addition to the prevailing market influences of concern over the lack of effective global oil refining capacity, anxiety about the ability of oil producers to meet anticipated future oil demand, geopolitical developments in some producing countries and speculation in the oil futures markets.

Daukoru told his fellow Ministers that it was of particular interest to note that the relationship between crude and product prices had appeared to have diverged recently, with gasoline prices showing greater volatility than crude. Between the end of 2004 and July this year, the price of United States benchmark crude West Texas Intermediate had risen by \$26/b, or by about 50 per cent, compared with the much higher \$46/b, or 90 per cent, for US gasoline prices, he explained.

“Crude oil volatility appears to have subsided over the past year, due to ample supply, rising OPEC spare capacity, plentiful strategic reserves and abundant commercial crude inventories, which are now at their highest levels since 1998,” Daukoru affirmed.

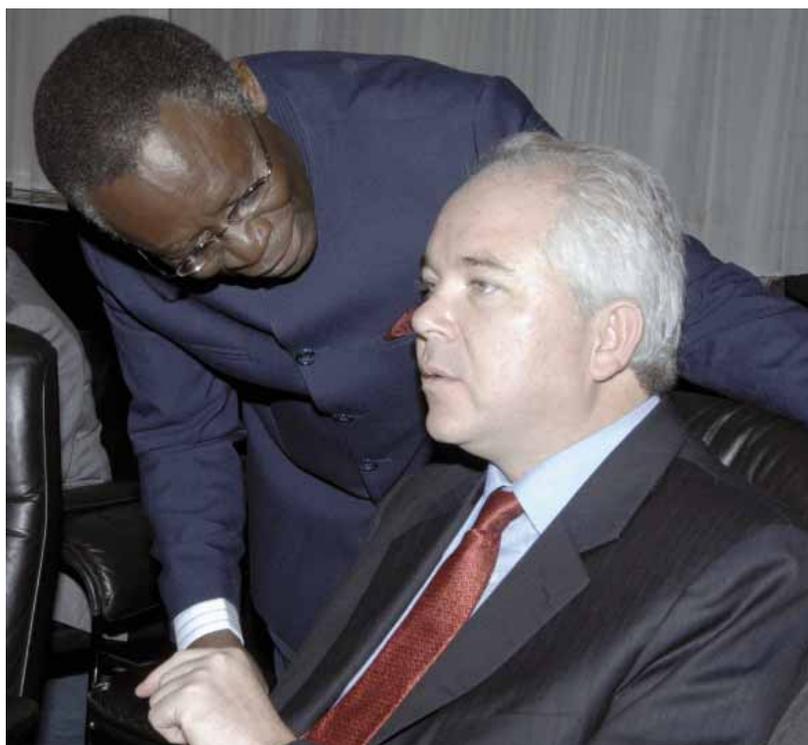
On the other hand, he said, the increasing volatility of gasoline could be attributed to higher demand, increasingly stringent product specifications and the issue of the adequacy of ethanol supplies. In particular, the relatively low level of gasoline inventories, in terms of days of forward cover, coupled with the lack of spare refinery capacity, had left an uncomfortably thin cushion of spare supply. “Hence, the growing volatility reflects

an increased sensitivity to developments in the product markets, such as unexpected outages or even planned refinery shutdowns,” commented Daukoru.

The Minister said that speculation, which had been responsible for pushing prices to levels far above those warranted by market fundamentals, was not only disruptive for the oil industry, but was also having serious knock-on effects further afield in the global economy, with potentially serious repercussions for the highly indebted developing countries.

“It is essential, therefore, that this issue is addressed effectively soon, once and for all, particularly where it involves parties far removed from the day-to-day affairs of the industry,” contended Daukoru.

The Conference President reiterated that effective processes of dialogue and cooperation provided the cornerstone of a stable and orderly international oil market, benefiting producers and consumers alike.



Dr Daukoru with Rafael Ramirez, Venezuelan Minister of Energy & Petroleum.

Conference observers pledge continued support for OPEC decisions

As on many previous occasions, high-level representatives from leading non-OPEC oil-producing countries — namely Mexico, Egypt, Russia, Angola and Syria — once again attended the Conference as observers. OPEC Ministers greatly value their input, which forms an important part of the dialogue and consultations OPEC promotes with fellow oil-producing nations in its bid to achieve stability in the global oil market. Below are some of their comments made at the plenary session.

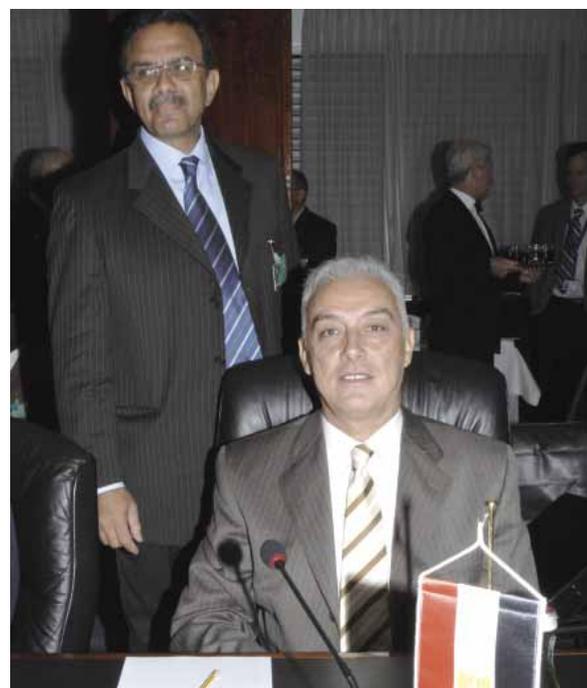


Dr Hector Moreira (seated), Mexican Under-Secretary for Hydrocarbons and Raúl Cardoso, Director of PMI Spain.

Dr Hector Moreira, Mexican Under-Secretary for Hydrocarbons — expressed his country's interest in continuing a dialogue with OPEC to broaden its views on oil market perspectives. "For our country, dialogue between oil-producing countries is key to ensuring coordinated actions towards market stabilization efforts. We also believe that sustained cooperation between producers

and consumers is essential for identifying the market's needs, to achieve benefits mutual to all involved, and to guarantee resources for exploration. We are happy to collaborate with OPEC in its desire to bring stability to world oil markets." He assured the Ministers that the arrival of a new Mexican government would not result in a change of the country's oil production policies. Investment in exploration and production had increased in recent years and stood at \$10.5 billion in 2005. Mexico's current oil production stood at 3.4m b/d — an all-time record high, he added. In the country's downstream operations, refineries had been adapted to allow for the increasing requirement of being able to process heavy crudes.

Sameh Fahmy, Egyptian Minister of Petroleum — in commenting on the current high oil prices, said this situation was not of OPEC's doing. "OPEC efforts and its commitment to market stability have led to a comfortable sup-



Sameh Fahmy, Egyptian Minister of Petroleum, with Eng Shamel Hamdi, First Undersecretary.



Ing Safian Al-Alao, Syrian Minister of Petroleum and Mineral Resources.

ply situation. Furthermore, OPEC Countries always react instantaneously to any supply disruption." He said prices were being driven by concerns over sufficient spare output capacity being available, continuing tightness in the refining sector, as well as geopolitical developments — factors that oil producers had no influence over. He said that, in the short term, the industry had to build more production capacity and countries needed to look for more reserves. "This means we can respond to market demands more promptly. More investment is needed, of course taking into account the capital intensive nature of the oil industry," Fahmy added. He reiterated Egypt's support for decisions taken by OPEC to achieve market stability, stressing that success in achieving this desired equilibrium and a moderating of prices required the full support and cooperation of all players in the market — both the producers and consumers. "All parties gain from market stability, so all parties must contribute to enhancing it," he declared.

Andrey G Reus, Russia's Vice Minister of Industry and Energy — stated that the world oil market needed stability and predictability, but that could only be ensured through the joint efforts of all the participating parties, namely suppliers, consumers, and transit countries. "If we are to attract the huge investments needed for the petroleum sector, we require investors to have the confidence in the viability of bringing new facilities onstream. We need a regular exchange of timely information," he maintained.



Andrey G Reus (seated), Russia's Vice Minister of Industry and Energy, and Dr Stanislav Zhiznin, Senior Counsellor, Department of Economic Cooperation, Ministry of Foreign Affairs, Russian Federation.



Desiderio da Graça Veríssimo e Costa (r), Angolan Minister of Petroleum, accompanied by José Paiva, Director of Sonangol.

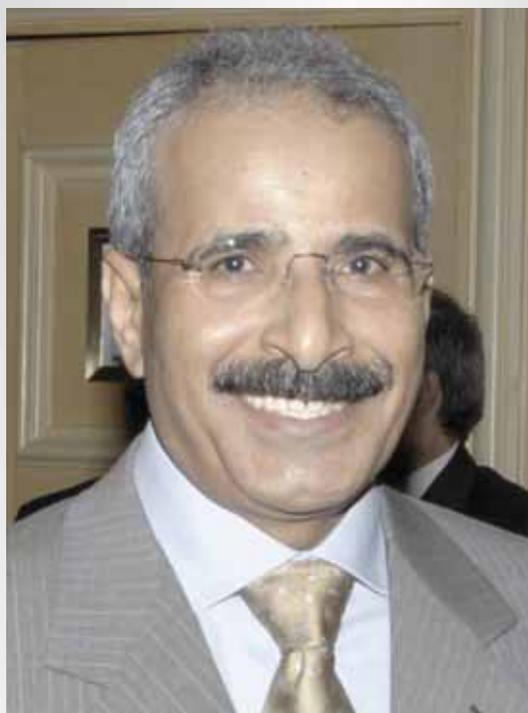
He said Russia welcomed measures taken by OPEC to ensure stability in the global oil market. Domestically, he said Russia was in a unique situation. On the one hand the country was a global energy supplier, but on the other it was a global energy consumer. And at the same time, it was a transit country. "We are well aware of all the risks in this process," he affirmed.

Desiderio da Graca Verissimo e Costa, Angolan Minister of Petroleum—thanked the Conference for allowing countries such as his to share in the discussions and information so that proper and coordinated action to stabilize markets could be taken. He put forward the view that

political factors still remained the biggest threat to oil prices. Domestically, he said Angola's output continued to increase, with new production due to come online in December. By the middle of next year, another oil development would add an additional 200,000 barrels per day to total output. "Angola remains on course to reach a total production level of 2m b/d by the end of next year, or early in 2008," he told the Conference.

Safian Al-Alao, Syrian Minister of Petroleum and Mineral Resources—said it was a great pleasure to join in the efforts being made by the OPEC Conference in the Organization's bid to stabilize the market.

Al Hamli elected Conference President for 2007



The 142nd Meeting of the OPEC Conference elected Mohamed Bin Dhaen Al Hamli, Minister of Energy of the United Arab Emirates, as President of the Conference for one year, with effect from January 1, 2007.

Al Hamli, Chairman of the Board of Directors of the National Gas Shipping Company and the Abu Dhabi National Tanker Company, was the UAE's Governor for OPEC between 1994 and 2002. He became his country's Energy Minister in November 2004.

Married, with seven children, he is also a Board Member of ADNOC Distribution, the Abu Dhabi Oil Refining Company, the International Petroleum Investment Company, the Abu Dhabi Retirement Pensions and Benefits Fund, the Higher Corporation for Specialized Economic Zones, the Hyundai Oilbank Company, South Korea, as well as a Committee Member of the Supreme Petroleum Council (SPC).

Born in December 1952, Al Hamli completed the Advanced Management Programme at Harvard Business School in 1988. Before that, in 1980, he was appointed Internal Auditor at the Abu Dhabi Marine Operating Company, where over a nine-year span, he held a number of positions including, Controller, Internal Audit, Manager of Management Research, Manager of General Services, and Assistant General Manager (Administration).

In February 1989, Al Hamli was appointed Director of Finance at the Abu Dhabi National Oil Company (ADNOC), a position he held for one year before becoming Director of Marketing.

In May 1992, he was appointed Director of Personnel at ADNOC and six years later became Director of Marketing and Refining, a position he still holds today. In between, he also spent 18 months as General Manager of ADNOC Distribution, a responsibility he assumed in March 1997.

Khelil elected Alternate Conference President



Dr Chakib Khelil, Minister of Energy and Mines of Algeria, was elected Alternate President of the Conference, with effect from January 1, 2007.

Born in August 1939, he has held his country's energy portfolio since December 1999.

Khelil, who is married with two children, joined the World Bank in 1980, where, for almost 20 years, he carried out petroleum projects in Africa, Latin America and Asia. He was appointed Head of the Bank's Energy Unit for Latin America and finally became its Petroleum Adviser.

He took early retirement from the Bank in October 1999 to become Adviser to the President of Algeria.

Proficient in five languages — English, French, Spanish, Portuguese and Arabic — Khelil attained a PhD in Petroleum Engineering at the Texas A & M University, in the United States, in 1968.

He first worked for Shell and Phillips Petroleum in Oklahoma and also D R McCord and Associates in Dallas, Texas.

Khelil returned to Algeria in 1971 as Head of the national oil company Sonatrach's Petroleum Engineering Department. He was also appointed President of Alcore, a joint venture between Sonatrach and Corelab.

Two years later, he became Technical Adviser to the Algerian President, a position he held for three years. He also became President of the Valhyd Programme in Algeria to plan, develop and finance hydrocarbons resources.



The Conference appointed Hossein Kazempour Ardebili, Governor for Iran, as Chairman of the Board of Governors for the year 2007.



Dr Falah J Alamri, Governor for Iraq, was appointed Alternate Chairman of the Governing Board for the same period.

Dr Hussain Al-Shahristani – new Iraqi Oil Minister



Dr Hussain Al-Shahristani was appointed Minister of Oil for Iraq in May this year by the country's first democratically elected government.

Born in Karbala in 1942, he took up the post after being First Deputy Speaker in the Interim National Assembly in 2005.

A nuclear scientist, he obtained a BSc (Eng) and DIC from Imperial College, London in chemical engineering in 1965 and an MSc in 1967. His PhD in Nuclear Science came in 1970 from the University of Toronto, Canada.

In the same year, he took up employment with the Nuclear Research Centre in Baghdad. In 1979, he was promoted to Chief Scientific Advisor to the Iraqi Atomic Energy Commission.

Unfortunately, in that same year he was jailed for refusing to work on nuclear military programmes. He was incarcerated for 12 years before managing to escape to the United Kingdom, where he became a Visiting Professor at the University of Surrey.

Sheikh Ali Al-Jarrah Al-Sabah – Kuwait's new Minister of Energy



Sheikh Ali Al-Jarrah Al-Sabah was appointed Minister of Energy of Kuwait in July this year.

Before taking over the energy portfolio, Sheikh Ali, who was born in January 1950, was first Minister of Social Affairs and Labour and then Minister of Commerce and Industry.

A Bachelor of Political Science, which he attained at Kuwait University in 1971, Sheikh Ali's career started in 1972 when he became the Attaché at the Economic Department of the Kuwait Foreign Ministry.

From 1973 to 1975, after moving to the Kuwait Embassy in Tehran, he progressed from Third Secretary to First Secretary. He was then appointed Director of Local and Arab Investment at the Ministry of Finance, a position he held for eight years.

In 1976, he spent two years with the Kuwait Investment Office in London and in 1977 was made Head of the Founding Committee of the Kuwait Finance House. One year later he was appointed a Board Member of the

Egyptian-Kuwaiti Real Estate Development Company (Egypt), and in 1979 became Chairman of the Kuwait Re-Insurance Company.

Sheikh Ali then received a number of banking appointments, including Deputy Chairman, Bahrain Kuwait Insurance Company, a Founding Member and Chairman of the Kuwaiti Tunisian Bank, Chairman of the Egyptian-Kuwaiti Real Estate Development Company, Board Member and later Chairman of the Bahrain Middle East Bank, Board Member and later Chairman

and Managing Director of the Burgan Bank, Board Member and later Chairman of the International Bank of Asia, Founding Member and Board Member of the Arab Banking Corporation (ABC), Bahrain, and Member of the Executive Committee and Board Member of Banco Atlantico, Spain.

In 2000, he became a Member of the Executive Committee of the Bahrain Middle East Bank. He was later appointed Executive Committee Head and then Chairman of the bank.

Dr Shokri Ghanem – appointed by Libya



Dr Shokri Ghanem, a former Director of the Research Division at the OPEC Secretariat in Vienna, was appointed Libya's Chairman of the People's Committee, the National Oil Corporation (NOC), in March this year.

Before moving to his present post, Ghanem, who headed the OPEC Research Division for eight years from July 1993, was Secretary of the General People's Committee, a position he held for three years.

Before that he was Secretary of the General People's Committee for Economy and Trade, a portfolio he took up after his term with the OPEC Secretariat ended.

Born in Tripoli in October 1942, Ghanem studied at the University of Libya, Benghazi, where in 1963 he attained a BA in economics. Nine years later, at the Fletcher School of Law and Diplomacy, Boston, Mass, in the United States he gained his Economics Masters degree. One year later, he attained a Masters in Law and Diplomacy. In 1975, he gained a PhD in international economics at the same university.

Ghanem began his career at the Libyan Economy Ministry in 1963, where he was Deputy Director and then Director of Foreign Trade. Five years later he moved to the Ministry of Petroleum, where, during a nine-year stay, he held numerous positions, including Member of the Board of Directors and Director of Marketing (NOC), Director of Economic Affairs, Under Secretary, and Chief Advisor.

In 1977, he was appointed Chief Economist and Director of the Energy Studies Department of the Arab Development Institute in Tripoli, where he stayed for 11 years. Also, between 1982 and 1984, Ghanem was an academic visitor to the School of Oriental and African Studies, at the University of London.

In 1988, Ghanem became a Professor of International Economics at the Faculty of Economics, Al-Fateh University, Tripoli and at the El-Jabal El Gharbi University, Gharyan. He lectured at these establishments for five years before taking up his position with the OPEC Secretariat in the Austrian capital.

Ghanem, who is married with three daughters and a son, has, during his distinguished career, attended numerous international conferences, often as a keynote speaker and/or panelist, as well as publishing many articles in Arabic and English for specialized energy publications. He has also authored a number of books in Arabic and English.



“Outstanding!”

OPEC Seminar on new energy era hailed a resounding success

The challenges and opportunities facing OPEC and the international oil industry in the much-heralded new energy era were the subject of extensive discussion at the Organization’s Third International Seminar, in Vienna, on September 12–13 — an event that proved to be another landmark achievement for the Organization.



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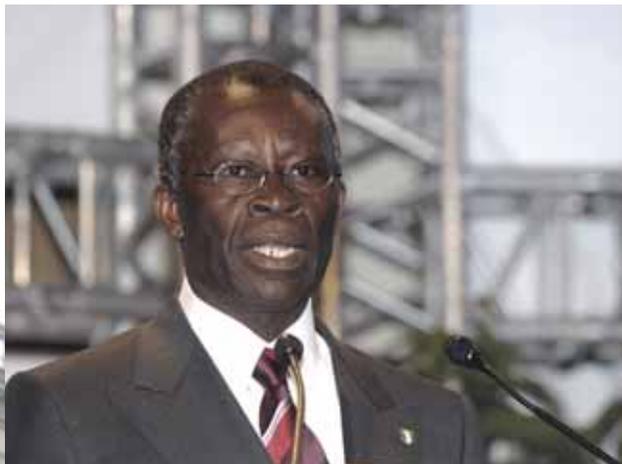


قطر للبتروول
Qatar Petroleum



PERTAMINA
Always There





OPEC Conference President, Dr Edmund Maduabebe Daukoru (above), introduced by the Master of Ceremony, Eithne Treanor (r), during the opening ceremony of the seminar held at the Hofburg Palace (pictured below) in Vienna, Austria.





“Our minds have been assailed by a torrent of ideas, information, statistics, interpretations and visions ...”

Dr Edmund Maduabebe Daukoru

The Third OPEC International Seminar, organized by the London-based CWC Group, in conjunction with the OPEC Secretariat, truly left its mark in heralding the new energy era. A prestigious and busy two-day event, it attracted some 500 participants and speakers, including oil and energy ministers, oil company executives, high-level consuming and producing government representatives and petroleum experts and analysts.

Most importantly, it marked another valuable step forward in OPEC’s growing relations with other players associated with the international oil market.

Fittingly held at the splendid Hofburg Palace, home to the Austrian Habsburg-Lothringen emperors until 1918, where many landmark decisions have been made over the years, the seminar’s packed agenda, which was divided into various categories, covered a series of topical issues

that will continue to have a bearing on the contemporary oil industry.

In describing the gathering as “outstanding”, OPEC Conference President, Dr Edmund Maduabede Daukoru, said at the culmination of the discussions: “Our minds have been assailed by a torrent of ideas, information, statistics, interpretations and visions ... it will probably be a day or two before we can sift through them all and consolidate our own personal perspectives.”

In his closing remarks to the event, he continued: “There is, indeed, plenty to reflect upon and, if this in any way enhances our individual and collective contributions to meeting the global energy challenges, then the seminar can truly be adjudged a success.

“I am sure we have all benefited in some way from this seminar. Numerous positions and points of view have been outlined and many messages have been delivered, covering the whole spectrum of energy as seen from the perspective of producers, consumers and investors alike,” he said.

Fundamental changes

Daukoru, who is Nigeria’s Minister of State for Petroleum Resources, told participants that it had been “a privilege and an honour” to be entrusted with such an undertaking — a gathering of such eminent people from different parts of the world energy industry, in the fields of government, industry, academia and the media.

Two days earlier, in officially opening the seminar, he referred to the event’s theme ‘OPEC in a New Energy Era: Challenges and Opportunities’, which, he said, had been chosen after careful deliberation and to reflect the fact that there had been fundamental changes to both the character and the dynamics of the world energy industry since the turn of the century.

This metamorphosis, he said, in turn could affect the way the industry addressed the challenges that lay before it.

“We shall, in fact, be assessing the extent to which this really is a new energy era. We shall also be cognizant of the fact that challenges, if mastered wisely, create new opportunities from which the world at large can — and should — benefit,” he told delegates.

Daukoru said that during this “changing tide of events”, current perceptions about the true state of the industry had come under scrutiny.

“This has resulted in some familiar perennial debates being pursued with renewed vigour in such key areas as

energy security, global resources, the supply and demand balance and price stability,” he noted.

Broader-based issues

He said the seminar would look at these and many other topical issues that related to the day-to-day running of the industry, as well as its orderly development in the years ahead.

At the same time, participants would discuss the broader-based issues, such as the environment, sustainable development and the eradication of poverty.

Daukoru said that in order to tackle the extensive subject-matter, the seminar had been divided into six sessions: *Global energy outlook — what are the challenges ahead?; Oil production capacity expansion; Downstream challenges and opportunities; Role of petroleum technology advances; Petroleum and sustainable development; and The role of OPEC in a new energy era.*

The seminar attracted participants from across the international energy spectrum, including ministers from OPEC Member Countries and other oil-producing and oil-consuming nations, top officials from intergovernmental bodies, chief executives of national and international oil companies, and renowned academics.

The Fourth OPEC International Seminar is scheduled to be held in September 2008.

The following 62 pages offer a comprehensive account of all speakers’ addresses delivered over the two days of the seminar, as well as full pictorial coverage.



The Seminar attracted some 500 participants and speakers, including oil and energy ministers, oil company executives, high-level consuming and producing government representatives and petroleum experts and analysts.



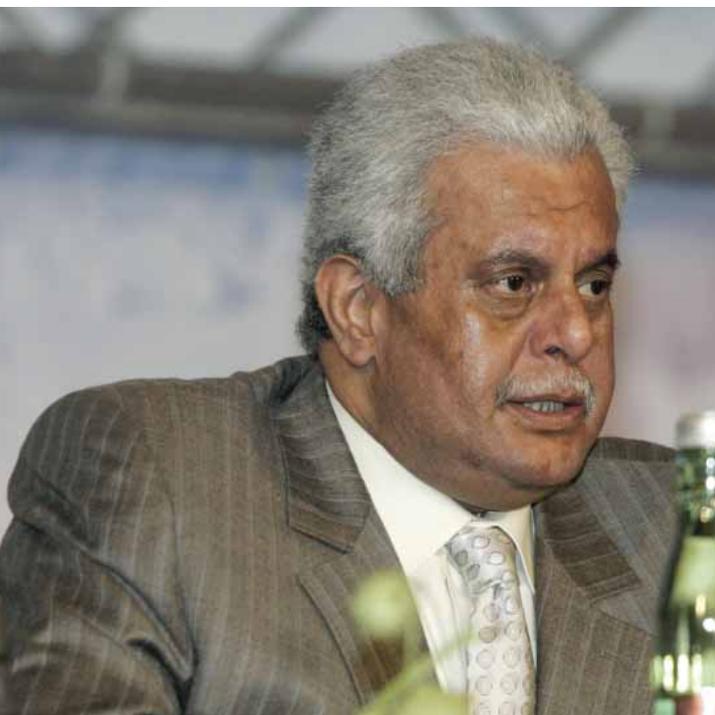
Day 1 September 12, 2006

Session One:

Global energy outlook: what are the challenges ahead?



The objectives of the first session comprised highlighting the main developments of the energy sector; addressing the short- and long-term prospects for the world economy and the oil market; and focusing on the challenges facing producers and consumers and their implications on the energy sector.



Session Chairman was Abdullah bin Hamad Al Attiyah, Second Deputy Prime Minister and Minister of Energy and Industry of Qatar.

In brief remarks before introducing the speakers, Al Attiyah said the title of the seminar was very important, but he maintained that the issue should not be limited to defining the challenges ahead, but finding ways to cooperate to overcome the challenges, such as supply disruption, securing continued world economic growth, and ensuring improved standards of living for all people. "We always live with challenges — we cannot live without them," he said.



The keynote address for this session was given by **Andris Kesteris**, Head of Cabinet of Commissioner Piebalgs at the European Commission, who spoke on the European Union's energy outlook and the challenges ahead.

The energy challenges the world was facing, said Kesteris, had never been greater. Three important areas that demanded close attention were global warming; the rapid growth in world energy demand and its effect on prices; and security of supply, which involved coping with increasing competition for limited resources of oil and gas.

In its response to the challenges, the Economic Commission (EC) had drawn up a green paper on a European Union (EU) energy strategy, which was issued in March this year.

This, said Kesteris, established three equal and complementary objectives for a regional energy policy—sustainability, competitiveness, and security of supply. It also set out a list of priority areas which it considered a new energy policy for Europe should address.

He explained that the blueprint for the new policy would be the EC's Strategic European Energy Review, which the Commission intended to release in January 2007.

This document, said Kesteris, would set out where Europe was heading under current policies and consumption patterns and where it needed to make changes to achieve its policy goals.

"It will be the first step towards finding common answers to the challenges we face, and finding a way for Europe to pursue them collectively," he said.

Kesteris noted that in support of this goal the EU had launched energy dialogues with all the major producers

and consumers, including OPEC, Norway, Russia, the Gulf Cooperation Council (GCC), the Caspian Sea states, North African countries, the United States, China, India, Korea, ASEAN and MERCOSUR, while also participating fully in the IEA and the workings of the Group of Eight industrialized countries.

"The aim of these dialogues is to exchange views about the main challenges shaping the future of energy markets and to promote policies and technologies to cope with these challenges," he affirmed.

Kesteris noted that, within its energy dialogue, three ministerial meetings had so far been held with OPEC and this year would see four joint events held, covering workshops on carbon capture and storage, energy policies, refining investment needs, and the impact of market speculation on oil prices.

The EU, he stressed, intended to pursue and deepen this dialogue with OPEC, as well as with other international players. This was a major policy tool for facing the future challenges of the energy sector.

"Energy is a global issue. The G8, the IEA, ASEAN, MERCOSUR, OPEC and, of course, the EU, have all placed energy at the top of their agendas — and rightly so," said Kesteris.

"In my view, dialogue and global consensus-building are the only way forward. This is why today's seminar is so important. And this is why the EU will continue to involve OPEC in its future work," he added.



In the next address, Mohammed S Barkindo, Acting for the OPEC Secretary General, gave an overview of the energy outlook, including challenges and opportunities facing the Organization.

Looking at the situation today, said Barkindo, anxiety and concern about local, regional and global energy security was topping the political agendas of most countries, regarding not just oil, but the entire energy value chain.

“Amid such volatility and risk, uncertainty and challenges abound, but so too do opportunities,” he stated.

In the 21st century, he said, there were many issues to consider in the shifting dynamics of price, supply and demand. These included the future role of OPEC and non-OPEC supply, the resource base issue, new technological developments, the changing and expanding role of national oil companies, environmental considerations, biofuels and other alternatives, the downstream sector, as well as rising project costs involving infrastructure and human resources.

Barkindo said it was still difficult to say whether this changing face of the oil industry meant “we are entering a new energy era”, but what was clear was that there were many new realities at play.

“The focus must be two-fold — viewing the entire

energy market holistically; and taking into account the multiple time horizons. It is critical that we, as an industry, tackle the challenges and opportunities collectively, and head on,” he professed.

Barkindo pointed out that against a background of rising demand OPEC continued to play its part in keeping the market well-supplied, as well as ensuring that a comfortable cushion of spare capacity existed at all times.

“From an OPEC perspective, we believe the Organization is becoming better understood in its dedication to supporting market order and stability and to meeting the challenge of global energy security in the years ahead.

“Yet, we also recognize that neither the public, the private sector, nor one country, region or organization acting alone can protect themselves from the vagaries and shifting dynamics of the global oil market. It is, thus, vital that we understand the needs of each stakeholder,” contended Barkindo.

He said OPEC very much believed that enhanced dialogue and cooperation offered the best platform from which to collectively tackle current and future market challenges and opportunities.

To this end, the Organization continued to devote much effort in this direction, with dialogue now being widened and deepened in an open and constructive spirit, he affirmed.

“It all leads to the importance of being inclusive and making sure our words turn into actions. Inaction does not bear thinking about. If we can meet the challenges and opportunities before us, it will be to the benefit of us all,” added Barkindo.

The role of energy in developing countries formed the basis of the next address — delivered by Rafael Ramirez, Minister of Energy and Petroleum of Venezuela.

In highlighting the importance his government attached to countries having full sovereignty over their natural resources, Ramirez stated that it was a process Venezuela had now successfully achieved after years of much-needed petroleum revenues being lost.

He said that re-establishing full sovereignty over the management of the country's petroleum resources had proven to be tough, but necessary, considering the crucial role oil played in supporting Venezuela's development possibilities.

The new policy, he explained, which involved the introduction of new operating service contracts, with a higher rate of tax for the government, encompassed both the regulation of the extraction of oil in its capacity as a natural non-renewable and depletable resource, as well as the regulation of the industrial activities ancillary to its extraction.

This policy did not exclude the presence of foreign capital. However, for such a presence to be possible, foreign investors had to respect the country's sovereign rights, stressed Ramirez.

"Foreign capital will be very welcome for as long as it dedicates itself to the industrial activities, properly speaking, in the pursuit of a reasonable and entirely legitimate return, but always accepting, without reservations, the legitimacy of our own aspirations for a proper remuneration for every barrel of this non-renewable and depletable natural resource that is severed, once and for all, from Venezuela's subsoil," he said.



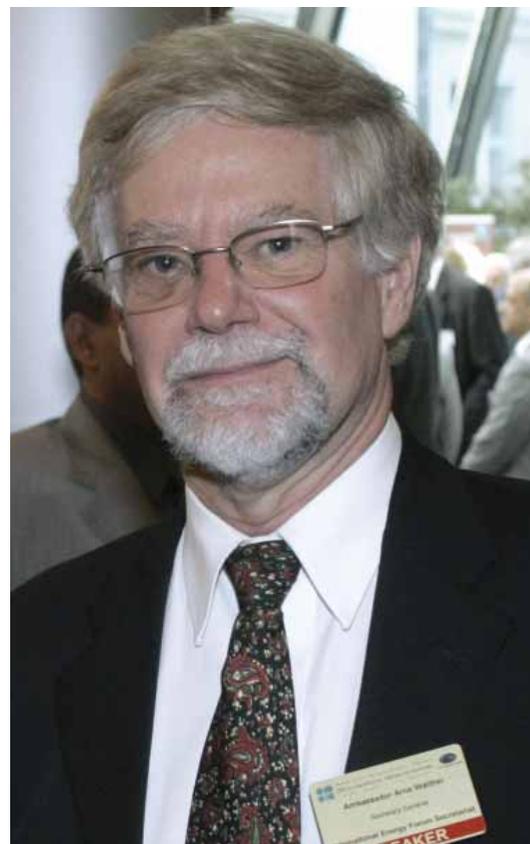
Ramirez said Venezuela's experience in implementing this process of full sovereignty was at the disposition of other oil-producing developing countries.

He pointed out that it represented a valuable contribution to strengthening their respective national policies for the control and defense of their oil resources.

"Our own policy of full sovereignty over oil draws its inspiration from the principles that gave rise to the foundation and growth of OPEC," said the Minister.

Ramirez said Venezuela believed that in going through this experience there was also a message to be found for the large oil-consuming countries and the multinational oil companies — namely that there could not be stability in the international oil market if there was not stability within the oil-producing countries, "which in turn presupposes political and social stability, justice and a truly national and fair distribution of the oil rent."

The fourth speaker in this session was Ambassador Arne Walther, Secretary General of the International Energy Forum (IEF) Secretariat, who spoke on producer-consumer relations in a new era.



In beginning his address by commending OPEC for holding the seminar and establishing an important meeting place for dialogue among key ministers, oil company executives and energy experts, Walther pointed out that 'era' was a big three-letter word and the challenges, opportunities and complexities of energy did not make it any smaller.

"If we have already entered a new energy era, it would seem to be an era of heightened energy consciousness around the world, an era with uncertainties and an era of increasing interdependency among nations," he told delegates.

Energy security, he observed, currently continued to top the political agendas of energy-importing, as well as energy-exporting, countries and for industrialized, as well as developing, economies.

Walther maintained that global producer-consumer dialogue, which the IEF was promoting, acquired increasing importance as nations revisited and modified established policies and shaped new ones in their quest for such security in the years ahead.

He said that as the national and global focus was now concentrating on issues of energy security, bilateral,

regional and inter-regional energy cooperation were also being strengthened around the world.

"This gives additional impetus to the global energy policy interrelationship. Parallel processes of global and regional cooperation in a multi-polar energy world can be mutually supportive when heading in the same direction."

Walther professed that the new energy era called for a wider framework for producer-consumer dialogue and the IEF was uniquely poised to facilitate this.

"I see great potential for the further development of the IEF as a confidence-building process and a focal point for enhanced producer-consumer relations. It is a forum for on-going dialogue among parties across traditional political, economic and energy-policy dividing lines, where ministers voice their national interests and perspectives in the wider context of promoting common global objectives as well.

"In this new era, I hope to see a myriad of new partnerships between governments and between governments and industry, as well as innovative ways to realize win-win opportunities. And, hopefully, we will see a code of global conduct that is reasonable and advantageous for all to follow," he added.

Rodrigo de Rato y Figaredo, Managing Director of the International Monetary Fund (IMF), gave the final address of the first session. His speech looked at prospects for the world economy.



In referring to IMF data, Rato y Figaredo said the baseline forecast was for a continued smooth ride for the global economy, although “there were more clouds on the horizon than there were a year ago.”

Concerning high oil prices, he said the impact on the global economy so far had been moderate, in large part because the higher rates had been accompanied by strong demand for other commodities and goods and services generally.

“Developing countries have also benefited from a pick-up of other capital flows and workers’ remittances, including from workers in the oil-producing countries, a relatively strong initial international reserves position, and for many, debt relief,” he said.

However, the IMF head warned that any sudden or unexpected supply disruptions in the oil market could have more adverse effects than have occurred up to now, especially if they impacted on consumer and business confidence.

Reducing imbalances in the oil market required an orderly, predictable, and transparent market, he said, with adequate data concerning supply and demand conditions to enable investors to better understand future production, consumers to respond to price signals in a timely fashion, and prices to truly reflect the scarcity of the resource.

Such an environment would also help reduce large price swings associated with over- or under-investment, said the IMF chief.

In addition, collective efforts could help to ensure that strategies in producer and consumer countries were mutually consistent. Because the oil market was a global market, policy-makers needed to consider effects beyond their country’s borders, he maintained.

Highlighting some of the policy challenges relating to the oil market, Rato y Figaredo said domestic fuel prices in all countries should be set to reflect economic and social costs and to promote an appropriate demand response.

Secondly, adequate investment should be made available in the oil sector — a situation that would help alleviate concerns about future supply.

Thirdly, oil-exporting countries, particularly in the Middle East, must rise to the challenge of finding the appropriate balance between spending the increased oil revenues on high-return projects that diversified their economies and responded to pressing social needs, and saving revenues for future generations.

In conclusion, he said: “We have a shared interest in promoting economic stability and sustainable growth. The challenge ahead, therefore, is for OPEC to work closely with other multilateral organizations and the global community to enhance the order and stability of the international oil markets in support of continued sound economic growth.

“While we cannot expect, nor should we try, to smooth out every fluctuation of oil prices, we can ensure that all countries work to minimize the adverse impact they may have on the global economy,” he added.



Session Two:

Oil production capacity expansion

The objectives of the second session were to present investment capacity expansion plans in the short-to-medium term, as well as investment needs in the long term; to highlight the uncertainties, in particular related to oil demand, that may affect the required level of upstream investment; and to discuss national oil company/international oil company cooperation.



Session Chairman was Odd Roger Enoksen, Minister of Petroleum and Energy of Norway.

In his own address before introducing the session's other speakers, Enoksen said few would disagree that global oil production capacity needed to be expanded, both in the short and long term and that increased spare capacity was also required. For the last two to three years, reserve capacity had not been sufficient to act as an effective buffer against possible supply disruptions — one important reason why prices had been so high.

"At \$60–70 a barrel, crude prices pose a risk to the global economy, although the impact on economic growth so far seems to have been limited," he stated.

The minister said that in a context of high geopolitical tensions and supply risks, a reserve capacity of a certain size was a precondition for market stability.

In the long run, capacity must increase to meet the growing demand for oil, particularly in countries like China, India and the developing countries, he said.

Enoksen stated that current global oil production was around 85 million b/d. In 2020, it needed to be at least 20m b/d higher, according to forecasts from various export sources.

This would require large investments in new capacity to meet demand, as well as to sustain current capacity because of natural decline rates. Perhaps as much as 75 per cent of upstream oil investment would be needed just to counter a natural decline in production. Future upstream investments thus needed to be much higher than today, he affirmed.

Enoksen said that developments in the oil and energy market in recent years had caused countries around the world to reassess their energy policies and a number of new energy measures were being discussed and implemented.

Concern over energy security was forcing countries to decrease their dependence upon oil, for instance by supporting biofuels. Growing evidence of climate change was also increasingly having an impact on oil and energy.

He said the oil-exporting countries needed to engage and face the challenges new government regulations represented, even if oil demand forecasts today might be good.

“Oil exporters’ best guarantee for continued growth in demand is to see that oil remains competitive in the energy market with respect to price, security of supply, and to environmental properties,” he maintained.



The keynote speaker for this session was Dr Chakib Khelil, Minister of Energy and Mines of Algeria, whose address covered oil production capacity expansion.

It was important to note, said Khelil, that global demand for energy was clearly set to continue its robust growing trend in the foreseeable future. It was also a consensus view that oil was expected to maintain its leading position in the world’s energy demand mix for this same time horizon.

“According to OPEC forecasts, oil demand is set to rise by 30m b/d over the next 20 years, reaching 113m b/d by 2025, with transportation being the leading sector of future growth in such oil demand,” he stated.

Khelil maintained that the resource base was sufficient to meet expected world oil demand growth.

Estimates of global ultimately recoverable reserves for conventional oil had been increasing, due to such

factors as developing technology, successful exploration, and enhanced recovery from existing fields.

He pointed out that non-OPEC oil discoveries were not keeping pace with production and the average size of new fields was falling. This would raise serious challenges for non-OPEC producers over the coming years.

Khelil observed that the world's spare oil production capacity had declined steadily since the mid-1980s — from about 15 per cent of global demand to two to three per cent today. Lack of spare capacity had been one of the key drivers behind rising prices in recent years.

OPEC Member Countries were addressing this challenge and it was expected that the Organization's spare production capacity would be at 3m b/d by the end of this year and should reach some 5m b/d by 2010.

Khelil said that growth projections for the future underlined the need for substantial investment along the entire hydrocarbons supply chain. By 2025, OPEC production levels, including natural gas liquids, were expected to rise to 54m b/d and, accordingly, total upstream investment requirements would be to the tune of \$1.9 trillion (in 2005 dollars).

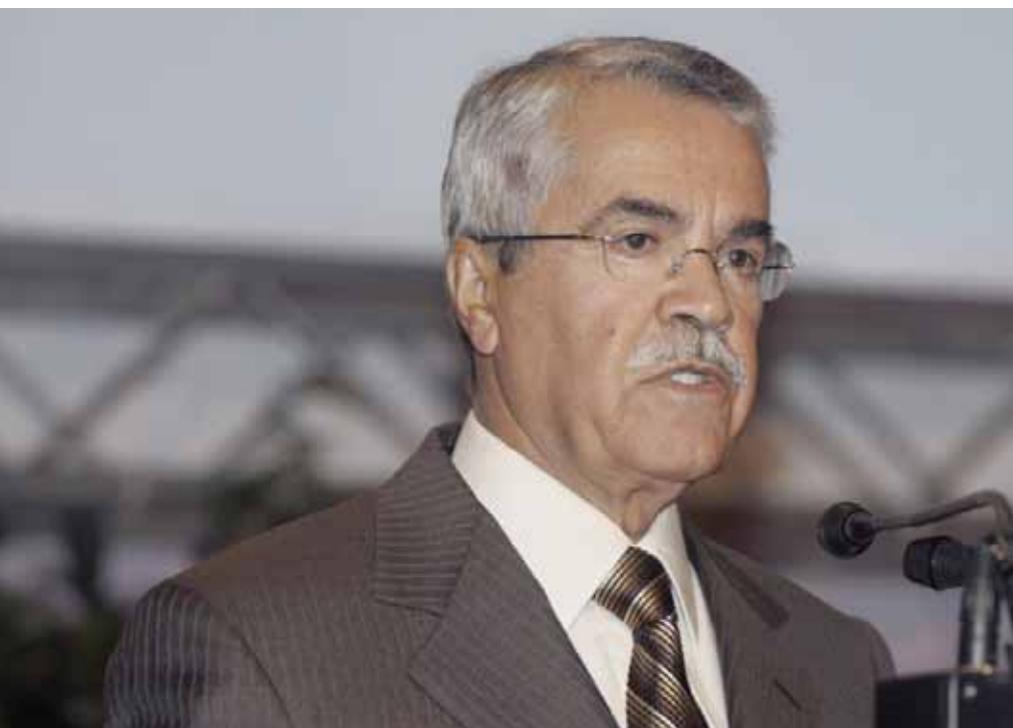
However, the level of output capacity required was clouded in uncertainties surrounding future oil demand, stemming from prospects for the world economy, consuming countries' energy and environmental policies, and technological developments.

Khelil noted that today's high prices were contributing to record cash flows for exploration and production companies. However, inflated service costs and the declining size of discoveries were increasing risk capital exposure and putting pressure on returns.

"New efforts are required to overcome the challenges in today's environment. They may force energy companies — the international oil companies, the national oil firms and the independents — to join efforts to capitalize on competitive advantages, such as expertise, operating experience and technology," he maintained.

Khelil asserted that such challenges may force energy actors into forging joint efforts to look for ways to reinforce dialogue between producers and consumers.

"Such dialogue should be widened and deepened to cover more issues of mutual concern, such as demand predictability, security of supply, market stability, investment, technology and downstream expansion," he affirmed.



The next address — on upstream investment: strategic considerations in expanding oil production capacity — was given by Ali I Naimi, Minister of Petroleum and Mineral Resources of Saudi Arabia.

The production, consumption and trade in oil and gas, as well as their vital role in the economies of both producing and consuming regions, said Naimi, had shaped global economic and energy relations for most of the 20th century, and were expected to continue to play an important role for many more years to come.

"The past three decades, however, have witnessed structural changes in both world oil and gas supply and demand patterns which have altered the face of the world energy market in important ways," he stated.



He explained that oil demand in the OECD region, which accounted for 70 per cent of global demand in the 1970s, had grown by an average of 0.7 per cent annually since then, while demand from the emerging economies in Asia and Latin America had expanded by an average of four per cent.

This had resulted in an increase in the latter's share in global demand from 16 per cent in 1975 to 36 per cent today.

During the same period, demand for natural gas grew by an average of 1.7 per cent annually in the OECD and 6.7 per cent a year in the developing countries, thus altering the relative share of developing states in world oil demand from eight per cent in 1975 to 26 per cent today.

"The last 30 years also witnessed a change in the relative shares of the key consuming sectors of oil and gas, as oil commanded the highest share in the transportation sector's fuel demand, while gas increased its share in the power sector's fuel requirements," he noted.

Naimi said that considering its availability, versatility, competitiveness, proven end-use technologies and available infrastructure, oil was forecast to retain its leading position in the world's primary energy mix at 37 per cent by 2025. Meanwhile, gas would increase its share to 30 per cent.

"Both fuels combined are expected to account for two-thirds of global energy consumption and more than 85 per cent of global energy trade by 2025," he said.

The Minister said that considering global economic

uncertainties, the future shape of the world economy would have a tremendous impact on energy demand in general and on hydrocarbons demand in particular.

"While the world does need continued improvements in energy efficiency, some government policies, which artificially curtail demand and create demand uncertainties irrespective of market signals, will have economic ramifications that could jeopardize the global energy future," he asserted.

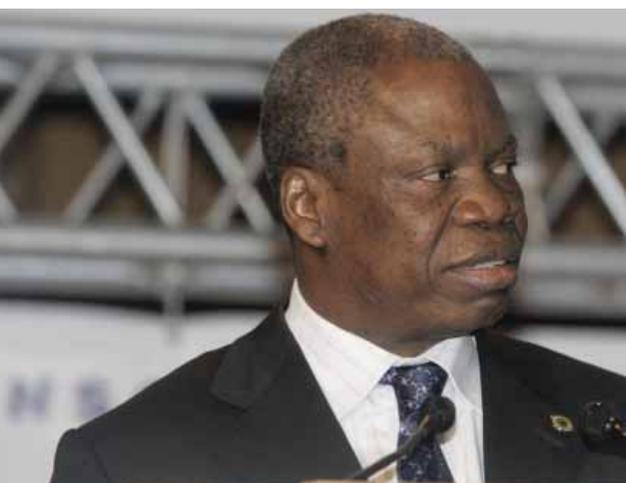
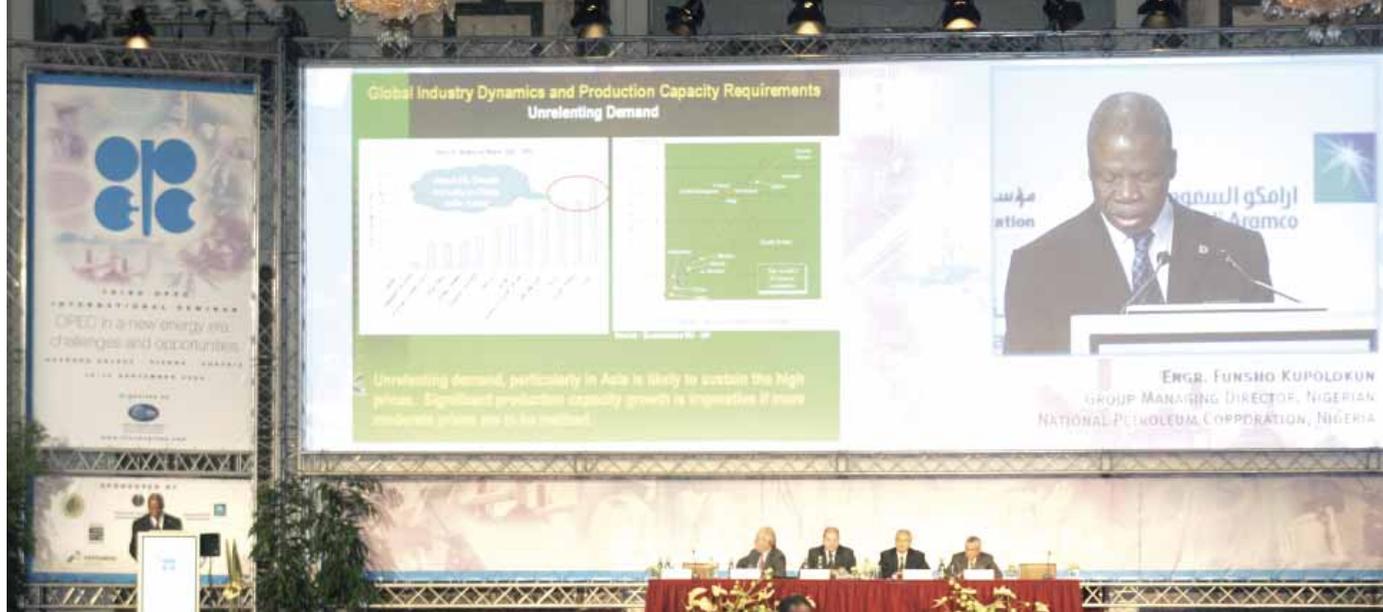
Naimi stated that future opportunities and undertakings in the petroleum sector posed numerous political, economic, technological and managerial challenges.

"We recognize that the future of these investments and their returns depend on a healthy global economy, especially in the emerging nations that will account for the largest share of incremental growth in energy demand.

"Conversely, such investments are also necessary for the health of the world economy, which relies so heavily on a stable, reliable supply of hydrocarbons," he said.

Naimi pointed out that the appreciation of this "dynamic of interdependence" guided Saudi Arabia's policies and should also shape those of other energy stakeholders, whether consuming governments, international lending institutions, the industry at large, or international energy organizations, such as the IEA, the IEF and OPEC.

"Recognizing that greater cooperation and coordination are indispensable elements of our energy future is the first step in making that vision of shared progress and prosperity a reality," the Minister added.



Funsho Kupolokun, Group Managing Director of the Nigerian National Petroleum Corporation (NNPC), gave the next address. His speech looked at oil and gas cooperation between national oil companies and international oil firms.

Unrelenting demand, particularly in Asia, was likely to sustain current high oil prices, Kupolokun maintained.

“Significant production capacity growth is imperative if more moderate prices are to be realized,” he maintained.

OPEC Countries dominated the world’s remaining crude reserves, most of which were managed by national oil companies (NOCs), who would continue to play a major role in meeting future capacity requirements.

“However, meeting this will require cooperation with the international oil companies (IOCs),” said Kupolokun.

He said Nigeria had seen steady growth in its oil reserves, which had translated into steady growth in its production capacity. By the end of 2006, over 500,000 b/d would be added to global crude oil capacity from Nigeria.

Kupolokun said that, going forward, four new challenges confronted the NNPC and the IOCs in Nigeria. These involved addressing the economic empowerment and growth issues of host communities to mitigate against supply disruptions; satisfying increasing demands from

the Nigerian people for a visible contribution from the oil and gas sector to national economic growth; increasing technological challenges associated with finding new oil and gas, including the challenge of developing the requisite skills and capabilities to support the required capacities; and meeting the huge funding challenge associated with rapid capacity development.

“These challenges call for a revisit on the anchors of cooperation. A more strategic approach to cooperation will be required to overcome some of the challenges,” he said.

The NNPC head said that, increasingly, the exploration focus in Nigeria was shifting to the country’s deep-water. However, technology and robust skills and capabilities would be required by the NNPC to realise the full potential of these areas, he said.

“Unlocking the vast potential in the deepwater fields requires cooperation that enables effective transfer of technology from the IOCs to the NOCs in the four key areas stated above,” he said.

Kupolokon said that over \$60 billion was required by 2008 to deliver Nigeria's capacity aspirations.

"This level of investment requires innovative and structurally more complex arrangements beyond traditional joint-venture cash calls," he affirmed.

Under the government's National Content Agenda, a framework had been provided for the NNPC and the IOCs to facilitate the development of an economic environ-

ment that could flourish and sustain continued capacity growth.

In pursuit of this, the NNPC was now working with the IOCs to develop even more structured ways of funding, disclosed Kupolokon.

"Strategic NOC/IOC cooperation is a continuing journey for us in Nigeria. Significant learning lies ahead," he added.



The second session's next speaker was Christophe de Margerie, President of Exploration and Production at Total, whose address looked at petroleum investment, as seen from the perspective of an international oil company.

Firstly, said De Margerie, it was important to find new ways to go along with the new energy era and its challenges, which he referred to as "a revolution".

He said the current environment was not necessarily "gloomy", just different, with many new challenges.

"The world is not as nice a place as we would like it to be. We have to adopt different attitudes to this different environment," he maintained.

De Margerie said that against a worrying geopolitical background, it was vital for the producers to restore confidence in their common ability to deliver reliable oil production.

"There is a lack of confidence in the consuming countries that we can supply the oil they need — even though we have the reserves," he stated.

De Margerie said that all sides must work together to ensure that oil prices were sustainable for the economies of both the producing countries and the consumers.

In addition, he said, the petroleum industry must reduce competition and make more new partnerships.

The IOCs were developing new reserves using the breakthrough technologies available, but he stressed that they must share this technological expertise and their research and development techniques — "not keep them to themselves".

"We all need to move together," he maintained.

Another worrying trend, said De Margerie, was the increase in costs the industry was facing. Services industries were today having to pay 50 per cent more to carry out their activities, with some projects costing 300 per cent more to complete.

"There is also a shortage of good, experienced people in all areas of the services sector. This is a real problem and we need to attract more experienced personnel. At the same time, the number of good services firms is dwindling in number," he said.

"We all face tough new challenges... which need to be addressed in common," he said. "We want to improve our relationship with the NOCs — to go beyond what we have achieved in the past. It is a case of confidence, based on mutual understanding and respect," he added.



The final speaker of this session was Dr Stanislav Zhiznin, Senior Counsellor of the Department of Economic Cooperation at the Russian Ministry of Foreign Affairs, who deputized for his country's Minister of Industry and Energy Victor Kristenko. He gave a brief overview of the G8 Summit in St Petersburg, which was held during Russia's G8 Presidency. This had global energy security as its key topic.

In preparing the energy agenda for the G8 summit, Zhiznin explained that two basic questions were discussed – what were the global energy challenges, and what kind of response should the international community prepare?

He said many important statements were made at the gathering concerning energy security. These covered several major topics, including oil transparency and predictability, the investment climate, energy efficiency and saving, the diversification of the energy mix, securing critical energy infrastructure, energy poverty, and climate change and sustainable development.

He said that following the summit, the Russian authorities were now preparing a programme that would determine the country's contribution in implementing the so-called St Petersburg action plan.

The Russian government also expected G8 experts to prepare reports on some of the topics that had been mentioned.

"I hope that energy security will not disappear from the agenda of the G8 in the future and, in different ways, will appear next year when Germany will have the presidency," he said.

Concerning Russia, he said on the one hand it was a major G8 consumer, where the basic interest was to have

regular supplies of petroleum guaranteed and at reasonably low prices.

However, on the other hand, he said, Russia was a major producer and exporter of petroleum.

Zhiznin pointed out that these two concerns meant that the country was interested in both security of supply and security of demand.

"This explains the logic of our international energy policy, whereby we are developing relationships with OPEC, the IEA and the IEF," he said.

Zhiznin said his country very much appreciated the help experts from those organizations had given in preparing the G8 summit energy agenda.

He said that, as for Russia, it would continue to develop its relationships with the three organizations. Energy security was also the key issue for discussion in its bilateral energy meetings with the consumers, such as the EU, and countries like France, Germany, the United Kingdom, Italy, the US, in addition to Asian states, particularly China, Japan, India and South Korea.

"We are also producing energy relationships with producer countries, including OPEC Members Saudi Arabia, Venezuela, and Algeria, as well as independent producers, such as Norway and Mexico," he added.

Day 1 Luncheon hosted by the Kuwait Petroleum Corporation



*Sheikh Nawaf Saud
Nasir Al-Sabah,
Deputy Managing
Director and
General Counsel,
KPC.*



Abdallah S Jum'ah, CEO of Saudi Aramco.

Day 2 Luncheon hosted by Saudi Aramco





Session Three:

Downstream challenges and opportunities

The objectives of the third session were to highlight the role and importance of the downstream, and in particular the refining industry for market stability; to discuss the current situation, as well as the prospects of the downstream sector and in particular whether the current bottlenecks may ease in the future, globally and by region; and to highlight the impact of environmental regulations and fuel specifications on the downstream business.



Session Chairman was Mohamed Bin Dhaen Al Hamli, Minister of Energy of the United Arab Emirates (UAE).

Before handing over to the panel speakers, Al Hamli made some comments on the state of the global refining sector, stating that, in the past few years, considerable pressure had been exerted on oil prices as a result of inadequate refining capacity. This had led to serious bottlenecks in product supply.

He explained that, over the years, poor financial returns, as a result of relatively low and volatile refining margins, had reduced investors' willingness to invest in bringing new plants on-stream.



Mohamed Bin Dhaen Al Hamli (l), UAE; and Claude Mandil, IEA.

Moreover, said the Minister, since the early 1990s, increasing environmental concerns had forced refiners to make investment in meeting tighter product specifications — rather than expanding processing capacity to keep pace with oil demand growth.

He said that, in the coming decade, several factors would have a bearing on developments in “this vital sector”.

Firstly, a rising volume of crude oil would need to be refined as demand increased. Many NOCs and IOCs had responded to the situation in announcing substantial refining projects, but the current tightness in refining capacity would not change considerably any time soon, due to the long construction lead times of the schemes.

“In fact, if current demand projections materialize, we may not see any significant relief for four or five years,” maintained Al Hamli.

Secondly, said the Minister, refiners would also have to face up to continuing moves towards the requirement for lighter products. In the next decade, a shift was expected to occur in the demand structure, whereby con-

sumers would require more light and middle distillates.

“From a current perspective, unless additional investment is made in this area, by the year 2010 a deficit of around 1 million b/d of conversion capacity will appear, putting further pressure on the refining sector as a whole,” he warned.

Al Hamli said that in tandem with this transition, the refining industry would also have to address demands for its oil products to be cleaner — which meant making a substantial reduction in their sulphur content, as well as incorporating improvements in other quality parameters.

“There will be no escaping these demands, as environmental concerns continue to gather pace,” contended the Minister.

He said that for all of this to come to fruition, in the years ahead, the refining sector would require significant investment, running to many billions of dollars.

Al Hamli added that OPEC Member Countries, although customarily mainly involved in upstream operations, were also investing in bringing more refining capacity online, in a bid to help relieve the bottlenecks.



The keynote address for this session was delivered by **Claude Mandil, Executive Director of the International Energy Agency (IEA), who spoke on the outlook for the downstream sector.**

Alongside strong economic growth and concerns in the upstream sector, Mandil said, the downward trend seen in limited oil refining spare capacity had been responsible for helping to push oil prices to their current high levels.

"For a very long time we enjoyed a large spare capacity in refining. Now it is very small — we are very close to full capacity," he said.

This had been due to the fact that insufficient investment had been made in refining, which was largely as a result of the lower oil prices seen in the past.

Mandil said that, based on current projects and plans, the level of spare crude production capacity should rise, although the quality of the incremental crude would have important implications for the refining industry and product markets.

He forecast that growth in refining capacity was set to trail that of oil demand until 2009 and then improve. The bulk of new capacity would be in the Middle East and Asia.

Current investment plans in upgrading capacity indicated that the gasoline and distillate supply capability should improve over the next few years. Most of this investment was focused in the United States and Europe, he said.

Mandil pointed out that meeting increasingly stringent fuel quality specifications as crude quality deteriorated would require ongoing investment.

"Global harmonization of standards would be an effective trade enabler," he affirmed.

Demand for transport fuels would drive oil demand globally. In Europe and Asia more and more vehicle fleets would convert to diesel fuel, clearly impacting on inter-regional trade, he forecast.

Mandil said that in the longer term, refiners would need to continue to adapt to policies introduced in response to environmental, economic and energy security concerns, aimed at increasing energy efficiency, reducing demand growth in the transport sector, and promoting development and deployment of new technology.

"Given this uncertainty, governments must provide refiners with regulatory certainty," he said.

Mandil noted that the major producing countries would play an increased role in refined product markets.

"Thus, the need for enhanced producer-consumer dialogue on downstream issues is made even more important," he maintained.



Dr Shokri Ghanem, Chairman of the People's Committee, National Oil Corporation (NOC), of Libya gave the next address. His speech looked at investing in the downstream from the point of view of a national oil company.

Based on conservative estimates, Ghanem said that conventional wisdom dictated that higher oil prices would lead to a slowdown in the world economy and even cause a severe economic recession, which in turn would lower oil demand and drive oil prices back down.

"However, this did not happen in the current situation as the world economy seems to have been unaffected by rising oil prices and the oil market has continued to function under the influence of growing oil demand and volatile prices," he said.

However, with so much uncertainty, long-term investment planning in both the upstream and downstream may prove to be a quite formidable task for all concerned parties — producers and consumers alike, he stated.

Highlighting the present downstream bottlenecks, Ghanem said the current tight refining capacity was not something that occurred overnight.

For many years, it had been observed that global refining capacity was becoming increasingly inadequate, in terms of both distillation and conversion capacity — mainly because the refining industry, particularly in the United States and Europe, had not been investing enough in new projects.

He pointed out that the US had not built a new refinery in about three decades, while for Europe it was about two decades. In fact, in the US, the number of operating refineries had decreased by 50 per cent since the 1980s, with a similar situation seen in Europe.

Ghanem said that recently, however, as a result of higher oil demand and prices, there had been a marked improvement in both refining margins and capacity utilization rates — and hence a marked improvement in profitability.

"Refining margins, which had been persistently low for decades, have increased substantially over the past two years with complex plants enjoying the best margins and economic returns," he noted.

In addition, most refineries around the world had increased their utilization rates significantly. In the US, plants had been running near 100 per cent of capacity, while the average utilization rate worldwide today was about 90 per cent.

"Even though the refining industry is currently operating under pressure of tight spare capacity, it is enjoying some of its finest days in terms of improved margins and capabilities," he observed.

Ghanem noted that this better performance seemed to be encouraging fresh investment in new conversion and distillation capacity.

However, he warned that in the future a move towards a need for lighter products, coupled with specifications for cleaner products, could greatly affect the state of the refining industry.

There were also questions to be answered as to how much capacity would be needed, what type, where to build it, and who should build it?

Ghanem said that world demand for oil products was expected to grow substantially with the transportation sector being the driving force behind the need for more conversion technology to produce cleaner fuels.

This new capacity, he said, must come onstream in a timely manner. The refining industry must also be able to meet the new standards that would be expected, which would mean utilizing the appropriate technology.

"Consuming countries, the IOCs and the oil-producing countries must all invest in additional refining capacity, which should preferably be built in the consuming countries," he said.

However, added Ghanem, if some of the additional refining capacity was built in the oil-producing countries, the consuming nations and the IOCs should secure the oil demand and most, if not all, of the investment required. *(See also interview with Dr Ghanem on p 72).*



The next speaker was Guoqiang Tang, Ambassador and Permanent Representative of China to the International Organizations in Vienna, who spoke on the current energy situation and future energy policy in China.

China, said Tang, was one of the world's largest energy producers, as well as energy consumers. It was the world's largest producer of both coal and hydropower and the sixth biggest oil producer.

Since 2002, healthy and robust economic growth had been responsible for a dramatic increase in domestic energy demand. Industries such as transportation and petrochemicals had boosted demand for oil.

In the light of this, the Chinese government had implemented a series of measures to increase production and improve energy efficiency.

China, said Tang, had made large investments in the downstream industry aimed at expanding its oil refining capacity and the government attached great importance to opening up the industry to international cooperation. As of the end of 2004, more than 20 countries were involved in China's onshore and offshore upstream activities under 200 contracts.

He noted that OPEC Member Countries were the main source of China's oil imports. Chinese oil firms PetroChina, SinoPec and CNOOC had participated in oil and gas exploration and development activities in OPEC Countries, including Venezuela, Algeria, Libya, Nigeria, Indonesia, Iran, Iraq and the UAE.

Tang said that Saudi Aramco and a Kuwait firm planned to build joint refineries with China and were exploring the possibility of building petroleum storage facilities in China.

The Chinese government had outlined a number of fundamental principles for the next five years, including

broadening supply sources and reducing consumption; focusing more on domestic energy development; achieving an energy structure with coal as the main part, electric power as the core and oil, gas and new energy sources developing simultaneously; protecting the environment; and furthering international cooperation.

"Global energy security is crucial to the economic growth and people's livelihood of all countries ... yet few countries can achieve energy security without joining in international cooperation. The Chinese government is prepared to work responsibly with the rest of the world to ensure global energy security," stated Tang.

He said it was important to strengthen dialogue and cooperation between energy exporters and consumers and among major energy consumers and it was vital to put in place a system for research and development and an extension of advanced energy technologies.

In addition, it was important to maintain a favourable political environment for energy security and stability.

"We should join hands to safeguard the stability of energy-producing countries and regions, and ensure security of international energy channels. Energy issues should be solved through dialogue and consultation, instead of politicizing the energy issue," he maintained.

"OPEC is a major force in stabilizing the world oil market. China is ready to enhance its cooperation with OPEC Member States and other countries or regions of the world. China is looking forward to moving into a new era of comprehensive, mutually beneficial and diversified international energy cooperation," he added.



Jeroen van der Veer, Chief Executive Officer of Royal Dutch Shell, gave the next address. His speech covered investing in the downstream and midstream.

In remarking that the OPEC seminar was the right kind of initiative for helping to meet the energy challenges of the world, van der Veer said that the overall challenge was actually quite simple — “we need more energy with less environmental impact.”

However, he stated that in conducting its affairs, the industry had to contend with a complex world and a very volatile market.

“If we look just at the downstream, we have to consider such challenges as tightening specifications, a shift from gasoline to diesel, and changes in product needs,” he said.

Van der Veer maintained that, for the future, it was not about having a good upstream and a good downstream, but the art of how to integrate both upstream and downstream activities.

Looking at future projections, he stated that oil demand could increase by between 20 and 30 million b/d in the coming decades.

“This will mean that the industry will have to have new distillation capacity and new upgraders to process the heavier crude that plants will increasingly have. In the coming years, we expect 11m b/d of new refining capacity to come onstream,” he said.

Van der Veer said Shell was investing \$20 billion a year in upstream and downstream activities.

Looking back, he said for decades the refining industry was a very difficult business, where it was hard to make any profit.

“Only in the last two years have we seen a relatively

good refining industry with margins three times the average seen over the last ten years,” he affirmed.

“But does this two years mean we have entered a ‘golden age’, which will last for many years to come? I don’t think so,” he added.

Van der Veer said the refining industry would be cyclical, and no one really knew when the cycles would happen.

The other question to be answered, he said, was “what would the high oil price do for oil demand?” The expected shift from gasoline to diesel and a further tightening of product specifications would not only have an impact on downstream investment, but on the whole downstream sector. One also had to consider the future of biofuels.

“All this means that companies will have to be careful in making their future investments,” he maintained.

However, van der Veer contended that, despite all the innovations in the future concerning the makeup of transport fuels, including gas-to-liquids and biofuels, “we consider that in 2025 still more than 90 per cent of all transport fuels will be gasoline and diesel.”

He stated: “The other fuels will be important, but there is a traditional marriage between gasoline and diesel for transport fuels, which will continue.”

Van der Veer said that with the forecast increase in global oil demand, the industry had to make sure that governments had the right frameworks in place for investment to take place.

“The better the frameworks, the sooner the investment will be made available,” he said.

The final speaker of the third session was Dr Martin Bartenstein, Minister of Economics and Labour of Austria, whose address covered the challenges to energy policies — the case of Europe.



Convening the OPEC seminar, Bartenstein stressed, was of great importance, particularly at a time when global demand was increasing rapidly, despite energy efficiency improvements and major new oil discoveries becoming rarer.

He said that through exchange of information and policy views, it was important to continue to develop concerted approaches “in our efforts to promote national and global energy security — both on the demand and supply side — and to address the links between energy, the environment and economic development.”

Bartenstein said the EU-OPEC Energy Dialogue, which was launched in 2005, had been very fruitful and promising.

“I hope we can deepen this dialogue and establish a real partnership for several common projects. I hope it will continue to the mutual benefit of both sides,” he said.

The minister noted that widespread analysis showed that fossil fuels would continue to dominate energy supply in the future, meeting more than 80 per cent of the projected increase in primary energy demand. Oil would remain the dominant fuel, although gas would continue its increase in the mix.

However, rising global energy consumption meant rising carbon dioxide emissions, which, said Bartenstein, called into question long-term sustainability of the global energy system.

“Developing countries will be responsible for three-quarters of the projected increase in carbon dioxide emis-

sions, overtaking the OECD region early in the 2020s. Kyoto, therefore, is more than ever needed, but on a worldwide basis, taking into account the emissions of all countries,” he maintained.

The minister said that the EU was currently the number one importer of energy and the number two user. The share of its imports would rise from 50 per cent to about 70 per cent in 2030.

“We need to diversify our energy sources, our import countries, and our routes of transportation,” he said

Bartenstein said that in response to the challenges, the EU’s Green Paper on Energy, released earlier this year, represented a new era for energy policy in Europe.

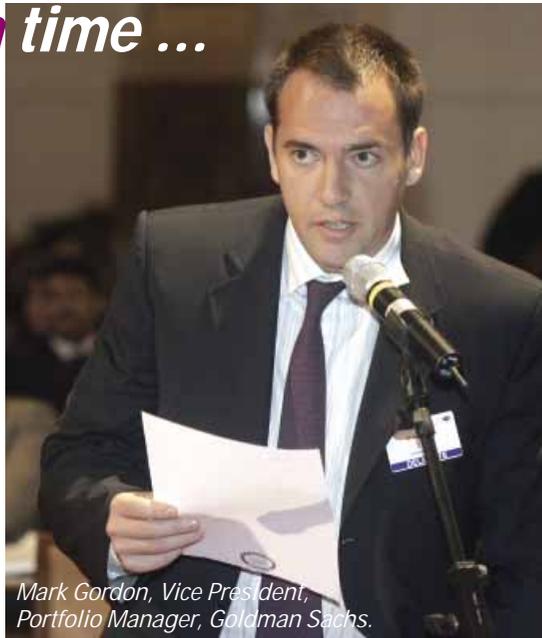
“The EU has decided that a stronger and more integrated approach is needed, involving all the aspects of trade, agriculture and the environment. Energy, indeed, is a global issue, and we have to face the problems of security of supply, competitiveness, and combatting climate change — these all have to be solved at a global level,” he said.

“Our energy system should be based on effective collaboration between producers and consumers. Efforts should be made to increase energy efficiency, and to expand the use of renewables and low-carbon energy sources worldwide,” he added.

Bartenstein said the strengthening of energy dialogues between the EU and its main global partners, be they producer, transit, or consumer countries, and in synergy with relevant international organizations, formed a main part of the EU’s energy policy.

Question time ...

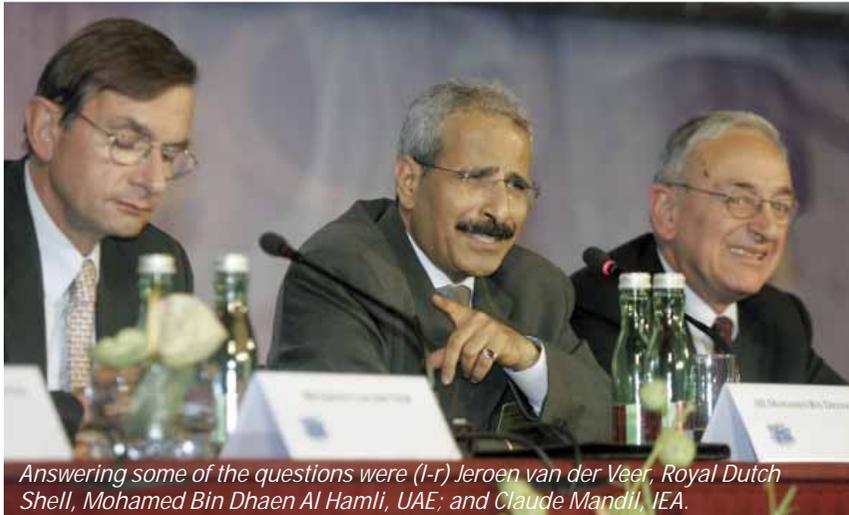
The floor was open to questions at the end of each session.



Mark Gordon, Vice President, Portfolio Manager, Goldman Sachs.



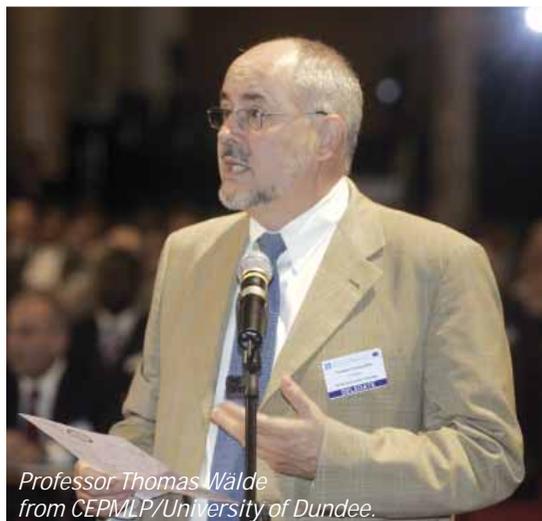
Ms Sandrine Dixson-DeCLEVE, Executive Director Europe and Africa, International Fuel Quality Centre.



Answering some of the questions were (l-r) Jeroen van der Veer, Royal Dutch Shell, Mohamed Bin Dhaen Al Hamli, UAE; and Claude Mandil, IEA.



Dr Adnan Shihab-Eldin, former Director, OPEC Research Division.



Professor Thomas Wälde from CEPMLP/University of Dundee.



Dr Usameh Jamali, OIAPEC.



Day 2 September 13, 2006

Session 4:

Role of petroleum technology advances



The objectives of the fourth session were to discuss advances in oil and gas upstream technologies; to highlight technology advances and their impact on demand, particularly in the transportation sector; and to emphasize the role of technology in the protection of the environment.



Session Chairman was Fernando Canales Clarond, Secretary of Energy of Mexico.

Before introducing the panel speakers, Canales spoke briefly on technological advances in the petroleum industry, stating that the oil industry had traditionally been dependent on technological development to maintain its economic competitiveness.

Numerous technological breakthroughs had been made over the years. The result was that petroleum had irreversibly changed the way people lived and had

generously fed the best period of prosperity mankind had ever experienced.

For example, he said, in recent years this technological progress had made it possible to go even deeper in water exploration and production. He pointed out that environmental, social and political issues were playing a growing role in helping to find more ways to make petro-

leum operations more environmentally friendly. The near future, he added, was already posing a clear technological challenge.

“If we are to prevent increasing supply tightness and to remove uncertainty, new funding and risk-sharing schemes with matching investment will be necessary,” he maintained.



The keynote speaker for this session was Guy Caruso, Administrator of the United States Energy Information Administration (EIA), who spoke on the impact of petroleum technology advances on energy markets in the long term.

The petroleum industry, said Caruso, had long been a global industry, so technological improvements had rapidly spread throughout the world.

These technological advances affected all sectors of the energy market. Improvements in end-use technologies reduced fuel consumption, while improvements in petroleum supply/production technologies both reduced the costs of finding and delivering energy and expanding the recoverable resource base.

“The latter’s impact is evident in the development and production of deep-water petroleum resources in depths that were unimaginable 30 years ago and in the development of unconventional oil resources, such as Canada’s oil sands,” he noted.

Caruso said technological advances supported increased economic activity because they reduced the cost and availability of energy to an economy and increased productivity.

“Technological advances are expected to continue, although the specific advances and their timing are hard to predict,” he affirmed.

Caruso said most technological progress was incremental — but small improvements resulted in large advances over time. Technological progress was often intangible, for example concerning new knowledge and new management techniques, and progress often origi-

nated outside the petroleum industry, as seen in improvements in computer equipment and software.

Major technological developments and opportunities were on the horizon concerning oil and natural gas supply, transportation, the industrial markets, and power generation, he maintained.

Concerning oil and natural gas supply, Caruso said there would be improved pinpointing and discovery of new resources, particularly at lower depths, both onshore and offshore. Drilling costs would be reduced as new techniques were utilized to drill in previously uneconomic or ultra-deep areas.

In the transportation sector, he said, the development of new technology would increase efficiency and reduce costs, while in the industrial markets most efficiency gains would be due to process improvements, rather than breakthroughs or new technologies.

Power generation would benefit from fuel cells, new materials to enhance the efficiency of turbines, breakthroughs in photovoltaic technology, and new technologies to economically capture and sequester carbon dioxide emissions, he added.

“Many of the technology improvements involve the use of existing technologies in more efficient ways. Identifying specific breakthroughs is impossible, but advances are likely to be made,” he added.



The next speaker in this session was Abdallah S Jum'ah, President and Chief Executive Officer of Saudi Aramco, whose address looked at the impact of upstream technological advances on future oil supply.

Over the last century, commented Jum'ah, the petroleum industry had been remarkably successful in finding oil reserves, producing them, and delivering them to market.

"Our success has powered tremendous global economic growth and an unprecedented rise in living standards around the world. But we cannot afford to be complacent, nor can we attempt to overcome tomorrow's challenges by using yesterday's solutions," he said.

Therefore, advanced technology would be critical "if we are to satisfy ever-increasing global demand for petroleum."

Jum'ah said that in his view, there were five "technology targets" to reach that would help producers meet their long-term responsibilities as energy providers.

The first target was finding new oilfields, in order to increase the world's conventional oil resource base. Current estimates of total oil in place ranged between six and eight trillion barrels, but historically the industry had been rather conservative with projections of oil in place and proven reserves, he said.

"As technology has advanced and our understanding of petroleum geology and reservoir behaviour has increased, both numbers have grown steadily over time, whether at the level of individual fields, or in terms of global reserves," he noted.

Jum'ah said he would like to challenge the explora-

tionists to find enough new resources to add another one trillion barrels to world reserves over the next 25 years.

The second target, he said, was to leave the minimum amount of oil in the ground, while maximizing ultimate recovery from known fields. Although recovery rates in individual oil fields varied widely, overall they continued to rise through the application of new technologies and better reservoir management techniques.

"And so, I would again like to raise the stakes for our upstreamers — by challenging them to increase incremental recovery rates for existing fields by 20 per cent in the next quarter century, thereby adding another trillion barrels of oil to the world's reserve base," he said.

The third technology target involved reducing exploration and production costs and making previously uneconomic prospects viable and attractive for investment, said Jum'ah.

"This is a vital objective, as the industry's search for additional reserves and production shifts to more challenging areas," he said.

He stated that enhanced oil recovery technologies could prolong production and increase recovery rates. Since today's healthy price environment made the use of these higher cost applications more attractive, the prospects for additional advancements in the future were excellent.

The next technology target involved non-conventional heavy oil resources, which Jum'ah put in two groups — the first consisting of extra-heavy oil, tar sands and bitumen, and the second made up of oil shales.

"Here I would like to propose a stretch goal of utilizing technology to add between one and two trillion barrels of oil to producible global resources. Reaching that target will not be easy, given the issues surrounding these non-conventional resources...but that's what technology, innovation and ingenuity are all about, and our industry boasts those attributes in abundance," he maintained.

The fifth technology target underscored each of the other four and concerned lightening the environmental footprint of the industry's activities, and products.

"As in other aspects of our business, technology development has an important role to play in environmental protection and the preservation of natural ecosystems," said Jum'ah.

In conclusion, he added: "Make no mistake, the future success of our industry — and with it our ability to meet future energy needs — will depend to a large extent on our continued ability to push the envelope of technology. Working together and tapping the remarkable talent and instinct for innovation that characterize our business, I am confident that our companies can, and will, achieve that target."



Rex W Tillerson, Chairman and Chief Executive Officer of ExxonMobil, was the next guest speaker. He spoke on evolution or revolution in petroleum technologies.

When it came to the development of petroleum technologies, Tillerson said he would suggest that OPEC and the world energy community as a whole were not entering a new era.

“With all due respect to many who have said otherwise, the era of easy oil is not over. Why? Because there never has been an era of easy oil. Our industry has constantly operated at the technological frontier. Oil only seems easy after it has been discovered, developed and produced,” he professed.

Understanding this fundamental fact was essential for creating and sustaining the conditions for future technological progress, said Tillerson.

He said OPEC was destined to play an important and growing role in meeting future energy demand. And to reach the needed levels of production worldwide “we must continue to innovate.”

Fostering innovation would require free trade and investment, open access, and international partnerships, he maintained.

“Oil producers need consumers — and oil consumers need producers. Under these conditions of energy interdependence, industry can continue to develop, transfer and apply the energy technologies needed to support economic growth and social progress in OPEC Member Countries and beyond,” he affirmed.

Tillerson stated that technological progress in the oil

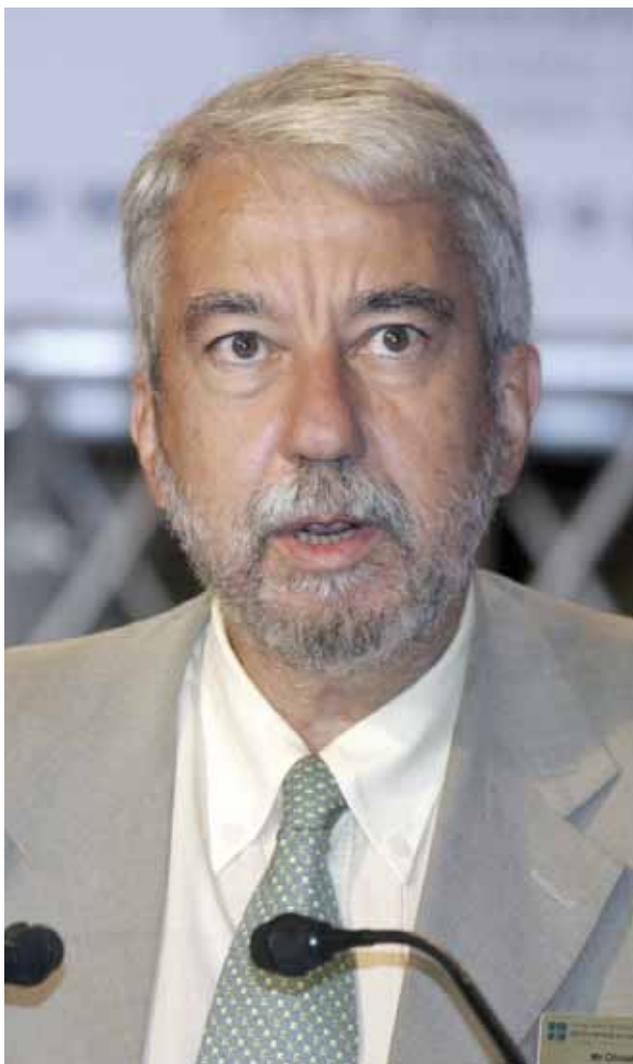
industry was never an overnight phenomenon and the subject rarely made headlines. It resulted from an incremental process involving consistent investment and the application of scientific, engineering and managerial expertise over sustained periods of time.

“In the end, this evolutionary process can have revolutionary results that dramatically improve our energy future,” he said.

“The projects our industry undertakes span decades, require massive investments, and utilize cutting-edge technologies that evolve throughout project life-cycles. Under these circumstances, long-term planning is critical — planning which looks beyond the current business cycle and which relies on stable frameworks.

“We must strive to strengthen our energy interdependence by fortifying our partnerships, freeing market forces, expanding access, and sustaining investment. Unless we do this, future technological progress and, ultimately, the energy supplies that fuel economic progress, are jeopardized,” he argued.

“The new era we face, like all of its previous ones, is not an era of easy oil. Nor will it be an era of easy answers. The supply and demand challenges we face are significant. But as has been this industry’s history, it can be an era of continued technological advancement if we commit to the investment and interdependence essential to innovation,” he concluded.



The next presentation was made by Olivier Appert, Chairman and Chief Executive Officer of the Institut Français du Pétrole, who looked at the technological response to climate change.

Against a background of rising energy demand, Appert noted that the global transportation sector was forecast to see more than 80 per cent growth over a 30-year period.

Such a technological response to the higher energy use expected would have to take into consideration long-term energy supply and an increasing awareness for envi-

ronmental protection, which meant finding concrete and lasting answers to global climate change, he said.

Ways of reducing harmful carbon emissions would need to include better energy efficiency, particularly in buildings and industrial operations.

Appert said a lower carbon energy mix would inevitably look to more use from the cleaner-burning natural gas and the development of biofuels.

Reducing the energy carbon content in power generation would also likely involve more use of natural gas, as well as nuclear power and renewable sources of energy.

Concerning carbon capture, transport and storage, Appert said this was already an industrial reality, but a more integrated approach was needed. Large initiatives at both a European and international level existed.

He said future progress in technological advances would require well-focused research and development programmes and heightened international collaboration.

The final speaker in this session was Robin West, Chairman of PFC Energy, who spoke on policies and technology in the transportation sector.



Even given existing technology, maintained West, oil production capacity would struggle to meet world demand in the years ahead and there would also be a growing gap between global demand and non-OPEC supply.

Policies and advancement of technologies in the transportation sector — a large and growing component of demand — were crucial to balancing the world's energy future, he asserted.

West said that rapid growth in automobile use in the non-OECD region could lead to a greater impact on technology advances and the early-adoption of more efficient vehicles.

The US administration and other governments would be called on to play a major role in supporting research and development for more advanced fuel and transportation technology, which would likely be often carried out jointly with the private sector.

West stressed that environmental issues and regulations would become increasingly intertwined with fuel and transportation technology.

Demand-side policies could be more rapid and efficient than supply-side technology policies, he pointed out.





Session Five:

Petroleum and Sustainable Development

The objectives of the fifth session were to review the prospects for sustainable development and progress in implementation of the Millennium Development Goals; to discuss the important role that energy in general, and petroleum in particular, plays in the quest for sustainable development; and to highlight the role of development funds.

Session Chairman was José Antonio Ocampo, Under-Secretary General for Economic and Social Affairs at the United Nations.



Before introducing the panel speakers, Ocampo spoke on the importance of energy to sustainable development, stating that, over the last two years, the world had seen renewed interest in energy and its contribution to socio-economic development, as well as a more intense focus on the environmental aspects of energy use.

World leaders at the 2005 UN Summit recognized that promoting clean energy and tackling climate change were interconnected challenges that must be approached in the wider context of sustainable development. They also stressed that access to energy facilitated the eradication of poverty, he said.

Energy was also in the spotlight regarding the deliberations of the UN Commission for Sustainable Development, he observed.

Ocampo said the comprehensive character of sustainable development required consideration of at least three dimensions — social progress, economic development, and environmental protection.

Concerning social progress, he said there was now broad consensus that access to modern energy services was important for achieving all the UN Millennium Development Goals, especially poverty alleviation.

He noted that the investments required to bring electricity, LPG, kerosene and improved transport systems to the poor was a fraction of the total investments needed for energy infrastructure in developing countries “yet all stakeholders must ensure that this socially-essential aspect of the broader investment is duly undertaken and financed.”

Ocampo said that, excluding transport, total required investment in energy infrastructure from now until 2030 in the developing countries was estimated at \$8 trillion.

He said it was widely recognized that fossil fuels, especially oil, would continue to play a significant role in the energy mix for some time. Exploration, development and investment in oil and gas and other energy resources were needed to meet the projected rise in demand growth in the years ahead.

Ocampo said the higher oil prices seen of late had not

resulted in a significant contraction in the world economy, but less volatile prices would help to reduce uncertainties surrounding investment decisions and also stimulate investment, not only in oil and gas, but in energy efficiency and advanced and cleaner energy technologies.

Turning to the environmental issue, he said that although greenhouse gases were to a great extent attributable to developed countries, the expected growth in energy use by developing states would contribute significantly to future emissions.

“We have come some way in the past few decades in implementing cleaner technologies and energy efficiency measures, but in the light of the challenges we face, these efforts look insufficient and must be expanded,” he maintained.

Ocampo said many new technologies to address climate change were under investigation, including carbon capture and sequestration.

“Energy efficiency measures and new technologies perhaps hold the greatest potential to enable economic growth in developing countries with far fewer environmental consequences,” he affirmed.

He said investment frameworks were now under review to ensure that funds were channelled towards cleaner projects, but it was here that the international community could play an even bigger role by improving developing countries’ capacity to reach sound and capable decisions with respect to energy project planning and implementation.

“Many oil-exporting countries have set a good example by generously providing development aid, including through the OPEC Fund for International Development.

“We cannot over-emphasize the importance of energy in achieving the UN Millennium Development Goals and the sustainable development goals of developing countries. International cooperation can play an important role in facilitating access to clean, safe, affordable and reliable energy as a basis for progress in social, economic and environmental areas for sustainable development,” he added.



Shri Murli Deora, Minister of Petroleum and Natural Gas of India, was keynote speaker for this session. He spoke on petroleum and sustainable development.

Amidst the changes that had been sweeping the global hydrocarbons sector, observed Deora, OPEC had remained “rock-steady”. The Organization was expected to have an equally challenging role in ensuring stability and sustainability in the world oil market in the years ahead.

The minister maintained that prolonged market volatility and high oil prices could jeopardize global initiatives for sustainable development.

India, he stated, strongly supported the idea of greater interdependence of cross investments in the energy markets to promote the shared interests of energy producers and consumers.

Historically, he said, his country had a very close and cordial relationship with OPEC Countries “and we look forward to OPEC’s valuable support in strengthening India’s oil security.”

He continued: “Over the last few decades, our relationship has grown not just in terms of energy flows, but also in terms of labour, trade, and investment. We see these ties strengthening over the longer term,” he affirmed.

Deora said energy in general, and petroleum in particular, continued to be the prime driver behind global progress.

“But it has its major costs — environmental pollution and an ecological imbalance being the most noticeable. Thus, for development to be sustainable over a longer period, it has to meet the social and environmental needs of human life, in addition to the economic needs.”

Energy, he stated, was key to development. “It shapes the socio-economic quality of human life. Energy in the form of electricity and cooking fuel contributes to the basic human needs of lighting, warmth and nutrition. Yet worldwide, an estimated 2.4 billion people, comprising half of all households and 90 per cent of rural households, do not

have adequate access to commercial energy resources,” he observed.

Deora said that by scaling up the availability of affordable and sustainable energy services, there was a greater chance of achieving the UN’s Millennium Development Goals.

“Energy services have a multiplier effect on health, education, transport, safe water, and sanitation. Such availability enhances the productivity of income-generating activities in agriculture, industry and tertiary sectors,” he pointed out.

Deora said oil security was not just oil supply security. Even with a secure oil supply source, a developing country may not be in a position to procure adequate oil unless the price was affordable.

“So, price stability has become an important constituent of oil security. Given the vital role of energy prices in the economic and social well-being of the common man, it is imperative that we are able to provide oil at affordable prices and this is becoming increasingly difficult given the present oil price scenario,” he noted.

“We believe that the imperative of sustainable development requires greater global energy security, in which OPEC has a seminal role to play. Working together, consumer and producer governments can meet common challenges.

“The need of the hour is to develop a consensus-based approach that not only optimizes the use of energy, and looks at cleaner technology, but also ensures that developing nations have access to it in line with the Millennium Development Goals. The aim should be to create a model that does not impede progress, but enhances it, while ensuring energy security and energy efficiency,” he added.



The next address was given by Suleiman Jasir Al-Herbish, Director General of the OPEC Fund for International Development, who spoke on the role of the institution in supporting sustainable development.

In the context of the economic development of nations, contended Al-Herbish, sustainability had four key components — the need and ability to economically grow and continue to grow; environmental sustainability; social sustainability; and the issue of international sustainability.

“Sustainable development is thus a very complex challenge, but we have learned from history and from simply observing our own world that we can ignore these issues only at our own peril,” he said.

Concerning energy and sustainable development, Al-Herbish noted that there was no more important issue relating to development and sustainable development today than energy.

“Any effort to forge an economy that is self-perpetuating, if not based on sound energy planning from the outset, is bound to fail. Growth depends on energy and sustainable growth on sustainable energy — meaning, in this case, affordable and reliable energy in their purest economic sense,” he maintained.

Al-Herbish pointed out that the poorest societies needed sufficient energy to help lift their citizens out of the poverty they faced, while the fastest-growing economies, as well as the most developed, “would grind to a halt” without sufficient energy.

He said the challenge of the energy producers was a paradoxical one — to substantially increase investment

in their energy sectors, in order to meet rising global demand for energy, and, at the same time, to build sustainable economies of their own that did not depend as much on hydrocarbons production and revenues.

The OPEC Fund’s traditional focus on poverty alleviation, he said, had become a cornerstone of its mandate and an unflinching base of the institution’s dialogue with its partner countries.

“The Fund shares the concern for prompt access to adequate, affordable and sustainable energy services,” he asserted.

Al-Herbish stated that the OPEC Fund’s energy sector financing of \$946 million had contributed to implementing 120 projects. This had helped in bridging the gap to successfully implement cofinanced investment projects worth \$14.5 billion over the last 30 years.

He said the Fund stood ready to share its experience with its partner countries and the development aid community to accelerate the development of energy services in the poor countries in which it operated.

In recognition of the variety of situations and different economic capacities, the institution had developed a series of new products and financing windows which, when combined, allowed an adequate response to the pressing need for energy development, particularly in favour of the poor, he added.



David J O'Reilly, Chairman of the Board and Chief Executive Officer of Chevron, was the next to take the podium. He spoke on the contribution of petroleum to sustainable development from the point of view of an international oil company.

In a world that was becoming more connected and interdependent than ever before, said O'Reilly, sustainable development was not an option — it was an imperative.

"The contribution of petroleum to sustainable development would be a compelling topic at any point in time. But it's particularly relevant in this time of dramatic change in the world's energy industry," he said.

O'Reilly stated that growing demand and an increasingly complex operating environment were making the delivery of reliable, affordable energy one of the biggest challenges of today.

"Our industry has a responsibility to foster sustained development — and to do so in ways that provide energy efficiently, as well as contributing to economic and human progress.

"This is a steep challenge in a world where the population is growing and the gap between the rich and poor is wide," he affirmed

O'Reilly said the world's growing population would expect a range of energy-related products. People would also expect something more intangible, but critically important — opportunity for education, for employment, "for a better life".

He stated: "Our industry can and does play a role in providing this kind of opportunity by building economic and social value in the communities where we operate."

O'Reilly went on to discuss five model elements he considered were required for sustainable development — business investment, building a local workforce, enabling local supply chains, investing in the community, and supporting policies that promoted economic growth and a stable investment environment.

He said that as an industry, "we are uniquely and powerfully positioned" to deliver what millions of people worldwide longed for — investment, jobs, a stable environment, healthy communities, and a vibrant economy.

"I am an optimist. I believe that the petroleum industry can help millions of people realize a more healthy, environmentally sound and prosperous life.

"But that cannot happen unless there is responsible and accountable leadership from everyone in the energy value chain — producing countries, consuming countries, national and international companies, policy-makers and communities.

"This leadership must be rooted in action, not words. It is only through accountable, responsible leadership that the economic benefits of the energy we discover and produce will flow to all stakeholders. Working together, we can all help build a sustainable future for many millions of people — a future in which all of us can be proud," he added.



The final speaker in this session was Nasarudin Md Idris, Vice President of the Corporate Planning and Development Division of Petronas, Malaysia, who talked on oil for development, and the experience of Malaysia.

All the initiatives carried out by the Malaysian government in connection with the energy industry had made a positive impact on the country's economy, Idris pointed out.

The use of gas had lessened dependence on oil and the development of a petrochemical industry had supported the local manufacturing industry, besides earning revenues from exports.

"But perhaps a more positive impact is the diversification of the Malaysian economy itself from what was largely agrarian in the early 1970s to more manufacturing-based, as it is today," he noted.

However, Idris said the cornerstone of the success seen in Malaysia had been the country's ability to develop its human resource talents and capabilities.

"With a pool of talented human resources, we were able to develop our own institutional capabilities and track record. This is certainly an investment that has paid off many times over," he professed.

Looking at the country's oil history, he said that in most places where oil was discovered, there was euphoria amongst the people of the land.

"Oil is seen as an answer for a nation to emerge from

the shackles of poverty. However, the irony is that some countries remain poor despite the presence of oil and it does not contribute to the well-being of the people.

"Often, we hear of the term 'the oil curse' and many parties are blamed for such a situation — foreign oil companies, national oil companies, government leaders, other sectors of the economy, and others," he stated.

Idris maintained that oil need not be a curse. On the contrary, it promised sustainability for all, "but only if each and every one of us looks deeper into our roles."

He said that in order for oil to feed into a virtuous cycle of national development it required strong political will and a responsible government.

"But yet, this is not enough. More attention should also be given to fostering greater cooperation amongst governments, the NOCs, the IOCs, contractors, service providers and institutions of higher learning to create a vibrant oil industry that continues to contribute to the national development agenda.

"Oil is a finite resource. We cannot change that fact. It is a gift from God for us to exploit and benefit from. How we benefit from it, is our choice. Perhaps, we need to look beyond oil," he added.

Final Panel Discussion: The role of OPEC in a new energy era

Members of the final panel comprised: Sayed Kazem Vaziri Hamaneh, Minister of Petroleum, Iran; Hussain Al-Shahristani, Minister of Oil, Iraq; Mohamed Bin Dhaen Al Hamli, Minister of Energy, UAE; Dr Ali Rodriguez Araque, Minister of Foreign Affairs, Venezuela; Sadek Boussena, former Algerian Minister of Energy and Mines; Martin Marmy, Secretary General, IRU; Paolo Scaroni, CEO, Eni; Ian Taylor, President, Vitol Group; Peter Odell, 2006 OPEC Award winner. (Álvaro Silva Calderón of Venezuela, former OPEC Secretary General, made a presentation from the floor.)



The Chairman of the final panel discussion was Dr Purnomo Yusgiantoro, Minister of Energy and Mineral Resources of Indonesia.

Before introducing the nine panelists, Yusgiantoro said the seminar's final round of presentations had the purpose of looking at how OPEC should adapt its role to the changing landscape of the international oil industry.

He posed the questions — "Is OPEC doing enough? Is there more that OPEC should be doing to meet the future challenges?"

These, said the Minister, were the answers "we are looking for in this panel discussion."

Sayed Kazem Vaziri Hamaneh, Minister of Petroleum of the Islamic Republic of Iran.



Speaking on energy security, Hamaneh said it was an issue that could be looked at from different angles.

He pointed out that security of supply was secure because of the main role played by OPEC, whereas security of demand was insecure because of the energy policies of the consumer countries, which threatened capacity-building investments.

Security of demand also required access to markets, a factor that was hindered by fundamental problems in the policies of some consumers, who had erected many barriers.

The Minister noted that other elements that figured prominently in the issue of energy security were security of investment and security of technology.

"The removal of barriers to accessibility of markets and technology will certainly lead to supply and demand security in desirable forms," he maintained.

The outlook for the world economy indicated that global demand for energy was still rising, with oil and gas expected to play the dominant role in the world's energy consumption mix, said Hamaneh.



He noted that there were sufficient oil and gas resources in the world, but a considerable part of the growing demand for oil would have to be met by OPEC Member States, especially the Gulf countries.

“Therefore, investments are to be concentrated in the high-reserve, low-production-cost regions,” he pointed out.

The Minister said that in adopting approaches to energy security challenges, due attention had to be paid to the impact of governments’ foreign policies on energy and market developments.

Since there was accessibility to the producers’ oil and gas resources, sources of technology were also expected to provide access to technologies for the production of all kinds of energy.

“Governments of producing and consuming countries should do their utmost to enable market forces to play their part in an atmosphere void of political interference, where all acceptable international norms, regulations, and controls can be applied,” he said.

In summing up, the Minister made several observations which, he said, had received widespread recognition.

He maintained that there were sufficient oil and gas resources in the world to guarantee security of supply, while a reasonable level of oil and gas prices, their stability and sustainability, were factors influencing the trend of investments. Efficiency and return on investment in the energy industry was greater than investment in other industries.

The Minister also stated that peace and political stability were essential pre-conditions for ensuring continuity of investment flows, while the elimination of downstream bottlenecks in the consuming countries was essential to ensure that sufficient and timely refining capacity was available to supply the required petroleum product specifications of environmentally-friendly standards.

“Cooperation of technology sources in energy conservation and efficiency of producing countries, together with a gradual elimination of energy subsidies, will further bolster energy supply security.

“Producers and consumers should apply supportive policies and facilities to further their cooperation in this field,” he maintained.



Dr Hussain Al-Shahristani, Minister of Oil of Iraq.

Discussing the role of Iraq in the new energy era, Al-Shahristani noted that the world economy would continue to expand at a moderate to strong pace in the future, which would translate into considerable growth in demand for energy.

Iraq, he said, with its vast oil potential, would be a key player in the years ahead. The country's output potential needed to be utilized to enhance stability in the world oil market and to help preserve sustainable global economic growth.

The Minister noted that, due to the problems his country had faced over the past three decades, Iraq's great oil potential remained underdeveloped. Crude production capacity was at a great disparity to the nation's "exceptionally rich resources."

Said Al-Shahristani: "Neither the people of Iraq, nor the world community, have been able to enjoy the benefits of Iraq's vast oil potential."

He noted that now that a permanent constitution had been approved by the people of Iraq, the elected government was taking serious steps towards rapidly developing the nation's oil potential.

The key step in this direction, he stated, was the Oil and Gas Law, which was designed to provide maximum encouragement for the development of Iraq's large oil and gas resources, as well as modernizing the domestic oil industry in general.

"The draft law is being discussed by the Ministerial Committee for Energy — it will be presented to parliament before the end of the year," he said.

"Of course, partnership and other forms of cooperation with international investors of recognized technical, managerial and operational skills, as well as possessing robust capital resources, will be encouraged to help upgrade and develop national expertise, for, on the one hand, efficiency, and, on the other, development of the oil and gas resources," he explained.

Al-Shahristani pointed out that the introduction of a variety of national and international players in the development of the domestic petroleum sector called for clear legislative, institutional and operational frameworks to ensure cooperation and efficiency between the Iraqi authorities and the commercial players, as well as among the players themselves.

"We recognize the need for clear, fair, transparent and efficient systems and legislative measures that inspire confidence, cooperation and efficiency among all participants in the petroleum sector," he affirmed.

"We are aiming, with this new conducive environment, to modernize Iraq's upstream activities and to expand our crude oil production gradually to over 6 million b/d in the next ten years," stated the Minister.

He said that to achieve this goal, Iraq was looking forward to further cooperation with all OPEC Member Countries — through their national oil companies — and all international oil firms, especially the majors.

"The present democratically-elected government of Iraq is determined to use the vast oil wealth for the benefit of its people and to help preserve stability in the world oil market at a sustainable oil price level," he concluded.

Mohamed Bin Dhaen Al Hamli, Minister of Energy of the United Arab Emirates.

In giving an overview of some of the challenges ahead, Al Hamli stressed that the world's need for energy would continue rising, due to growth in the global population, economic activity and a continuing improvement in living standards.

The extra supply of oil and gas to meet future world energy needs was expected to come mainly from OPEC Member Countries, since they possessed the largest hydrocarbon reserves in the world, he observed.

Also, in most OPEC Member Countries, the cost of oil production was far lower than in other oil-producing regions, he said.

Looking more closely at some of the challenges facing OPEC in the new energy era, Al Hamli said the first challenge was increasing the Organization's share in the world oil market to reflect available hydrocarbon resources and their low cost of production.

He said it was a well-known fact that substantial quantities of crude oil remained in the ground, deposits that could not be recovered by standard oil industry recovery techniques. In many oil fields, the oil recovery ratio did not exceed 35 per cent of the total reserves in place.

"To recover more oil, sophisticated enhanced recovery techniques are needed. Appropriate development and investment are needed to make these techniques available," he stated.

These new techniques, said the Minister, would usher in a revolution in the petroleum industry, comparable in impact to that of the introduction of 3-D seismic to exploration technology many years ago.

However, enhanced oil recovery techniques were costly and resources should be put together to achieve the objective of their future development at a minimum cost to individual parties.

"It befalls OPEC to attempt to change the attitude in the petroleum community — in both the private and public sectors — to take a long-term view and strive to extend the petroleum age as much as humanly possible," he stressed.

Regarding high oil prices, which, Al Hamli said were being caused by geopolitical developments, refining bottlenecks and speculative activity in the oil futures markets, there was no doubting that they were detrimental to the oil producers.

This was because they had the potential to dampen

world economic growth, which in turn would impact on demand for oil.

"Higher oil prices also provide an impetus for the development of less efficient alternative energy sources. It is therefore in the interest of all to contribute to efforts to moderate prices to the level supported by market fundamentals," he asserted.

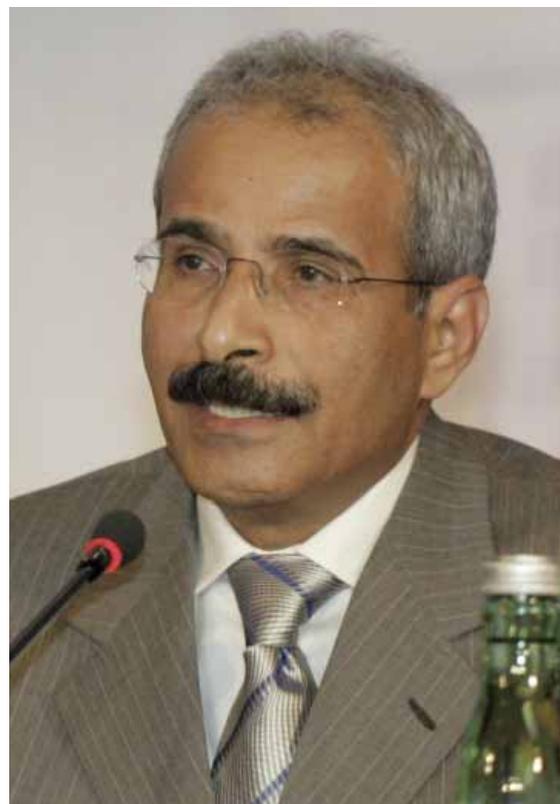
Al Hamli pointed out that OPEC had always been committed to providing market stability, not only through ensuring sufficient oil supplies for consumers when needed, but also in the form of adequate spare capacity that acted as a cushion during unexpected supply disruptions, or when market conditions called for it.

He pointed out that it was difficult for OPEC Members to commit the financial resources necessary for additional capacity schemes without assurances that the extra capacity would not fall idle and the demand would be forthcoming.

"To do so would jeopardize health services, education, infrastructure, and the social and developmental requirements of the populations of the oil-producing countries," contended Al Hamli.

"Energy security is a shared responsibility between the producing and the consuming countries and must be approached from that perspective. We need to strike a balance between what is needed to stabilize the market and reasonable expenditure that does not threaten development in the producing countries. This is the dilemma we face and one that eludes a solution without the cooperation of both parties," he said.

"In the new energy era, OPEC must face the challenges on all fronts if it is to avoid excessive and harmful volatility in the oil market. Our collective efforts and resources must be put together to seek solutions to these thorny issues, wherever possible," he added.





**Dr Alí Rodríguez Araque,
Minister of Foreign Affairs of Venezuela.**

Speaking on the challenges and opportunities OPEC would likely face in the new energy era, Rodríguez Araque said the key question that came to mind was — “Is it really a new era, or are we merely in the upswing of a very long cycle? I think the answer is the latter.”

In his opinion, the greatest problem in the so-called new energy era lay in recognizing the fundamental problem of realizing a fair and stable division of petroleum rent between investors and the natural resource owners.

“This issue is still not being addressed,” he maintained.

The Minister said the big question, not only for OPEC but for all participants in the energy sector, was still — are consuming countries and the international oil companies ready to accept the sovereign management of the natural resources of the exporting countries?

“Such an acceptance is a requisite for a stable institutional framework. After all, such an agreement is viable only when all parties recognize each other’s essential rights,” he maintained.

Rodríguez Araque said this understanding was essential for those nations that owned oil, not only for the intrinsic value of their natural resources to be recognized, but also the legitimacy and right of their national oil companies to exist.

Last, but not least, there should be in existence a quota system relating to the export and conservation of the resources in question.

“Without these basic conditions, it is impossible for a producing country to pursue a viable development strategy,” he professed.

The Minister said the acceptance of the consuming countries of these matters was unfortunately far from assured.

“Fortunately, the recent example of Venezuela shows that it is perfectly possible for companies and the governments to reach an understanding based on mutual respect ... for each other,” he said.

Such a global understanding, which involved not only OPEC Countries, but also other key players, was possible only with the backing and the participation of consuming nations.

“As long as the consuming countries ignore this, the oil market will continue with cyclical periods of ups and downs where the only constant is instability,” said Rodríguez Araque.

He said OPEC now had a great opportunity in the midst of the latest sellers’ market to define the path to this new relationship and a new role for the national oil companies.

“However, we must not forget that what goes up will eventually go down — and this is the reality of petroleum cycles,” said the Minister, in reference to the higher prices seen over the last few years.

“To pin our hopes on projections of sustained high prices continuing in the foreseeable future would be nonsensical because, as the saying goes, ‘he who does not learn from the lessons of the past is bound to commit the same mistakes again.’ ”



Sadek Boussena, Former Algerian Minister of Energy and Mines, and now Professor of Economics at the University of Grenoble.

In an address on the new trends OPEC was having to contend with, Boussena said the Organization, once again, seemed to be at the crossroads.

With the much talked about new energy era, OPEC had, he maintained, definitely the obligation to adapt its strategy to the new conditions, the new opportunities, and the new constraints.

Boussena said that if he had to single out two main trends of the new era, first there was a high probability that the future would be better for all sellers than the past.

“Demand is going to grow and prices should be higher than in the past. Access to oil reserves is strongly interesting the international oil companies and there are real opportunities for OPEC Member Countries to capture a higher value of the barrel, in particular through a better use of their national oil companies,” he said.

Boussena said the second trend, which was not particular to the oil industry, was that there would be larger uncertainties in the years ahead — over supply and demand levels, the development of energy alternatives, geopolitical developments, and uncertainty over the future direction of oil prices, which were a determinant of the future of the industry.

He pointed out that one of the main contributions of OPEC in its future strategy was to try and help reduce the consequences of such uncertainties.

The Organization was in a better position when the oil market was relatively tight, rather than when there was too big a surplus in supply capability.

“Too much spare capacity leads automatically to destructive competition among OPEC Member Countries,” contended Boussena.

He said that barring any major surprises on the demand side, he did not expect that the world oil market would benefit again from huge spare capacity, as it did in the 1980s and 1990s.

“Looking at the situation optimistically, one could expect to have a three to five per cent cushion in spare capacity in the future. The world should learn to live with a lower spare capacity,” he maintained.

Boussena said OPEC had to be able to monitor more closely the oil market and market trends and to strengthen its capacity for studies and statistics.

In this way, the Organization could follow up data on the volumes required and the timing of projected future production capacity expansion for OPEC, non-OPEC, and credible alternatives.

“If OPEC accepts to take the risks of maintaining spare capacity, even a limited amount, to again play the role of swing producer, it will be in a good position to ask others to share the responsibility of having to stabilize the market. This could hopefully lead to a more concrete dialogue for the future,” he added.

Martin Marmy,
Secretary General of the
International Road Transport Union.



In looking at the future of transportation in the energy demand mix, Marmy said the role of OPEC in the new energy era would remain very important, due to the large proven oil reserves located in the Organization's Member Countries and the fact that oil was not a regular, but a premium strategic energy resource seen everywhere.

However, he pointed out that the new era incorporated numerous challenges.

Marmy said that, looking to the future, he was a firm believer that "our children's children" should also have the right to benefit from "black gold", in particular in road transport, where no viable alternative existed.

Secondly, he maintained that the rapid and huge increase of diesel and gasoline prices at the pump should be stabilized by appropriate energy policies.

"An appropriate energy policy in the oil-consuming countries requires at least improved energy and oil efficiency, based on the diversification of the energy used in fixed installations, including through efficient taxation

and incentives, where viable alternatives to oil exist," he noted.

"This should be coupled with a moderate and balanced fiscal policy where no viable alternative to oil exists, such as in road transport," he affirmed.

Marmy said that, thirdly, the reinforcement of environmental regulations represented another global challenge for the petroleum industry.

He maintained that for the road transport industry, the right to emit carbon gases, as foreseen by the Kyoto Protocol, was now more a profitable business than an effective measure to reduce pollution.

"This is why, if carbon taxes are really an effective tool to reduce emissions — taking into account that the oil market is global and that the emissions are a global challenge — the carbon tax should not be collected locally, by governments of the consuming countries, but at the source of the global oil market, where each barrel of oil is produced, meaning in the oil-producing countries," he added.



Paolo Scaroni,
Chief Executive Officer,
of Eni SpA.

Speaking on security of supply and market stability, Scaroni said there was a pressing need for huge investments along the whole oil value chain, as well as for building a platform of cooperation to face the challenges.

Security of supply was not being threatened by a scarcity of hydrocarbons, he asserted.

Thanks to modern technology, recovery enhancement and successful exploration techniques, the estimate of world recoverable oil resources had actually increased over time — from 2 trillion barrels in the 1970s to the most recent estimates of 3.3–3.9tr b.

Moreover, the US Geological Survey had estimated that technically recoverable reserves of non-conventional oil — located mainly in Canada, Venezuela, and Russia — were about 1tr b.

“Therefore, total recoverable reserves amount to nearly 5tr b, with a life-span of more than 100 years,” he noted.

Scaroni said there were several reasons to believe that global oil supply pressures may be overcome over the next few years.

Global oil demand was projected to grow by two per cent, spare capacity should dramatically recover at the

end of the decade, with overall supply capacity expected to be sufficient to meet demand growth, a development that would push prices lower.

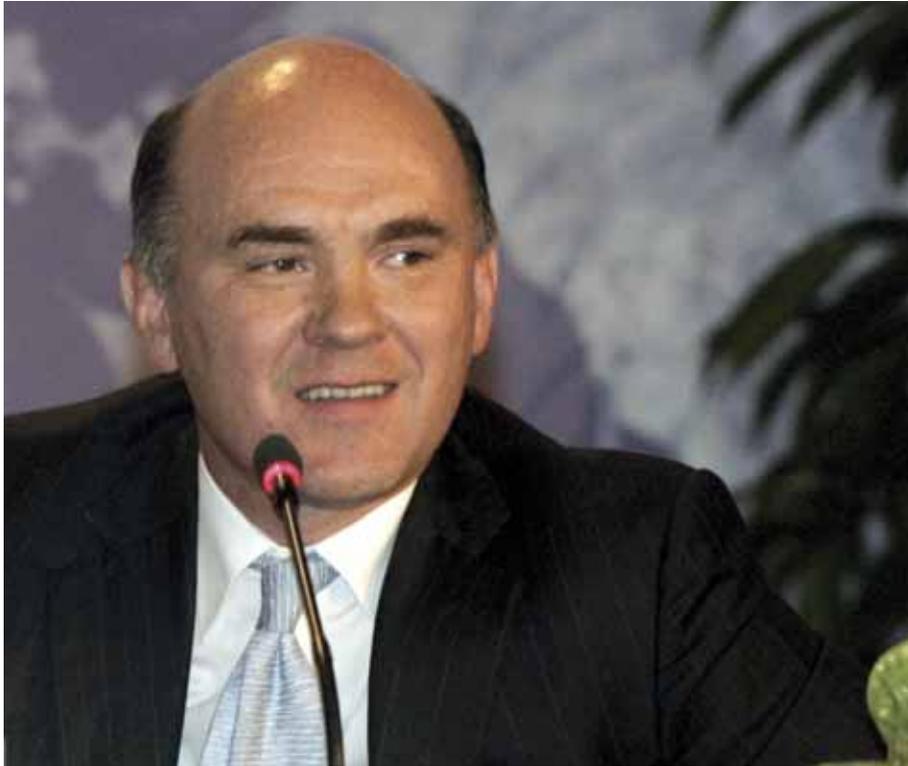
In addition, investments in oil exploration and development were booming and there was still a lot of production potential worldwide.

Scaroni said many speakers at the seminar had pointed to the huge investments required for the increase in production, transportation, and refining capacity.

“But I don’t think money is an issue. Rather, I think that one skill will be key — the ability to manage huge investment projects which are price-sensitive and where it takes several years to recover the capital invested. Technology and adequate management skills will be central to both upstream and downstream in the future,” he maintained.

Scaroni said that against this background, OPEC producers had the opportunity to become exporters of energy and products, not solely of one raw material — crude oil.

“This is the perfect time to make such a transition. The high oil price gives us all the opportunity to invest in the future. But we should move fast. History teaches us that sooner or later oil markets will react,” he added.



Ian Taylor, President of the Vitol Group of Companies, United Kingdom.

In taking a look at the way oil is priced, Taylor said he shared the views of many that volatility was a very bad thing for the oil market.

"As a physical trader, we in Vitol hate volatility. It means that we can't do our job as well as we would like to do in making sure that the producers get the best prices for their products. We are always happy to look at ways where we can make the market smoother, more efficient and probably less volatile in price terms," he said.

Taylor said he thought OPEC should be congratulated for the many, many years it had been diligent and responsible in supplying crude to the market — when the market needed it — yet also taking the crude away when the market did not require it.

"I am sure it will continue to do that in the years to come," he affirmed.

However, Taylor said it was fair to say that the oil industry in general had not been perhaps quite as successful, especially in the way prices were being set.

"Prices tend to be set on a daily basis by the various futures exchanges. There is actually a very small participation from the industry itself and by OPEC."

Taylor said that in line with the fact that OPEC Member Countries were an important part of the industry's production today, and would be even more so in the future, "we

should be looking at a new future for setting the prices of oil."

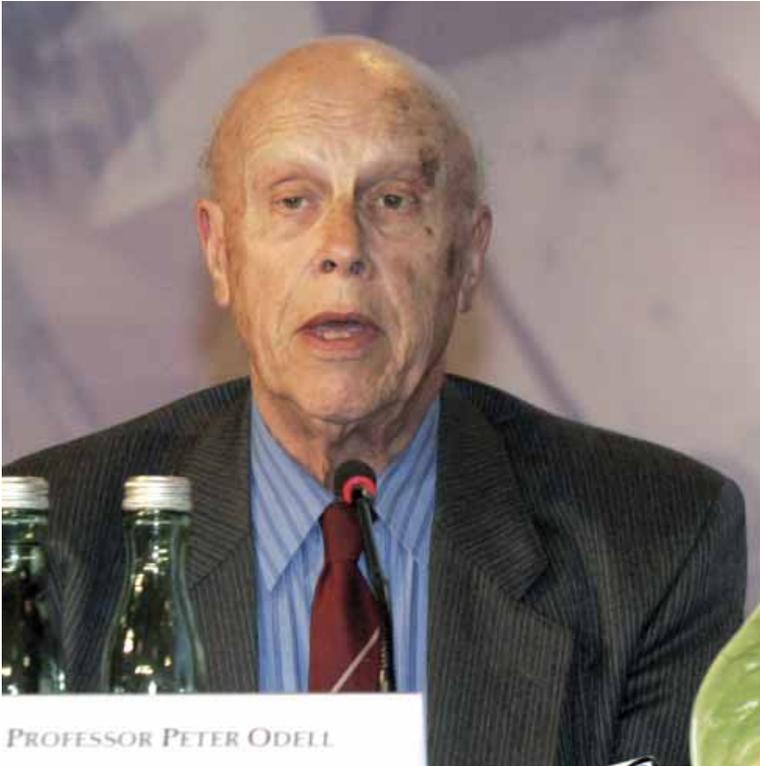
In urging OPEC producers to become more involved in the price side of the equation, he stated: "We have the situation today where very large volumes of oil futures are traded and the prices set reflect supply and demand for futures, not necessarily the fundamentals of supply and demand for oil.

"If one looks at the crudes that back-up the futures exchanges — WTI, Brent and Dubai — they account for production of a lot less than 1 million b/d, compared with the world's total production and consumption of 85m b/d," he said.

Taylor pointed out that he had always felt that the correct oil future was not WTI, Brent, or Dubai — but the OPEC Basket.

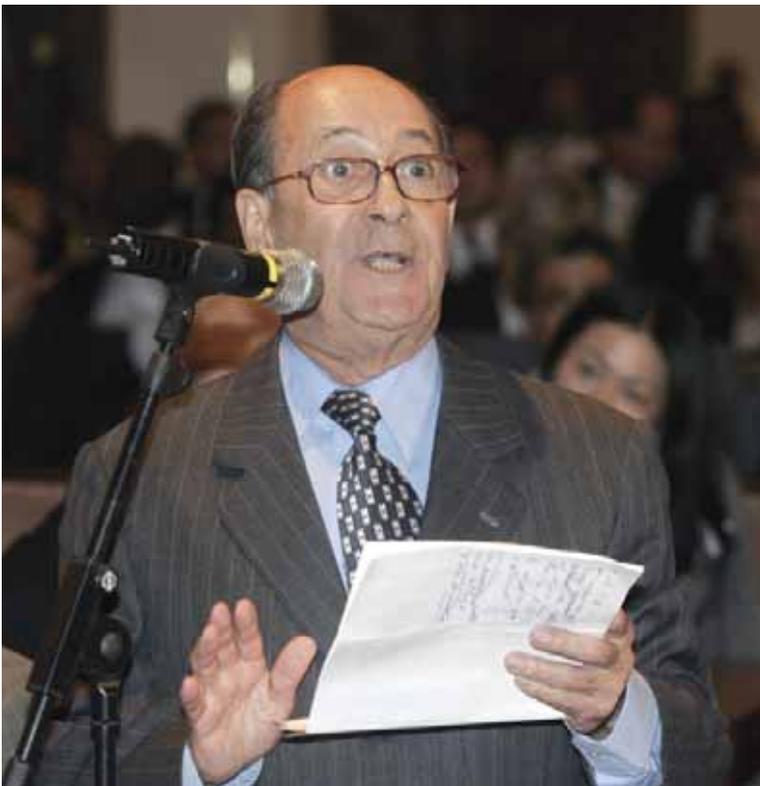
"I feel that a market that traded OPEC Basket futures would actually be the right way to price oil in the future. This would have great benefits because it would involve the people who are very much part of the industry — the producers of the oil. It would ultimately lead to greater security of supply and demand," he affirmed.

Taylor said Vitol and other market participants would welcome "very much" OPEC's participation in the futures market. An OPEC futures basket would be an ideal move and would be very well supported.



The next panel speaker was economist Professor Peter Odell, the 2006 OPEC Award winner.

His insight into the future direction of the global energy industry can be seen on page 78.



The final address was made by **Álvaro Silva Calderón**, Former OPEC Secretary General of Venezuela, who was a special guest at the seminar. His speech, in its entirety, can be seen on page 74.



“Deliverability ... not availability”

Seminar delivers important messages on oil's future direction

Over two days of intense discussion, many messages came through as to oil's future direction and the challenges facing the industry in the years ahead.

Speakers expressed views on a variety of topical issues, but throughout all the deliberations, a general convergence of opinion emerged on several topics.

Chief amongst these was the recognition that the world still has plenty of oil with which to satisfy global needs for generations to come.

There was also broad agreement that the producers must strive to ensure that these abundant hydrocarbon reserves are accessed, processed and distributed to consumers in a timely and orderly manner, with stable and reasonable prices.

In addition, it was also felt that consumers must focus on enabling steady, predictable demand, so as to provide fertile ground for sound investment strategies in future production capacity, from which the world at large can benefit — rich and poor alike.

As OPEC Conference President, Dr Edmund Maduabebe Daukoru, aptly put it during his closing remarks: “The challenge remains that of deliverability ... not availability.”

The following points cover other important

messages that came through strongly as a result of the various presentations made:

- ▶ Fossil fuels during the new energy era will continue to dominate the global energy mix and will continue to be vital for supporting the forecast expansion in global economic growth, which, under normal conditions should stay robust.
- ▶ A changing pattern in the dynamics of oil demand is being witnessed today, with a geographic shift in growth patterns from the OECD countries to emerging Asia, China in particular. This growth will be primarily driven by the transportation sector.
- ▶ Energy security, both for producers and consumers, should continue to grow as both sides work for greater predictability of supply and demand as a guarantee for a stable oil market in the future.
- ▶ The conventional resource base is sufficient to meet the growth in global demand projected, with technological advances and breakthroughs being critical for supporting this process.

- ▶ Capacity expansion programmes are lessening fears over shortage of supply, a development that should reduce the speculative element reflected in high oil prices for quite some time.
- ▶ The Middle East will remain central to global supply growth in the foreseeable future, although non-OPEC producers will continue to account for the bulk of world oil up to 2025.
- ▶ The role of national oil companies in world markets is expected to grow in collaboration with the international oil firms.
- ▶ Environmental concerns will continue to have a huge bearing on oil's future direction with pressure mounting on the industry to produce ever-cleaner fuels. This will require a timely and broad-based global response, but one that goes beyond the Kyoto Protocol. Substantial new investment will be needed to provide the technology and innovation required to address this challenge, as well as for developing such worthy processes as enhanced oil recovery techniques and carbon capture and storage.
- ▶ Potential fiscal imbalances and rising inflation could lead to a further rise in interest rates in the OECD region, especially in the United States.
- ▶ With global energy demand set to rise significantly over the next 15 years, there will be a pressing need for fresh investment in new output capacity across the entire supply chain, both upstream and downstream.
- ▶ Against a background of higher energy demand and prices, an increasing number of governments are expected to implement energy conservation programmes, resulting in greater efficiency, reduced consumption and increased cost competition.
- ▶ Overcoming downstream challenges is equally as important as satisfying upstream demands, an issue that requires a concerted effort from those players responsible in the downstream, especially the international oil companies. There is a strong need for further investment in additional refining capacity, particularly for conversion and desulphurization units.
- ▶ Uncertainty over oil's future direction could see price volatility continue, such is the complex nature and sensitivity of today's international oil market.
- ▶ Considerable progress has been made in the promotion of energy dialogue, especially over the past year or so, yet much still needs to be done. A general awareness has emerged that only through concerted cooperation and regular interaction among the main players — producers, consumers and investors alike — can a better understanding be obtained of the most important issues involved.
- ▶ OPEC will continue to pursue the road of dialogue and cooperation and will strive to bring as many players under this umbrella as possible.
- ▶ Renewables are beginning to receive more attention with strong government support and will remain a focal point of interest in the energy mix for the foreseeable future.



Libya has a new motto as its petroleum industry opens up to foreign investment after years of crippling sanctions

“Let the best man win!”

With sanctions now a thing of the past, it is without doubt an exciting time for Libya. Aided by higher oil revenues, the government is implementing various socio-economic programmes and, most importantly, breathing new life into the country’s petroleum sector. **Dr Shokri Ghanem**, who for three years was Secretary of the People’s Committee (Prime Minister), before taking over the oil portfolio as Chairman of the People’s Committee, the National Oil Corporation (NOC) of Libya, has the responsibility for moving the country’s oil sector forward after years of enforced stagnation. The Bulletin’s Edward Pearcey caught up with the Minister, at the OPEC International Seminar and asked him about life after the economic embargoes.

What are your plans for the Libyan oil industry over the next few years?

Libya in the 1970s produced more than 3.5 million barrels of oil per day, but because of political pressures, the embargo and boycotts our forecasts dropped to less than half of this — to about 1.5m b/d. Now that the embargoes have been lifted, and the other problems sorted, we are planning to go back and assume our (rightful) place in the industry. Therefore, we are embarking on a plan to open our doors to top foreign companies and more investment in a very competitive and transparent way. In pursuit of this goal, we have resorted to several bidding rounds. So far, we have had two rounds, which have seen more than 30 companies come and work in Libya. Now we are offering a third bidding round, and more than 150 companies have already shown an interest. This is all setting the stage for us to increase our production capacity and realize our full potential. The plan is that by mid-2007, we will be able to produce 2m b/d of crude oil. Then, between 2010 and 2012, our plan is to increase our capacity further — to 3m b/d.

How badly did the sanctions affect the oil industry in Libya?

They affected us badly because we were deprived of a lot of spare parts and were not allowed to get the technology (particularly computers) we needed. We were not able to revamp our refineries, our petrochemical complexes, as well as other facilities. The sanctions also affected other sectors, such as aviation.

You have already said Libya is planning to expand its oil production capacity. Are you also planning to boost gas output?

Yes certainly. The gas sector has been expanded already and we are going to put more emphasis on the gas industry in the future. Only last year we opened a sub-sea pipeline that can carry 10 billion cubic metres a year of gas to Italy. Also, we are completing our domestic gas pipeline grid so that we can bring supplies to our steel mills, power plants and some factories so that they can benefit from being gas-fuelled, rather than oil. Companies are coming to Libya to look specifically for gas and we are

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expecting to be one of the biggest gas-producing countries in the next five to ten years.

What social projects are being financed by the extra oil money Libya is receiving as a result of higher prices?

We have a number of big projects, but they are all being carried out within an economic development plan. We have a big housing project going on and, of course, the man-made river scheme, which is bringing purified water from the south of the country into the cities. We also have a lot of things going on with roads, airports and ports, so there is a lot of infrastructure being developed. However, we prefer to open our doors to foreign investment, rather than fund these projects solely through the government. We are thus encouraging the private sector to work and participate in the economic development of Libya.

What companies are being encouraged to come to Libya?

We are encouraging all the companies we can to come to the country. We are also pre-qualifying some firms to encourage smaller companies that may not be able to match the larger organizations. We are opening the way for every company that has certain qualities and qualifications, whether they are financial, or technical. After pre-qualifying, they can then participate in the bidding rounds. Of course, all the big companies are naturally

qualified, and you will see international firms such as Shell, Exxon, Chevron and British Petroleum in Libya.

Are you actively encouraging smaller oil companies to come to Libya?

People have been debating whether or not one should encourage smaller or bigger companies to come to one's country since the 1950s. In my opinion, we have to strike a balance as both big and small companies have their advantages and disadvantages. So, we are putting in a minimum requirement for a company to qualify to come to Libya and this allows for small companies (such as those that can produce just over 30,000 b/d of oil with reserves of maybe 300 million barrels) to participate. Big, medium, and small companies are welcome.

Tell me about the award you are in line for this year?

It is to be given at this year's Oil and Money Conference in London. This award is given to people who, it is said, have made some difference in the oil industry. In my case, I played a significant part in opening Libya up to investment. During this process, I also insisted on transparency and fair competition. We moved away from straight negotiations between companies and the government and opened up a bidding round. Decisions are taken in the open, on a certain day. Our new motto now is: "Let the best man win!"



Market stability and energy
integration – the way forward

OPEC's evolving role in new energy era



Álvaro Silva Calderón, who was Secretary General of OPEC in 2002, made a welcome return to Vienna to attend the Third OPEC International Seminar. Now a Consultant to the Venezuelan Energy and Petroleum Ministry, his address to the distinguished gathering looked at OPEC's position within a new energy era.

Those of us who had the opportunity of witnessing the birth of OPEC can attest to the difficulties of that birth and to the climate of uncertainty surrounding the viability of the Organization. At that time, the world of oil was dominated by the large cartelized enterprises, supported by the governments of their countries of origin. It operated in a colonial way which viewed the hydrocarbon reserves of undeveloped or backward countries as 'wild' and, consequently, vulnerable to seizure and appropriation. Once these reserves were proven, the companies sought to take possession of them. They did so, by including them in their asset inventories and by exploiting them as if they were the rightful owners and with the hope of tapping these resources on an indefinite or ongoing basis.

All this was possible because, in addition to the extended periods they were granted through concessions or contracts, these enterprises consistently sought to extend the benefits they enjoyed by using all the mechanisms and resources at their disposal. These included maintaining absolute confidentiality — often bordering on secrecy — with respect to technology and the ways in which hydrocarbon resources were being exploited, thus depriving the nations and governments - who were the actual owners - access to these natural resources, and preventing the formation of national capital through the purchase of goods and services abroad. This strategy, in turn, deprived local enterprises of opportunities and, incidentally, proved to be yet another way of extracting earnings from the countries where the petroleum was being produced.

The monopoly over technology, the lack of opportunities for local talent and the export of capital eventually crippled the nations in which the hydrocarbon resources were found, forcing these nations to seek — or to submit to — the apparent protection of the large corporations and their governments, in order to have their fossil fuel resources exploited. This was the objective of the big enterprises and their countries of origin. This mechanism was pursued and used permanently. At times, it was used shamelessly and threateningly. Governments were influenced and pressured in several ways, some of which may be described as brutal.

Colonialist approach

These included such strategies as *coups d'etat*, territorial distribution, or, with regard to the fields of private owners, indirect expropriation by means of the low-cost purchase of land, property rights and even by exercising the legal authority to expropriate, which was granted to them by the governments of the countries in which they operated.

For their part, the petroleum companies hoped that special regulations would be implemented to their advantage, as in the case of contractual arrangements that could not be amended by the national states and that provided them with some degree of immunity *vis-à-vis* the general legislation of the countries themselves. Furthermore, they sought to be treated in the same way as individuals governed by international law and thereby exempted from national jurisdiction. This colonialist approach was present and active in — and threatening to — the countries that had recently been liberated from political colonialism or were in the process of struggling free from it. The governments had to struggle against these aspirations being pursued by the petroleum companies, but they often failed in their efforts because of a lack of international solidarity. Yet, their struggles have remained as examples to be followed.

It was in this environment that the idea of coordinating the policies of the major oil-producing and exporting countries arose, as a way of redressing some of the effects mentioned above. The overwhelming power of the oil consortiums, and of the countries protecting them, was well known by those promoting this idea. This was why they had to act cautiously and intelligently to reach the objective set, which they actually did for some time, until they had their first breakthrough — at the time of the First Arab Petroleum Congress. This was convened on a

small, little-known island on the Nile, where the so-called “gentlemen’s agreement,” or Maady pact, was achieved. Yet this was merely the initial success of a strategy that would later lead to the creation of OPEC. The real struggle came afterwards; namely keeping the Organization alive and ensuring that it achieved its goals. The struggle was two-fold. On the one hand, OPEC had to fight against those who sought to undermine its prestige by likening it to a cartel, or by claiming it possessed other assumed weaknesses, in an effort to “put it on its knees” before those who dominated the petroleum world at the time. On the other hand, it had to strive to strengthen itself and to chart clearly defined paths, in order to attain its objectives.

The environment described above has since changed, thanks to the presence and efforts of OPEC - yet new challenges and opportunities have arisen. OPEC was created with the fundamental purpose of protecting petroleum prices, which were being manipulated by the big transnational enterprises. Instead of using oil prices as a true market tool, these enterprises applied them as a mechanism to allow benefits to be transferred from the producing countries to the economies of the large developed centres, given that they were the ones influencing and controlling prices. OPEC has been engaged in the search for a fair oil price through its efforts to stabilize the oil market. Today, the Organization is viewed as a positive body by non-associated producing countries and by consumers alike, who are now asking it to continue fulfilling this function, particularly in difficult circumstances - even through organizations they themselves created to oppose or neutralize OPEC.

Aggressive attacks

After having trodden this difficult path, on which it had to cope not only with obstacles to its own work, but also with intentional aggressive attacks by the traditional global oil consumers, OPEC is today an institutionalized organization. It enjoys juridical status under international law; it is formally recognized by the world community; it has attained widespread acceptance on the basis of its usefulness to its Member States, to the other oil-producing countries and to consumers; and it has been lauded for its capacity to foster cooperation, which it implements in other areas of interest in the world at large.

Out of ignorance, rather from any initial attempt to damage the image of the Organization, some continue to call OPEC a cartel. This is a poor definition which in no way

“OPEC had to fight those that sought to undermine its prestige.”

reflects the true nature or approach used by OPEC. The Organization in itself does not reflect the technical and juridical concept of a cartel, which is a malicious structure condemned by all the world's legal systems and designed to distort the market through the creation of such mechanisms as scarcity, the distribution of areas, or other mechanisms aimed at generating undue earnings. In addition, a cartel is generally founded on secret agreements outside the scope of the law.

The efforts made by some sectors to define OPEC within the limits of a cartel may be described as rash in the face of the Organization's status as an institution existing under international public law, coupled with its actions to coordinate the policies of sovereign countries and its quest for stability in the oil market, in order to obtain fair prices and to ensure a safe supply of oil for both developed and developing countries alike, even in complex geopolitical situations.

OPEC's objectives also include the rational use of petroleum to preserve the environment, and the struggle against poverty, both in its Member Countries, and in other states affected by this scourge.

Rational consumption

Increased awareness of the vital role of energy and technological progress for mankind is giving rise to a new global attitude vis-à-vis the use of energy resources. It therefore seems due time to talk about a new energy era marked by consensus on the primary role that hydrocarbons are now playing — and will continue to play — in the foreseeable future, and of the effects that the improper use of these resources may cause to the environment, thus forcing us to think of ways to utilize them more rationally — both from a quantitative and qualitative standpoint.

Both aspects influence the pricing of hydrocarbons and help ensure that they are not wasted, that they are conserved and that every effort is made in order to improve their quality and, consequently, to mitigate their impact on the environment.

There is already a clear acceptance that the era of low hydrocarbon and energy prices in general has come to an end, and that it is necessary to plan the rational consumption of these resources. This will include not only preventing them from being wasted, but also coordinating and complementing energy resources that are technically and economically available today, or that may be envisaged for the future.

A new energy era also poses new challenges and offers fresh opportunities, which must undoubtedly be taken into account by OPEC, in its organizational instruments and in the necessary actions it takes to maintain its institutional usefulness and its outlook for the future.

These challenges and opportunities include the following:

1. Consolidating the treatment of hydrocarbons:

To date, OPEC has fundamentally been concerned with petroleum — or liquid hydrocarbons. Gas may be defined as a “brother” of petroleum. Member Countries possess significant amounts of this

resource, the production of which is, in many cases, inevitably linked to the production of petroleum. At the same time, the price of gas is influenced by the price of petroleum and, for various reasons, gas has gradually been rising to the position of importance currently occupied by petroleum. This has led to the need to think of a policy governing both gas and petroleum resources, including non-conventional oil, on a consolidated basis.

2. Coordinating the treatment of all energy resources:

Both hydrocarbons and other forms of energy are inevitably interrelated, which is convenient for mankind. Thus, any rational use of petroleum and gas will require close attention to be paid to other energy resources, particularly renewables. This is so because, while these resources cannot possibly be provided as alternatives to hydrocarbons on a general or massive scale at the present time, they can, indeed, be used as a supplement — especially in isolated or distant regions where the task of supplying gas or petroleum may prove to be too problematic or costly and thus allowing for a more economical application and greater conservation of these resources, so as to prolong their life.

3. Maintaining the principle of sovereignty over energy resources:

One of the ongoing challenges posed by this new energy era is maintaining both the principle of national sovereignty and public interest over energy resources. For their part, these principles are aimed at ensuring that energy resources are developed for the overall benefit of the nations and, consequently, that they are considered far more important than mere global trading commodities, which are generally earmarked for the benefit of private concerns and for which efforts are now being made to globalize.

4. Investment:

The search for, and exploitation of, new deposits, the refining, storage and transportation of crude and products, and the development of other facilities, all require significant amounts of investment. Quantifying this investment and providing the capital needed, through the creation of financial centres geared specifically towards oil-related activities, are yet more challenges and opportunities that must be addressed in the new energy era, in which we are all immersed. Hence, cooperation between producers and consumers appears indispensable with

respect both to the coordination of information and to the contribution of resources.

5. Technology:

The creation of research and study centres or universities is one of OPEC's outstanding challenges. These centres are a major tool that may be used to gather information essential to planning, as well as for moving forward with the development and implementation of technology, with the purpose of improving the exploration and extraction of hydrocarbons.

This will ensure the cleanliness of fuels and the use of the hydrocarbons as raw materials and also for providing a technical and scientific base on which to build the quota system and to develop the Organization's long-term strategy.

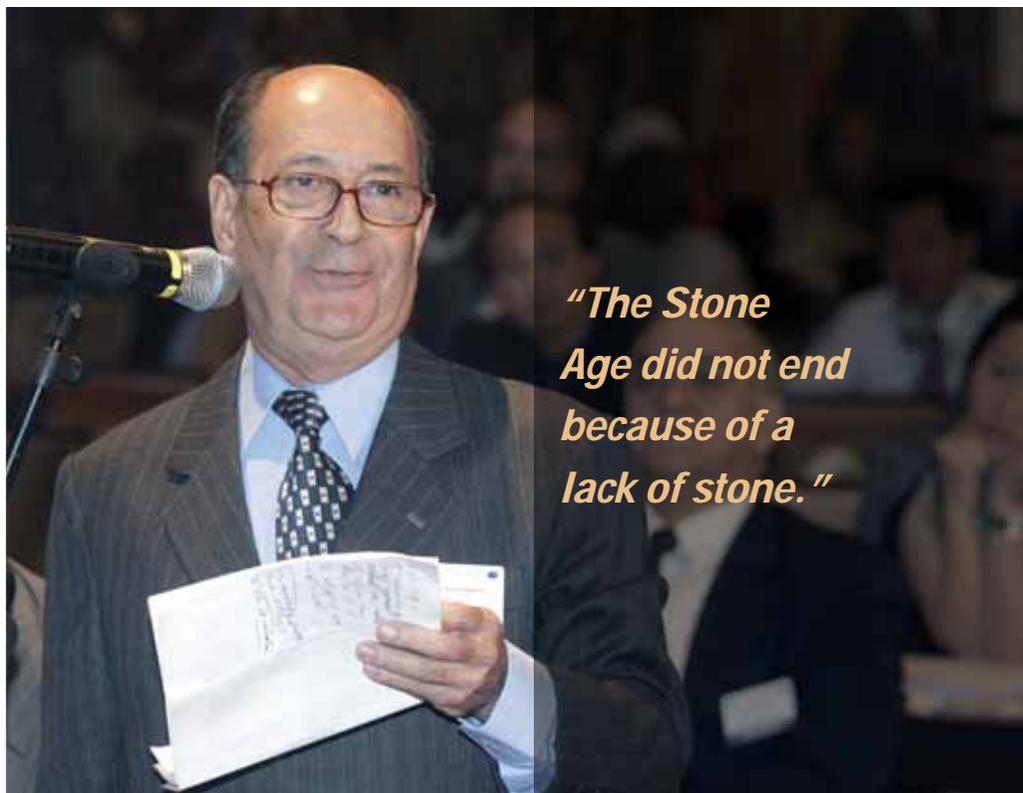
6. Environmental conservation:

Undoubtedly, mankind must search for and find ways to promote sustainable development, because any development leading to the destruction of the human environment is equivalent to collective suicide. The accelerated consumption of energy, which is essential to life, may lie at the core of the destruction of such an environment if carried out hastily, irrationally and unplanned. This is an unavoidable challenge and, because it involves mankind as a whole, must be addressed with two major objectives in mind:

- a) Ensuring that poor countries are able to afford the energy resources that they essentially need to improve their living conditions and to overcome backwardness;
- b) Promoting the streamlined consumption of energy, so as to prevent waste and the damaging effects of pollutants. The pricing of hydrocarbons, the implementation of advanced technologies in refining activities, and cooperation with the organizations responsible for environmental conservation are therefore worthwhile instruments that may be used to achieve these objectives.

7. Hydrocarbons as raw materials:

A new energy era does not mean a necessary reduction in the importance of hydrocarbons because, while the role of hydrocarbons has fundamentally been associated with energy, and while it is believed that this will continue to be so in the foreseeable future, hydrocarbons are simultaneously playing a no less crucial role by serving as raw materials for a multiplicity of products used for non-energy-related purposes. The person who coined the



"The Stone Age did not end because of a lack of stone."

phrase "the Stone Age did not end because of a lack of stone" purposely meant that the petroleum era could end long before major reserves of this resource are exhausted, which in turn is equivalent to a call for the rapid consumption of petroleum, even at low prices.

Besides the fact that such a trend would lead to unpredictable consequences for the world in economic and environmental terms, it should be recalled that, at the end of the stone age, stone did not lose its importance and it was not stopped from being used mainly for the production of instruments, including weaponry. However, stone continued to be highly useful and was employed for perhaps far nobler purposes, such as constructing dams, highways, temples, buildings, housing, monuments, and works of art.

Likewise, if petroleum should ever cease to have the use it has today as an energy resource, it may thereafter be dedicated more intensely to the noble use of a raw material in the development of a vast range of products and activities, such as the provision of roads, housing, clothing, medication and foodstuffs, among others, that are not only essential, but vital to life on this planet. This role that hydrocarbons is already playing is yet another challenge and opportunity that OPEC has before it.





Peter Odell – winner of 2006 OPEC Award

Economist, Professor Peter Odell, was the recipient of the 2006 OPEC Award, which he was handed by Nigerian OPEC Governor, Amuna Lawan Ali, during a special presentation at the Third OPEC International Seminar.

The award, made every two years, was in recognition of his lifetime achievement as an energy analyst.

Ms Lawan Ali referred to Odell as a “gift to academia”

and a legend of the global energy sector. She paid tribute to his “unparalleled commitment and contribution” to the energy industry with over five decades of academic and research excellence in energy economics.

“This is a man who has devoted his whole life to research in petroleum economics,” she said.

Ms Lawan Ali pointed out that Odell was a prolific writer. “He believes in sharing his thoughts and research



Ms Ammuna Lawan Ali, Nigerian Governor for OPEC and Permanent Secretary at the Nigerian Ministry of Petroleum Resources, held the laudacio for the Award winner, Professor Emeritus Peter Odell.

findings with the larger academic and research community so that knowledge of the industry can be enhanced globally.

In accepting the award, Odell said he wanted to express his appreciation of the honour which OPEC had bestowed upon him in the context of the criteria employed by the Organization's Board of Governors in reaching their collective decision.

"This award to me was totally unexpected and I will endeavour to ensure that my efforts to understand the international oil and gas industry continue to meet the criteria on which the award has been made," he said.

A Professor Emeritus of the Erasmus University in Rotterdam, where he was Director of the University's Centre for International Energy Studies, his research and publications on a broad range of economic and geopolitical issues, relating to global and European energy, date back to the early 1960's.

Odell was born in 1930 in Coalville, Leicestershire, in the United Kingdom, into a family of coal-miners and railwaymen. His lifetime interest in energy emerged from that background.

Following three years with Shell International's Economic division from 1958, he returned to academia via the London School of Economics and subsequently in 1968 to a Chair in the Netherlands School of Economics, now part of Erasmus University in Rotterdam. He retired from his Directorship of the University's Centre for International Energy Studies in the 1990s and now has the status of Professor Emeritus.



Presenting the Award to Professor Odell was Dr Edmund Maduabebe Daukoru, OPEC Conference President (r), and Dr Maizar Rahman, Indonesian OPEC Governor, Chairman of the OPEC Board of Governors (c).

In 1991, he was honoured by the International Association for Energy Economics for his "outstanding contributions to the subject and its literature" and in 1994 by the award of the Royal Scottish Geographical Society's Centennial Medal for his studies on North Sea Oil and Gas.

Over the years, he has advised many public and private bodies on energy related issues and has lectured on his research interests at many academic and professional institutions around the world.

Oil and World Power ran to eight editions and 13 translations between 1970 and 1986. More recently, he has published a two-volume selected collection of 70 of his studies and commentaries, entitled *Oil and Gas: Crises and Controversies, 1961–2000*; and, in 2004, the book, *Why Carbon Fuels Will Dominate the 21st Century's Global Energy Economy*.

Odell offers eight-point insight into future direction of the global energy industry

Taking part in the final panel discussion of the OPEC International Seminar, leading economist and Professor Emeritus Peter Odell, the 2006 OPEC Award winner, set out an eight-point forecast as to what he perceives will be among the most significant elements in the long-term evolution of the energy industry.



First — that the current 60 per cent contribution of oil and gas to world energy supplies will be only modestly reduced by mid-century; thereafter, hydrocarbons' contribution to energy demand will slowly decline, but will still account for over 40 per cent in 2100. By then, however, natural gas will be two-and-a-half times more important than oil, though the latter will still be an industry larger than that of 2000, albeit one which will become up to 90 per cent dependent on non-conventional oil.

Natural gas will undoubtedly become the prime energy source by the second quarter of the 21st century (streets ahead of renewables) — initially through a near three-fold increase in conventional gas production by 2050 and, thereafter, through the rapid exploitation of prolific non-conventional gas supplies.

Second — that the ultimate physical sufficiency of global oil and gas resources is not in doubt so that one can ignore the present-day Jeremiahs. Their predecessors in the 1960s, the 1970s and the 1980s were all quickly proved wrong and a similar fate will overcome the so-called "peak oilers" by the end of the present decade. Any under-achievement in future oil and gas production

will be the result of a combination of organizational, economic, political and environmental factors, all of which can be overcome, as they always have been in the past — except for very short-term lapses.

Third — that the current generally accepted wisdom favouring globalization, liberalization, market competition and dependence on speculative trading exchanges (such as the NYMEX and the IPE) for price determination will soon fall from favour as a consequence of the turmoil which they have created over the past three years.

This has been to the detriment of consumers the world over and is having adverse impacts on economic and social development in many countries, especially in the developing world. The continuing — albeit modest — expansion of the world's demand for oil now necessitates the establishment of an international oil organization whereby order can be brought to the markets.

The current unacceptability of this by policy-makers in the OECD countries will hardly be relevant beyond the middle of the next decade, in the context of the rapidly declining importance of these countries in the global oil system.

Fourth — that oil from non-OECD countries already accounts for almost 80 per cent of world reserves and production, with most of this from state-owned or state-controlled exploration and production facilities. Even the remaining four largest multi-national oil corporations already appear unable to secure significant new production rights, except as minority partners in state-run systems.

This process is unlikely to be reversed, as all the large oil-consuming nations of the developing world view self-sufficiency as a prime objective and will feel assured of this only in the context of nationally owned and operated companies.

Fifth — that in such potentially adverse circumstances for the oil majors, the fact that they have in recent years been pursuing policies which hardly endear them to countries in which expanding demands for energy are of the essence, is not helpful for their survival.

The companies are seen as responsible for high prices, leading to high profits, from which extortionate remuneration is paid to their executives and shares are “bought-back” to enhance their stock-markets’ status, whilst they make too little investment in new upstream operations, as they cannot count on a rate of return in excess of 20 per cent.

Sixth — that as with those majors that have already failed to survive, so those remaining may well be playing out their last few years. A Chinese bid for Exxon and/or Chevron and/or a Russian bid for Shell and/or BP, backed by funds provided by the wealthy Member Countries of OPEC, seem likely to be only a matter of time. With the majors gone, there will be concern in the main OECD countries for future security of supplies.

In this context, one can reasonably forecast a revival and/or the resuscitation of their own state-owned oil and gas industries. The two currently booming and expanding state oil companies in OECD countries (Statoil of Norway

and ÖMV of Austria), could thus soon have new bedfellows; for example, a new British National Oil Corporation, a revived Petro-Canada and a de-privatized Total in France/Belgium.

Seventh — that above and beyond all these developments, we may anticipate the creation of a UN international energy organization designed to deal with the world’s 21st century energy matters. Such an organization will, of course, include a major input from a now more-powerful-than-ever Organization of the Petroleum Exporting Countries (OPEC), given its Members’ interests in tomorrow’s much-expanded and ordered global oil markets.

Eighth — that the world’s continuing regionalized gas markets will massively expand. In Europe, the current obsession for liberalization will be inevitably abandoned, as producers wisely insist on long-term contracts to ensure security of demand in the context of importing nations’ search for security of supply.

The EU’s current commitments to fully liberalized gas markets, in general, and, in particular, the UK’s hopelessly failed experiment with “perfect competition” for securing infrastructural developments and low pricing, will not survive the present decade.

Post-2020, an ordered gas market will emerge, with continuing long-term benefits based on the near-limitless supplies available from a range of gas-rich countries from Russia, the Caspian region, the Middle East, North Africa and Norway; and on the consuming countries’ overwhelming preferences for natural gas over the high-cost alternatives of renewables and/or nuclear power and the high CO₂ emission levels from the use of oil and coal.

The establishment of a greater European strategic gas authority will be the precursor to similar developments in Latin America, sub-Saharan Africa, south-east Asia and the western Pacific Rim over the first quarter of the 21st century.



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Abdallah S Jum'ah



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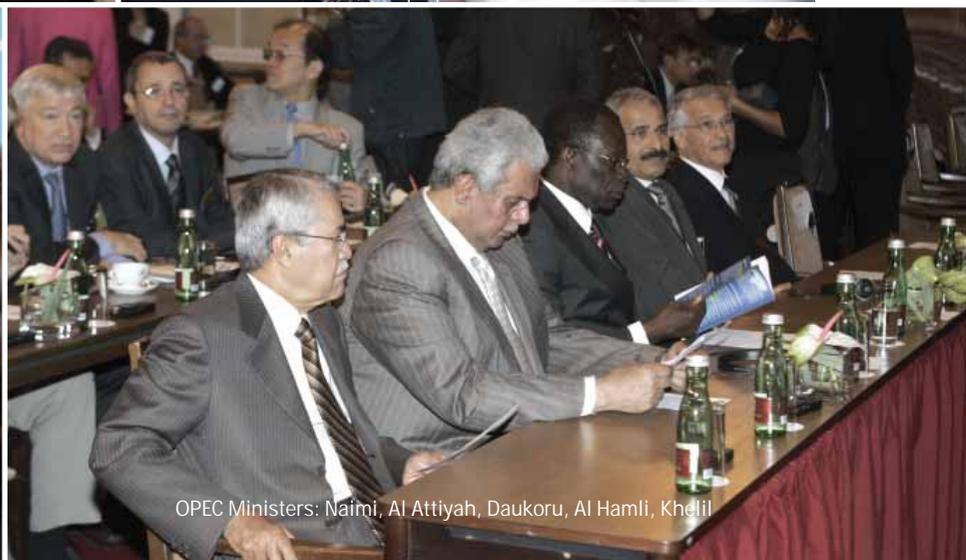
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Abdul Aziz Al Turki, Dr Chakib Khelil



Dr Martin Bartenstein, Dr Edmund Daukoru



Mohamed Bin Dhaen Al Hamli



Guy Caruso, Sadek Boussena



Seminar gala dinner hosted by NNPC Nigeria





As two-day OPEC Seminar draws to a close ...

Daukoru says a big

thank you

to all involved



In his closing remarks to the seminar, OPEC Conference President, Dr Edmund Maduabebe Daukoru, had this to say about the event's participants and organizers:

On behalf of you all, I should like to thank Their Excellencies the Ministers and Ambassadors, the heads of international organizations, the chief executives of national and international oil companies, and all the other speakers and panel members. Their presence has been invaluable and, without any doubt, has helped make the event a great success.

We greatly appreciate the support we have received from the members of the media, in covering our activities. It is very important that the views expressed here are disseminated to a wider readership and audience, and clearly this task has been in very capable hands.

We are also grateful to all those who have been involved in the organisation of the event. While they

are too numerous to name individually, prominent among them are the CWC Group and members of the Seminar's Steering Committee, under the able leadership of Mohammed S Barkindo, Acting for the Secretary General, Organizing and Technical Committees, as well as all Secretariat staff that spent much time and effort to see this seminar through. The authorities of the Congress Centre of the Hofburg Palace, the Austrian security forces also deserve our gratitude. And finally, of course, we cannot fail to thank our hosts, the government of the Federal Republic of Austria and the good people of Vienna for their excellent hospitality, as well as the attendance of the Economy and Labour Minister, Dr Martin Bartenstein, whose contribution we highly value.



Mohamed Meziane,
CEO, Sonatrach



Dr Martin Bartenstein, Dr Edmund Daukoru



Professor Peter Odell, Dr Omar Farouk Ibrahim



Tareq Amin



Some of the staff from OPEC and the CWC group, who worked so tirelessly to make the seminar a success.

This section includes highlights from the OPEC Monthly Oil Market Report (MOMR) for September 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

The market emerged in August on a bullish note, due to a supply disruption from Russian's Druzhba pipeline amid escalating tensions in the Middle East. During the first week of August, the OPEC Reference Basket¹ (ORB) surged by \$1.75 to settle at \$70.35/b. The threat of Tropical Storm 'Chris' in the Gulf of Mexico added to the bullish market sentiment. In the second week, a pipeline shutdown at BP's 400,000 b/d Prudhoe Bay oil field in Alaska added to the upward price trend. Moreover, a bullish US crude oil inventory report heightened market concerns. It resulted in the ORB leaping by \$1.56 over a two-day period to a record high of \$72.67/b. However, some calm was restored in the market as a result of a thwarted airline attack in the UK, which was seen potentially as reducing demand for transportation fuels, and news that BP would be able to maintain half of its Alaskan North Slope output, coupled with a recovery in some Nigerian and North Sea production. The ORB subsequently dropped by \$2.20 over a two-day period to average \$71.71/b for the second week of the month.

Prices fell further in the third week amid easing fears of a supply shortfall and a lack of new developments in the marketplace. A downward revision of OPEC's demand forecast supported the market perception that supplies were ample. As a result, the ORB drifted some distance from its record peak, falling by \$3.59 to average \$68.13/b.

Revived tensions in the Middle East momentarily pushed the ORB 90¢/b higher on the first day of the fourth week, although the impact was short-lived. Market volatility continued on the approaching Tropical Storm 'Debby' at a time when the effects of geopolitics in the Middle East were heightening, offsetting any further downward pressure. Hence, the ORB was 46¢ lower in the fourth week to stand at an average of \$67.67/b. Reduced concern over Tropical Storm 'Ernesto' in the Caribbean, as it by-passed oil infrastructure in the Gulf of Mexico, calmed market sentiment further. The ORB plunged \$2.07/b in one day. Ample winter fuel stocks in Japan instilled confidence in the Asian market, while weaker refining margins, amid a lack of arbitrage opportunity in Europe, kept the bears intact, at a time when rising West African exports were imminent. On a monthly basis, the ORB closed August at

\$68.81/b, a decline of 9¢ compared with July.

With the downward trend continuing into September, as a result of an easing of Middle East tensions, lower refinery run rates in Asia, due to weaker margins, and signs of ample supply of winter fuels in the final days of the United States driving season, the ORB dropped below \$61/b for the first time in nearly six months when it closed at \$60.89/b on September 11, falling even further to \$59.22/b three days later.

US market

The US market was underpinned by healthy procurements amid robust refining margins and tight supplies from the North Sea and West Africa. Depleting gasoline stocks amid concern over light product supply with storms in the Atlantic supported light crude differentials. The sweet/sour spread narrowed to \$1.71/b, compared with late July, with the weekly average for the WTI/WTS spread at \$3.82/b. The sweet/sour spread continued to find support into the second week on supply disruptions from BP's Alaska oil field. Nevertheless, the foiled terrorist attack in the UK, implying lower demand for air transport fuels, kept a cap on the narrowing spread.

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).

The WTI/WTS differential narrowed in the second week to \$3.38/b. Nevertheless, in the third week, prompt supplies were adequate to meet demand as full storage capacity of Mars crude forced producers to sell prompt barrels at lower prices. A hefty draw on gasoline stocks kept some balance in the US market amid approaching autumn refinery maintenance and moves to begin stockpiling for winter fuels, as well as concerns over the implementation of higher specifications for light products. The WTI/WTS spread widened by 93¢ to \$4.31/b. The bearish sentiment continued into the fourth week on ample supply of Mars crude. The WTI/WTS spread rose 37¢ to \$4.68/b.

In the final week, the resumption of BP's Alaska Prudhoe oil production calmed market fears of a supply shortfall. The weak level for Mars crude supported buying interest; however, there was an expectation that softening European refining margins would draw North Sea cargoes across the Atlantic. The WTI/WTS spread inched up 5¢ to \$4.73/b. The WTI monthly average in August was \$73.08/b, a \$1.28 drop from July, with the premium over WTS falling to \$4.19/b, 14¢ lower.

North Sea market

The North Sea market emerged on a strong note in the first week amid tight supply, pushing the backwardation curve steeper and widening the sweet/sour spread. However, sentiment eased on the scheduled return from maintenance of BP's Forties pipeline. In the second week of the month, the market softened on unsold prompt cargoes as refiners had already fulfilled their requirements.

The larger volume in the September loading programme added to the differential weakness. The bearishness continued in the third week on poor refining margins amid a lack of activity. Continued lingering August barrels amid unsold first-decade September cargoes extended the downward pressure in the fourth week. In the final week, a lack of arbitrage opportunities for North Sea westbound crude added to the bearish momentum. Dated Brent's monthly average was \$73.21/b, 36¢ lower than in July.

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

	Jul 06	Aug 06	Aug/Jul	2005	2006
OPEC Reference Basket	68.89	68.81	-0.09	49.03	63.16
Arab Light ¹	69.06	68.76	-0.30	48.35	63.07
Basrah Light	66.49	65.42	-1.07	47.15	60.03
BCF-17	58.72	60.29	1.57	37.56	53.83
Bonny Light ¹	75.49	75.29	-0.20	53.47	69.37
Es Sider	71.42	70.72	-0.69	50.23	65.56
Iran Heavy	66.59	66.42	-0.18	46.23	61.38
Kuwait Export	66.35	66.02	-0.33	45.70	60.94
Marine	70.21	70.05	-0.16	48.29	64.63
Minas ¹	74.13	75.42	1.29	52.75	68.16
Murban	73.70	73.66	-0.04	51.94	67.83
Saharan Blend ¹	74.37	74.50	0.14	52.52	68.45
Other crudes					
Dubai ¹	69.17	68.92	-0.25	47.23	63.37
Isthmus ¹	68.30	67.47	-0.83	48.31	62.34
Tia Juana Light ¹	60.93	60.99	0.07	44.43	56.77
Brent	73.66	73.11	-0.55	52.56	67.65
West Texas Intermediate	74.33	73.01	-1.32	54.16	68.59
Differentials					
WTI/Brent	0.67	-0.10	-0.77	1.60	0.94
Brent/Dubai	4.49	4.19	-0.30	5.33	6.25

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.

Mediterranean market

The market in the Mediterranean emerged on a weak note as demand for sour grades was buoyant to sweet crude with the Urals spread under Brent 92¢ wider at \$5.67/b. Nevertheless, the disruption at BP's Alaska oil field drew some support for Mediterranean crude as an alternative supply. The spread under Brent improved slightly to \$5.58/b in the second week. Weak refining margins continued to pressure Urals crude amid ample supply. However, improved margins in the Mediterranean lent support to the grade amid barrels moving from the south to the north. Urals was on a firmer note to Brent with the spread at \$4.90/b under the benchmark in the third week. Continued improved refining margins supported Urals as refiners turned to meet winter heating oil needs. The Urals spread under Brent narrowed to \$4.02/b in the fourth week and to \$3.21/b in the final week. The August Urals average was \$68.53/b,

yet the discount under Brent was 31¢ wider at \$4.68/b.

Middle Eastern market

A poor crack spread for fuel oil on a hefty arbitrage inflow amid softening Chinese demand saw the Middle Eastern market weaken in early August. Ample supply and a record-high official selling price (OSP) exerted further pressure on price differentials for Middle East grades. October Oman was on offer at a 3¢ premium, while it was bid at a 3¢ discount to MOG amid some unsold September stems in the first week. However, in the second week, BP's closure of its Alaskan oil field supported the grades on the prospect of moving some Middle East crude westwards. October Oman was sold at a 22¢ premium to MOG, while Abu Dhabi Murban was on offer at a 45¢ premium to ADNOC's OSP. Nevertheless, the partial resumption at BP's Prudhoe Bay oil field helped October Oman

trade at a 5¢ premium and Murban at a 20–30¢ premium to their respective OSPs. In the third week, a narrowing Brent/Dubai spread added to the bearish market sentiment. The weakness continued into the fourth week on ample supply, due to the delayed start-up of the Sohar refinery. October Oman was assessed between a 5¢ discount and at parity to MOG, while Murban was valued at a 10–20¢ premium to OSP. In the final week, lingering October barrels continued to pressure Middle East crudes amid the weak fuel oil crack spread. October Oman was seen trading at a 20¢ discount to MOG, while Murban saw a 5¢ premium to ADNOC's OSP.

Asian market

Slow demand from Japan's power plants, due to healthy exports of alternative feedstock, led to the Asia/Pacific market softening at the start of the month. Indonesia's Duri plunged to a discount of around \$2.00–2.50 from minus 35¢ to ICP. The market weakened further on India's naphtha exports and lower Chinese demand for fuel oil. Although the market was supported by outages from the Alaska oil field, softer naphtha values prevented any further firmness in regional sweet crude in the second week. In the third week, demand from the US West Coast eased as BP contemplated returning half of the crude shut in at Prudhoe Bay. The market became more bearish as a result of procurements of western crude by India and China. A new rival crude – Sokol from Sakhalin – began trading, putting further pressure on the market.

Product markets and refinery operations

Product markets continued to lose their earlier strength on slowing demand, along with higher production and the end of the driving season in the US, which changed product market sentiment significantly across the globe and put downward pressure on refining margins. Margins for WTI crude on the US Gulf Coast dropped by \$2.55 to \$11.39/b from \$13.94/b in July. Europe saw a similar trend as Brent's margins plummeted to \$3.80/b from \$6.27/b

the previous month. The refinery margin for benchmark Dubai crude in Singapore saw a softer decline than the Atlantic Basin benchmark in August, but it continued its previous downward trend to reach \$3.35/b from \$4.26/b in July.

The continuation of the bearish momentum in the gasoline and fuel oil markets appeared likely to exert more downward pressure on refinery margins in September. However, the market for middle distillates remained relatively strong, a situation that could continue. Furthermore, larger-than-usual refinery maintenance in Europe during autumn and the transition to ultra-low sulphur diesel (ULSD) in the US, effective in October, could also give some support to product and crude prices in the future.

Impressive margins have encouraged refiners to increase their throughput levels over the last few months and upon completion of the maintenance schedule, they have been boosted further. The refinery utilization rate in the US rose to 92.3 per cent in August from 91.3 per cent in July, the highest level since Hurricanes Katrina and Rita struck last year. In Europe, the utilization rate rose to 87 per cent from 85.6 per cent in July. Due to the busy maintenance schedule and falling refining margins, European plants could reduce throughputs in the near future. As far as Asian refineries are concerned, their utilization rates surged significantly in August, but the bearish developments in the gasoline and fuel oil markets may force them to cut their current throughput levels. In this respect, Japanese refiners have reduced their throughput levels very slightly of late, while their combined utilization rate soared to 89.6 per cent in August from 84.3 per cent in July.

US market

Gasoline stock-builds over the last few weeks, along with comfortable middle distillate inventory levels and the easing of hurricane threats, have led to the decline in crack spreads for light products, especially the gasoline spread against benchmark WTI crude in different regions of the US.

The weekly spread of premium gasoline on

the US Gulf Coast fell sharply from \$41.85/b at the beginning of August to \$7.35/b one month later. Part of these losses can be attributed to the liquidation of conventional reformulated gasoline contracts by financial market players.

Distillate prices have also weakened in the US, but did not drop as much as gasoline prices. The distillate premium over gasoline continued to soar, and it may surge again in the future amid increasing support from seasonal factors. Additionally, the continued shift to ULSD in the US may raise supply constraints and logistical problems in some regions, lifting diesel prices.

As far as the fuel market is concerned, declining demand from utility plants retained the highly discounted prices for low- and high-sulphur fuel oil. In the next few months, the low price of natural gas may remain bearish, compared with the fuel oil market.

European market

Bearish developments in the US gasoline market, combined with the higher cost of Brent crude, put downward pressure on refinery margins in North-West Europe and the Mediterranean. The end of the US driving season and the closing of arbitrage opportunities may negatively affect product markets and refining margins in Europe in the next few months. The crack spread of gasoline declined significantly over the last few weeks to reach \$11.88/b on September 8 from \$27.33/b early in the previous month.

Among the remainder of the barrel components, middle distillates, especially jet/kero, are still firm due to stronger demand across Europe and tight supplies after a sharp drop in exports from the Baltic since the beginning of August. In line with these developments, the jet/kero crack spread against Brent crude in Rotterdam rose to \$21.06/b recently from \$16.07/b on August 4. Similarly, the gasoil spread surged from \$14/b to about \$18/b in early September.

The performance of the bottom of the barrel complex for both low- and high-sulphur grades was still disappointing and, due to closed opportunities to Asia, may suffer further in the coming months.

Asian market

The bearish sentiment of the Asian market, which was triggered by the extended rainy season in North-East Asian countries, was consolidated by the return of refineries to normal operation and increasing supplies of different products. The closed arbitrage to the US West Coast and soft local demand have overshadowed the positive impact of lower gasoline exports by China. Its weekly crack spread against benchmark Dubai crude slid to \$3.75/b on September 8 from \$16.34/b in early August. The naphtha market has followed suit, as ample exports by India and sluggish demand from Japan and South Korea, due to cracker plant maintenance, put pressure on naphtha prices.

Despite the downward momentum of gasoline, the middle distillate market could maintain its strength as China continues to buy ample jet fuel amid the expectation of increasing air travel during the 'Golden Weeks' in October. Similarly, gasoil might find some support from increasing demand by the agricultural sector. The weekly spread of gasoil versus Dubai crude recently widened to \$21.15/b from \$18.31/b early in August. Looking ahead, it is expected that the middle distillate market will remain relatively strong in the next few months, due to higher demand for winter heating and from the agricultural sector.

With regard to fuel oil, although regional demand for bunker and industrial purposes has improved, it failed to offset the negative impact of huge regional production and imported cargoes from the rest of the world. The crack spread of high-sulphur fuel oil versus Dubai crude recorded a figure of minus \$19.37/b, compared with minus \$17.61/b in early August.

The oil futures market

The rally continued further in the futures market on concern over the output recovery from West Africa amid a rise in gasoline demand. Geopolitical tensions in the Middle East added to the bullish market sentiment. The first week's data for the CFTC revealed that non-commercials raised long positions and reduced shorts

to leave net longs 5,800 lots higher at 66,100 contracts. Open interest saw a healthy build of 58,500 contracts to peak over the 1.1 million level for the first time at 1,110,000 lots. The Nymex front month contract closed at \$74.91/b.

Moreover, Tropical Storm 'Chris' approached the Caribbean Sea threatening oil infrastructure in the Gulf of Mexico, but then waned later in the week. The Nymex WTI prompt month peaked at \$76.98/b on the unexpected shutdown of BP's Prudhoe Bay oil field in Alaska due to pipeline problems. The CFTC reported in the second week that non-commercials had increased their long positions at twice the rate as shorts. Net longs were 4,400 wider at 70,500 contracts, with open interest accumulating another 55,100 lots to close near the 1.2 million level at 1,165,000 contracts.

In the third week, gasoline stocks suffered a hefty drop and crude oil stocks saw draws amid disrupted Alaskan supplies. Non-commercial short positions declined a significant 14,600 lots, while longs dropped a moderate 1,300 lots. Net long positions were up a considerable 13,300 lots to nearly 84,000 contracts – the highest level since May. Nonetheless, the failed attack on airlines in the UK – which led to the anticipation of lower demand for transportation fuels – triggered some fund sell-offs for profit-taking with the Nymex WTI front month contract closing at \$73.05/b. Open interest rose by an additional 45,000 lots to register a record-high of 1,210,000 contracts.

The market continued to be bearish in the fourth week on concern over the Alaskan pipeline outage, but this situation eased as BP recovered some 50 per cent of its production, amid the partial return of supply from Nigeria. Non-commercials liquidated a hefty 13,000 lots of long positions, while shorts saw a moderate build of nearly 2,000 lots. As a result, net longs fell a significant 15,000 lots to some 69,000 contracts. Open interest decreased by a hefty 87,000 contracts to stand at 1,123,000 lots. However, the Nymex front month contract closed marginally higher at \$73.24/b on concern over winter fuels amid heightened tensions in the Middle East.

In the final week of the month, unexpected builds in US gasoline and distillate stocks weighed on the market. The new monthly futures contracts plunged below the \$70/b level for the first time in over two months. The CFTC report revealed the liquidation of non-commercial longs while shorts piled up. Thus, net long positions were some 13,500 lots narrower at 60,900 contracts, while open interest rose a marginal 27,000 lots to 1,150,000 contracts.

The monthly average for the Nymex WTI front month contract was \$73.08/b, which was

The middle distillate market could maintain its strength as China continues to buy ample jet fuel ...

\$1.41/b lower than in July. Non-commercial net positions averaged around 70,000 lots, nearly 15,000 higher than the previous month and almost 43,000 higher than last year. Open interest was at 1,150,000 contracts, 98,000 more than last month and over 252,000 contracts higher than last year.

The forward structure

The near-month contango in the forward structure remained broadly unchanged. The 1st/2nd month average spread was 6¢ narrower at \$1.19/b. However, the further forward month spreads widened, with the 1st/6th, 12th, and 18th month average spreads at \$3.55/b, \$4.33/b, and \$3.79/b, representing increases of 40¢, \$1.04 and \$1.31. Nevertheless, average weekly crude oil stocks in the US were at 332 million barrels, some 3m b lower than in July, in part due to BP's Alaska pipeline outages.

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

	1Q	2Q	3Q	4Q	Year	Growth y-o-y
2003	5.87	6.75	6.72	6.61	6.49	0.91
2004	7.17	7.30	7.38	7.37	7.31	0.82
2005	7.45	7.69	7.76	7.85	7.69	0.38
2006 ¹	7.98	8.41	8.35	8.30	8.26	0.57
2007 ¹	8.48	8.98	8.91	8.73	8.78	0.51

1. Forecast.

However, stocks remained some 10m b over the same period last year.

The tanker market

OPEC spot fixtures in August declined for the second consecutive month to average 13.0m b/d, down 600,000 b/d from the previous month, but still 500,000 b/d above a year earlier. Over two months, OPEC spot fixtures dropped 1.5m b/d, resulting in a three per cent decline in OPEC's share in total spot fixtures, which stood at 64 per cent, the lowest level in five months. When compared with a year earlier, however, the share of OPEC fixtures remained unchanged. The decline in spot fixtures was driven by the drop in Middle East/Asia fixtures, particularly from China, which had set a programme of refinery maintenance in August/September. However, fixtures from the Middle East (including non-OPEC Countries) to Asia lost 900,000 b/d to average 5.0m b/d, while spot fixtures from the Middle East westbound rose 500,000 b/d to 2.3m b/d, the highest level since January, due particularly to strong imports from the US, supported by the partial outage at the BP Prudhoe Bay field. Despite the decline of August, total Middle East spot fixtures remained 1.1m b/d higher compared with a year earlier. In contrast, non-OPEC spot fixtures recovered from the decline of the previous month and increased 700,000 b/d to average 7.3m b/d, corresponding to year-on-year growth of 200,000 b/d. As a result, global spot fixtures (OPEC and non-OPEC) remained virtually stable at 20.3m b/d, but this was 700,000 b/d up from a year earlier.

Table C: OPEC NGL production, 2002–07 *m b/d*

2003	2004	2005	05/04
3.71	4.02	4.09	0.07
1Q06	2Q06	3Q06	4Q06
4.20	4.24	4.33	4.36
2006	06/05	2007	07/06
4.28	0.19	4.54	0.25

Following the same trend, OPEC sailings dropped 1.0m b/d to average less than 23.2m b/d, the lowest level in 20 months. The strong decline was essentially the consequence of the 900,000 b/d decrease in chartering seen the previous month.

Preliminary data showed that arrivals at the US Gulf Coast, East Coast and the Caribbean reached a record-high of 11.9m b/d, after a 630,000 b/d increase in August, while arrivals at the Euro Mediterranean basin rose 180,000 b/d to average 4.5m b/d, 300,000 b/d lower than a year earlier. In contrast, North-West Europe saw arrivals drop by almost 500,000 b/d to average 7.6m b/d, down 200,000 b/d from a year ago.

Strong activity from charters in the summer continued to support the crude oil tanker market and pushed average freight rates in August to higher than historical levels. Usually, August is considered one of the months when spot freight rates hit their lows during the year, but it was not the case in 2006 due to strong activity from charters. In the VLCC sector, long-haul Middle East/eastbound and westbound spot freight rates remained stable at Worldscale 132 and W96, respectively, but when compared with the corresponding month last year, rates were almost double on the Eastern route and more than 50 per cent higher on the Western route. It should be noted that rates surged significantly following BP's decision to partially shut its crude oil production from Prudhoe Bay. The problems at the field forced BP to look for additional vessels to compensate for the lost production by importing from other regions to the refineries on the West Coast. As a consequence of the lower tonnage availability, freight

rates for tankers moving from the Middle East and Asia surged by more than W40 points, or 20 per cent, between the first and the second week of August. By the end of the month, VLCC freight rates started to soften after it appeared that the loss from BP's oil field would be lower than expected which, combined with a slowdown in activity from Chinese buyers due to refinery maintenance, increased the availability of tankers. In addition to sustained activity from the US and China, Iran's reported use of ten VLCCs as floating storage helped keep the tanker supply tight in the summer, helping rates to stay strong in August. The Suezmax sector performed better than in the previous month, due to healthy activity from the US. However, freight rates on the West Africa/US Gulf Coast and the trans-Atlantic routes rose by around 12 per cent to average W176 and W169, respectively, their highest levels since February. When compared with a year earlier, both routes displayed a 66 per cent year-on-year increase.

Similarly, freight rates of Suezmaxes moving from West Africa to the US Gulf Coast increased suddenly between the first and second week of August, following BP's output disruption. Rates gained on average W40 points, or 25 per cent, in just one week. Contrary to VLCCs and Suezmaxes, the Aframax sector showed a mixed pattern with freight rates on the Indonesia/US West Coast route continuing their upward trend and increasing for the second consecutive month to average W223, a gain of 21 points, or ten per cent, over the previous month. Freight rates within the Mediterranean basin, as well as from the Caribbean and the US East Coast, remained stable at around W182 and W205, respectively.

However, freight rates on the Mediterranean/North West Europe route lost W25 points, or 12 per cent, to stand at a monthly average of W182. The decline observed on the latter route was due to excess tonnage as a result of lower activity from charters in anticipation of strong refinery maintenance in the coming months in North-West Europe. Compared with a year earlier, all routes enjoyed much better rates, except for the Mediterranean basin, where rates were similar.

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

1,000 b/d

	2004	2005	4Q05	1Q06	2Q06	Jun 06	Jul 06	Aug 06	Aug/ Jul
Algeria	1,228	1,349	1,374	1,376	1,368	1,357	1,352	1,359	7.3
Indonesia	968	942	935	922	914	906	894	880	-13.3
IR Iran	3,920	3,924	3,911	3,849	3,800	3,835	3,918	3,904	-13.5
Iraq	2,015	1,830	1,675	1,711	2,001	2,120	2,065	2,054	-10.8
Kuwait	2,344	2,504	2,548	2,532	2,513	2,517	2,507	2,513	6.3
SP Libyan AJ	1,537	1,642	1,665	1,680	1,699	1,702	1,708	1,712	3.7
Nigeria	2,322	2,412	2,469	2,257	2,212	2,277	2,213	2,219	6.1
Qatar	771	796	808	817	820	823	826	840	14.5
Saudi Arabia	8,957	9,390	9,426	9,416	9,133	9,129	9,183	9,226	42.7
UAE	2,360	2,447	2,518	2,528	2,535	2,540	2,571	2,558	-12.8
Venezuela	2,582	2,633	2,584	2,595	2,574	2,555	2,461	2,521	60.2
OPEC-10	26,988	28,038	28,237	27,973	27,570	27,640	27,631	27,732	101.2
Total OPEC	29,004	29,868	29,912	29,684	29,570	29,759	29,696	29,786	90.4

Totals may not add, due to independent rounding.

For the period January–August 2006, average freight rates in the VLCC and Suezmax sectors were 10–25 per cent higher, depending on the route.

Clean tankers saw mixed patterns in August with East and West markets moving overall in opposite directions. Contrary to the previous month, spot freight rates for tankers doing business in the East jumped by around 38 per cent. In contrast to the previous month, all routes weakened in the West, apart from the Caribbean/US Gulf Coast route. Due to tight tonnage availability in the region, freight rates on the Middle East/Asia and the Far East routes rose W71 and W93 points, respectively, to average W273 and W337.

Freight rates in the East of Suez have followed a steady upward trend since the beginning of the month. In the West of Suez, freight rates on the Caribbean/US Gulf Coast route rose W15 points to average W350, the highest level since January. The exceptional growth on this route, compared with the other routes in the West, was essentially due to sustained activity as a result of BP's partial oil field shut-in, which kept rates hovering around W350 over the month.

In contrast to the Caribbean/US Gulf Coast route, rates within the Mediterranean and from

there to North-West Europe fell W33 points, or 11 per cent each, to average W263 and W273, respectively. Freight rates on the trans-Atlantic route edged lower by W8 points, or three per cent, to W304. Nevertheless, despite the decline in the East of Suez, freight rates on all routes performed better than a year ago, particularly in the West where rates were 40–70 per cent higher.

World oil demand

World oil demand in 2006

World oil demand in 2006 is estimated to average 84.4m b/d, representing growth of 1.2m b/d, or 1.4 per cent. As a result of slower-than-expected economic growth in the first half of the year, the world oil demand growth estimate for the year has been revised down by 100,000 b/d since the last report.

The US is pushing its strategy to diversify sources of energy and latest efforts are to encourage greater use of biofuels in the energy system.

Above average temperatures in the summer in China, along with an unusual boom in car sales, helped drive up oil demand. While new efforts by the government to take the heat out of the economy could impact on future oil

The US is pushing its strategy to diversify sources of energy and latest efforts are to encourage greater use of biofuels in the energy system.

demand, China has found achieving its planned energy conservation goal of reducing consumption by four per cent this year to be more difficult than expected. The cabinet issued guidelines recently to remind officials to meet this target. China's National Development Reform Commission (NDRC) suggested that increasing the share of both the service and high-tech sectors by one per cent in the economy would reduce energy consumption by one per cent. The government also plans to look at the energy price structure. However, despite these efforts, China's oil demand increased by more than 11 per cent in the second quarter.

Estimate for the third quarter 2006

World oil demand in the second quarter was weaker-than-expected early in the year. Recent data for OECD oil demand showed a decline in the second quarter. Despite the stabilization of gasoline prices, the latest data from the US revealed that the nation's summer gasoline demand grew by only 0.68 per cent, which was below the 1.6 per cent annual average. Therefore, North America's second- and third-quarter oil demand has been revised down by 200,000 b/d and 100,000 b/d, respectively. Furthermore, higher oil prices have encouraged power plants to switch to less expensive natural gas, which is considered to be one of the main factors behind sluggish US oil demand so far this year. According to the weekly EIA report, August year-on-year oil demand was down by 90,000 b/d. Residual fuel oil experienced the highest decline of 35 per cent since the same period last year. In total, the OECD countries' year-on-year third-quarter oil demand growth is estimated at 300,000 b/d.

In the first seven months of the year, Chinese oil demand grew by 650,000 b/d.

Chinese data showed strong consumption, which, along with Middle Eastern oil demand growth, helped to offset the expected decline in OECD countries in the third quarter.

OECD Europe

Despite the improved outlook for European economies for the rest of this year, oil demand did not keep pace with economic growth. The past cold winter affected oil demand positively, not only in the first three months, but also in the second quarter. Therefore, OECD Europe's

year-on-year second-quarter oil demand growth was revised up by 100,000 b/d. Low summer gasoline consumption and fuel switching by European power plants were the main reasons behind the sluggish oil demand in the third quarter. Although German oil product sales showed year-to-date growth of almost 1.5 per cent, July sales were 0.7 per cent lower than the same month last year. OECD Europe's third-quarter oil demand is estimated to grow by only 20,000 b/d.

OECD Pacific

South Korean oil imports rose by eight per cent year-on-year in July, up from only three per cent in June, while total oil demand rose by only 0.6 per cent. However, a recent tax hike caused diesel consumption to decline by almost 19 per cent in July. It is important to note that the recent move by power plants to substitute gas for liquids has affected fuel oil demand, causing it to decline by 38 per cent in July year-on-year. Although Japanese oil product sales for July were ahead of June, July year-on-year sales were down by 0.7 per cent. High gasoline prices, along with bad weather during the summer driving season, curbed year-on-year gasoline demand growth in July to only 1.4 per cent. As has been seen elsewhere, high oil prices encouraged Japanese power plants to switch to natural gas, causing fuel oil consumption to decline six per cent year-on-year in July. Oil demand in the OECD Pacific region as a whole is expected to show meager growth of 40,000 b/d in the third quarter.

Developing countries

Strong economic growth in the Middle Eastern countries continues to drive up oil demand. Third-quarter year-on-year oil demand growth is estimated at 300,000 b/d to average to 6.3m b/d for the Middle East.

Oil demand in the 'Other Asia' region is picking up more than expected, despite the fact that some Asian countries, such as Thailand, are pushing for alternative fuels. So far this year, the use of alternative fuels in Thailand has increased three-fold. Continuing efforts by the Thai government to reduce oil demand through

the improvement of alternative fuels will affect oil demand, but only to a certain degree.

The Taiwanese economy sought more oil with demand for the first six months of the year growing by almost four per cent. Naptha demand increased in the first half by 23 per cent year-on-year. However, high oil prices seem to have negatively affected gasoline demand so far this year.

Other regions

China's economy grew by more than 11 per cent in July, resulting in a trade surplus of \$14.6 billion. This led to oil consumption rising by eight per cent in comparison to the same month last year. The strong increase in demand was fuelled by the unusually high temperatures and the large increase in car sales. In the first seven months of the year, oil demand grew by 650,000 b/d, or ten per cent year-on-year. Car sales over the same period were up by more than a third. The transportation sector is considered one of the main drivers of oil demand in China. Fuel oil imports jumped by half in July, a development attributed to the above average summer temperatures. In the first seven months of the year, crude runs grew by six per cent year-on-year, leading to oil import growth of 16 per cent over the same period. Recent data also shows stronger second-quarter demand than previously forecast, resulting in an upward revision of 70,000 b/d in growth for that quarter.

Despite newly imposed export taxes, FSU oil exports increased. This occurred as a result of high oil prices and affected apparent demand more than anticipated, leading to a downward revision of 60,000 b/d in demand growth in the second quarter.

Forecast for 2006 demand

OECD

In North America, oil demand growth in the fourth quarter of this year is expected to be somewhat stronger than in the first three quarters, given the stabilization of gasoline prices and the expectation of normal weather in the fourth quarter. However, the slowing economy, along with high oil prices, has impacted on oil

demand growth, leading to a downward revision of 100,000 b/d for the region. The very hot summer in the US, which put more pressure on electricity demand, failed to boost oil demand as there was major fuel switching by power plants from liquids to gas. Moreover, the summer peak for gasoline demand was not as strong as expected.

Oil demand in OECD Western Europe is projected to increase by just 30,000 b/d to average 15.5m b/d in 2006. OECD Pacific oil demand is expected to increase in the fourth quarter, but by not as much as previously forecast. Slow industrial production is causing oil demand to weaken further, resulting in a downward revision of 100,000 b/d in fourth-quarter demand growth. OECD Pacific demand is now expected to grow 130,000 b/d in the fourth quarter.

Developing countries

Developing countries are accounting for 92 per cent of world oil demand growth in 2006. In Other Asia, the negative effects of the removal of price subsidies has eased in the third quarter. Pakistan's diesel demand is forecast to jump seven per cent this year. Due to fuel substitution and conservation, mainly in India, Other Asia's oil demand growth for the year is estimated to reach only 120,000 b/d. Developing countries' oil demand is expected to grow 600,000 b/d for the year to average 23.1m b/d. The strong economic activities in the Middle East are expected to continue until year-end. Oil demand for the Middle East is expected to increase by 300,000 b/d in 2006 to average 6.2m b/d.

Other regions

China's accelerating economy has exceeded all expectations with GDP growth estimated at 10.2 per cent for the whole of 2006. The August trade surplus reached a record-high \$18.8bn. This overwhelming economic achievement has had an effect on oil demand this year. Barring a major push by the government to curb oil demand, growth will reach 8.3 per cent by the end of the year. China's oil demand growth should remain strong and increase by 500,000 b/d to average 7.1m b/d in 2006. China's plan to develop the country's rural areas will be one

of the factors driving higher energy consumption over the remainder of this year.

Forecast for 2007 demand

The world oil demand growth forecast for 2007 remains unchanged. Due to adjustments in 2006, the absolute level was revised down by 100,000 b/d. World oil demand growth for next year is forecast at 1.3m b/d, or 1.5 per cent. As expected, developing countries will contribute the lion's share of the oil demand growth for 2007. Expected oil demand growth in the OECD countries will account for only 18 per cent of the world total. China, with an extra 400,000 b/d, will lead world oil demand growth, while the Middle East will see growth of 300,000 b/d.

World oil supply

Non-OPEC

Forecast for 2006

Non-OPEC oil supply is expected to average 51.2m b/d in 2006, representing an increase of 1.09m b/d over 2005, broadly unchanged from the last assessment. On a quarterly basis, non-OPEC supply is expected to average 51.2m b/d and 52.4m b/d in the third and fourth quarters, respectively. Preliminary data for the month of July and August puts total non-OPEC supply at around 50.9m b/d and 50.8m b/d, respectively, representing year-on-year growth of 1.1m b/d and 900,000 b/d.

OECD

OECD oil supply is expected to average 20.2m b/d, representing a drop of 130,000 b/d over the previous year. The outlook remains unchanged, but historical revisions have been made to the data of the US, Canada, Denmark and Australia, which have impacted on the absolute level of these countries. The outlook for the US remains subject to positive revisions now that the giant Prudhoe Bay field will come back earlier than previously assumed. Total oil production for the OECD countries in July and August is estimated at 20m b/d and 19.7m b/d, respectively.

US

Total US oil supply is expected to average 7.3m b/d in 2006. On a quarterly basis, it is expected to average 7.4m b/d and 7.4m b/d in the third and fourth quarters, respectively, broadly in line with total oil supply of 7.4m b/d in both July and August. The negative impact of production losses at Prudhoe Bay during the month of August was partially offset by the better-than-expected performance of fields in the lower 48 states and new field start-ups in the Gulf of Mexico. Prudhoe Bay is now likely to return to full production (400,000 b/d) by the end of October, but there is still the assumption that 200,000 b/d will remain shut until year-end. Elsewhere, some 150,000–180,000 b/d of hurricane-related losses in the Gulf of Mexico and onshore Louisiana are still out, of which only 100,000 b/d is expected to come back over the next few months.

Mexico and Canada

Mexican oil supply is expected to average 3.7–3.8m b/d in 2006. Total Mexican oil supply remains just above 3.7m b/d and is not expected to oscillate much below this range in the next two years, despite growing consensus that Pemex will be unable to compensate for production losses at Cantarell. Government data indicates that the giant Cantarell field produced 1.7m b/d in July, which is below expectations for the year.

Canadian oil supply is expected to average 3.2m b/d in 2006, representing an increase of 200,000 b/d over 2005. The Terra Nova field (120,000 b/d) is expected to return to full production in November, and the new syncrude upgrader (125,000 b/d), which was shut three months ago for environmental reasons, is now back onstream. These two units will help take Canadian supply close to 3.4m b/d in the fourth quarter of 2006, from 3.1m b/d in August.

Western Europe

Oil supply in the OECD European region is expected to average 5.4m b/d in 2006. Norwegian oil supply is expected to average around 2.8m b/d in 2006. Preliminary data for July and August shows that production was

2.8m b/d. However, extensive maintenance in September is expected to reduce supplies by 300,000 b/d. UK oil supply is expected to average 1.7m b/d. Preliminary data for July and August indicates that UK oil supply averaged 1.7m b/d and 1.4m b/d, respectively. Looking ahead, maintenance is expected to affect September output. Danish oil production should average 350,000 b/d, around 20,000 b/d lower than in 2005. July data shows that Danish output averaged 350,000 b/d in line with forecasts.

Asia Pacific

Oil supply in the Asia Pacific region is expected to average 540,000 b/d in 2006. Australian oil supply is expected to average 470,000 b/d this year, a drop of 60,000 b/d over 2005 and slightly lower than last month. Australian oil production is still underperforming, but is expected to recover before year-end.

Developing countries

Oil supply in the developing countries is expected to average 13.1m b/d, an increase of 600,000 b/d over 2005. On a quarterly basis, total oil supply is expected to average 13.2m b/d and 13.6m b/d in the third and fourth quarters, respectively. Total oil production for developing countries in July and August is estimated at 13m b/d and 13.1m b/d, respectively.

India's oil production is forecast to average 800,000 b/d in 2006, which is just above last year's level. July and August production estimates put total production at around 800,000 b/d. Recent reports indicate that the Bombay High North Field still remains 20 per cent below capacity, due to operational constraints, and there have been problems connecting new equipment to the platform. The field is producing around 90,000 b/d.

Papua New Guinea oil production was affected in August by the closure of the loading terminal in the Gulf, coupled with a lack of storage capacity. The country's total production is estimated at 49,000 b/d and is expected to be fully restored shortly.

Brazil's oil supply appears to have remained above 2.1m b/d in July and August. The country's

oil production is expected to average 2.2m b/d in 2006, representing an increase of 190,000 b/d over 2005. Strong output growth is expected in the months ahead.

Peru's oil production averaged a new record in August. Total crude and condensate output was 122,000 b/d, according to government data. The current forecast for 2006 is an average of 120,000 b/d. Peru's recent performance has been affected by pipeline damage and other technical problems, but these now appear to have been solved.

The production forecast for Yemen is currently 410,000 b/d, representing an increase of 10,000 b/d over 2005. However, recent developments indicate that output may be averaging slightly higher than currently estimated. A large project in the East Shabwa Area (Block 10) has performed better than expected and is now producing close to 45,000 b/d, compared with 12,000 b/d in 2005. Further increases from this project are expected in 2007 and may well contribute to a larger rise in both 2006 and 2007 than that currently estimated.

FSU, other regions

FSU oil supply is expected to average 12m b/d, an increase of 500,000 b/d versus 2005. The forecast for other regions (China and other Europe) remains unchanged with total oil supply expected at 3.8m b/d in 2006, representing an increase of 70,000 b/d over 2005. For the rest of the year, total FSU oil supply is expected to average 12.2m b/d and 12.3m b/d in the third and fourth quarters, respectively.

Russia

Russian oil supply is expected to average 9.7m b/d in 2006, an increase of 220,000 b/d versus 2005. The latest data shows that Russian production averaged 9.68m b/d and 9.71m b/d in July and August, respectively. Total oil supply is expected to continue to rise until the start of the winter, driven by new production from Sakhalin-1. However, export tariffs are expected to increase to a new record of \$32.2/b which, combined with recent price developments, is likely to negatively affect some of the marginal production in the next few months.

Caspian, China

The outlook for Azeri oil production remains unchanged. It is expected to average 660,000 b/d in 2006, an increase of 210,000 b/d over 2005. Preliminary data for August puts total Azeri oil production at around 630,000 b/d. Kazak oil production is expected to average 1.3m b/d in 2006, an increase of 80,000 b/d over last year. Data for the months of July and August puts oil production at 1.36m b/d and 1.34m b/d, respectively. Kazak production remains susceptible to maintenance at some of the large fields, but, overall, it continues to edge upwards. In Uzbekistan, recent data puts total oil supply during July at 109,000 b/d, in line with expectations, but representing a drop of ten per cent year-on-year. The estimate for China remains unchanged. Total oil supply is expected to average 3.7m b/d, representing an increase of 70,000 b/d over last year; July and August data shows average production of 3.7m b/d.

Forecast for 2007

Non-OPEC oil supply is expected to average 53m b/d in 2007, representing an increase of 1.8m b/d over 2006. On a quarterly basis, total non-OPEC oil supply is expected to average 52.4m b/d, 52.6m b/d, 53m b/d and 53.9m b/d in the first, second, third and fourth quarters, respectively.

The FSU region is expected to see demand grow by 500,000 b/d to 12.6m b/d. Caspian countries are expected to be responsible for more growth than Russia. Oil supply in the African region is forecast to increase by 500,000 b/d to 4.6m b/d with most of the increase expected to come from deepwater Angola, Equatorial Guinea and onshore Sudan. Oil supply in the North American region is expected to grow 400,000 b/d to 14.8m b/d. The increase will be driven by the unwinding of losses in Alaska, additions in the Gulf of Mexico deepwater and the expansion of Canadian oil sands. Oil production in the Latin American region is expected to grow by 100,000 b/d to 4.6m b/d. Regional growth will be driven by a modest increase in Brazil.

Elsewhere, OECD Europe is expected to

show a modest increase in demand to 5.5m b/d, with a normal maintenance schedule assumed. OECD Asia demand is expected to increase to 600,000 b/d. This assumes the partial return of some of the production that has been affected in Australia this year by cyclone activity, and increased drilling in new fields that have been underperforming. Oil supply in other Asia and the Middle East is expected to remain broadly flat at 2.8m b/d and 1.8m b/d, respectively. Chinese oil production is forecast to increase to 3.8m b/d, or by around 60,000 b/d, from 2006.

OPEC NGLs and non-conventional oils

In 2006, total OPEC output of NGLs and non-conventional oils is expected to average 4.3m b/d, representing an increase of 200,000 b/d over the previous year. Similar growth is expected in 2007 at around 250,000 b/d.

OPEC crude oil production

Total crude oil production averaged 29.79m b/d in August, representing an increase of 90,000 b/d from July, according to secondary sources. Iraq's oil production stood at 2.05m b/d.

FSU net exports

In 2006, FSU net oil exports are expected to average 8.3m b/d, an increase of 600,000 b/d over 2005. August crude exports were 5.8m b/d, unchanged from the previous month. Including products, total net oil exports were 8m b/d in August. In 2007, FSU net oil exports are expected to rise to 8.8m b/d, or by 500,000 b/d, from 2006, driven by new sources of crude from the Caspian and Russian product exports.

Rig count

Non-OPEC

The non-OPEC rig count stood at 2,878 rigs in August, which represents an increase of two rigs compared to the previous month. Of the total, 2,584 were operating onshore and the rest offshore. In terms of the oil and gas split, 899 rigs were drilling for oil, while the remainder was drilling for gas.

OPEC

The OPEC rig count stood at 345 rigs in August, representing an increase of 18 rigs over the previous month. Gains took place in all countries except Algeria, the United Arab Emirates (UAE), and Venezuela. Of the total, 274 rigs were operating onshore and the rest offshore. In terms of the oil and gas split, there were 281 oil rigs operating and the rest gas rigs.

Oil trade

OECD

Preliminary data shows that OECD crude oil imports increased for the fifth consecutive month to hit a 10-month high of 32.0m b/d in August. This increase – corresponding to around 100,000 b/d above both the previous month and a year earlier – was driven essentially by Japan and the US. Similarly, product imports continued their upward trend, but at a slower pace of 25,000 b/d, to hit 11.1m b/d, their highest level since last October. The US was the main contributor to the increase in product imports.

On the export side, both crude oil and products fell marginally to average 7.3m b/d and 8.1m b/d, respectively, which corresponded to 15,000 b/d and 8,000 b/d below the previous month. When compared with a year ago, crude oil exports were down 625,000 b/d, whereas product exports were about 200,000 b/d higher.

As a result, OECD net crude oil imports averaged 24.8m b/d, up 109,000 b/d from the previous month and 684,000 b/d more than a year earlier. With net product imports showing an increase of 33,000 b/d, total OECD net oil imports hit 27.8m b/d, resulting in growth of 772,000 b/d, or three per cent, year-on-year.

No significant change took place in the sources of imports. Saudi Arabia and the FSU remained the largest suppliers of OECD crude oil imports with around 16 per cent each, followed by Norway and Mexico, each with less than eight per cent. Nevertheless, when compared with a year earlier, Saudi Arabia's share gained more than three per cent for the Kingdom to overtake Russia as the main supplier.

However, OECD product imports continued to come from several countries, with the Netherlands, the FSU and Venezuela the main suppliers with around five per cent each.

US

US crude oil imports continued to increase, averaging 10.4m b/d in August, a rise of 90,000 b/d over the previous month. Product imports increased a further 35,000 b/d to nearly 3.8m b/d. On a weekly basis, US crude oil imports surged significantly during the week ending August 25, gaining around 950,000 b/d to hit over 11.15m b/d – the second highest level ever.

OECD crude oil imports increased for the fifth consecutive month to hit a ten-month high of 32.0m b/d in August.

The West Coast was the main contributor to this substantial jump, due to the shortage caused by the partial outage of BP Prudhoe Bay output in Alaska. West Coast imports rose 456,000 b/d to hit a record of nearly 1.7m b/d, with most of the increase assumed to have been used to build up stocks.

While crude oil imports were 100,000 b/d above a year earlier, product imports showed year-on-year growth of more than 400,000 b/d, resulting in an expansion of 500,000 b/d in total oil imports.

For the first eight months of the year, crude oil imports averaged 10.1m b/d, as against 10.2m b/d in the same period of 2005, corresponding to a drop of around 100,000 b/d.

With crude oil exports stable at 21,000 b/d and product exports falling 82,000 b/d to 11.2m b/d, total US oil imports averaged 13.0m b/d,

an increase of 1.6 per cent over the previous month and five per cent higher than a year ago.

Canada remained the main supplier of US crude oil imports with 19 per cent, followed by Mexico and Saudi Arabia with 17 per cent each. Compared with a year earlier, the shares of Canada and Saudi Arabia remained stable, while Mexico's share dropped by three per cent.

Regarding products, Canada, the Virgin Islands and Algeria continued to be the largest suppliers to the US with 17 per cent, 12 per cent and ten per cent of the total, respectively.

Japan

Japan's crude oil imports rose a further 200,000 b/d to average 4.2m b/d in August after refineries returned from their maintenance programmes, boosting throughput. Within just two months following the heavy maintenance, Japan's crude oil imports jumped by more than 750,000 b/d. In addition, the need to build stocks, which had declined sharply during the previous two months, also contributed to the increase in imports. In contrast, product imports continued to drop, losing almost 100,000 b/d to average 550,000 b/d, the lowest level so far this year. Compared with a year earlier, crude oil imports were two per cent higher, whereas product imports fell 36 per cent.

With product exports increasing 58,000 b/d, Japan's total net oil imports averaged nearly 4.4m b/d, a gain of 40,000 b/d over the previous month, but about ten per cent lower than a year ago.

Regarding deliveries, Saudi Arabia and the UAE remained the main suppliers of Japan's crude oil with 32 per cent and 24 per cent, respectively, as well as the largest suppliers of products, with 14 per cent and ten per cent.

China

China's crude oil and product imports fell significantly in July, dropping 600,000 b/d to average 3.6m b/d, the lowest level since last November. Crude oil imports declined by 363,000 b/d, the highest fall so far this year, to average 2.5m b/d, which corresponds to a loss of 100,000 b/d from a year earlier. However, product imports were 237,000 b/d lower, off-

setting the increase of the previous month to stand at nearly 1.1m b/d. But when compared with a year earlier, product imports in July were 270,000 b/d higher.

The strong decline in China's crude oil imports was due to the anticipated closure of refineries for maintenance. The decline in refined products offset the substantial rise of the previous month and could reflect a slow-down in demand, especially for heavy fuel oil from farmers.

With a 25,000 b/d drop in total crude oil and product exports, China's net oil imports showed a decline of 575,000 b/d in July over the previous month, but when compared with the same month last year, they displayed growth of 380,000 b/d.

For the January-July period, China's crude oil imports averaged 2.9m b/d, almost 13 per cent higher than a year earlier, while exports averaged 330,000 b/d, a drop of 23 per cent from a year ago.

On the product side, China's crude oil and product imports averaged 1.0m b/d and 120,000 b/d, respectively, for the same period.

Despite a two per cent loss in its share, Angola remained the largest supplier of China's crude oil with 16 per cent, followed by Saudi Arabia with 14 per cent and Russia with 13 per cent. Compared with a year ago, imports from Angola increased by 7.4 per cent, rising from around 380,000 b/d to more than 400,000 b/d. Imports from Saudi Arabia lost 35 per cent, decreasing from 540,000 b/d to 350,000 b/d.

Imports from Venezuela continued to increase to reach 155,000 b/d in July, compared with less than 30,000 b/d a year earlier. The substantial jump in Venezuela's share of China's crude oil imports came as a result of agreements signed between the two countries in late 2005, which aimed at boosting exports from Venezuela to 300,000 b/d within one or two months. Furthermore, exports from Venezuela to China are expected to increase further and could reach up to 500,000 b/d by 2009 as mentioned by Venezuelan President Hugo Chavez during his recent visit to China.

For the first seven months of the year, Angolan and Russian shares of China's imports

increased by 46 per cent and 38 per cent, respectively, while Saudi Arabia's share edged up just 2.5 per cent. The biggest winner was Venezuela, which saw its share jump by 190 per cent.

India

Preliminary data shows that India's oil imports saw some recovery in July. Crude oil imports stood at nearly 2.2m b/d in July, an increase of 64,000 b/d over the previous month, while product imports reached 250,000 b/d, a rise of 14,000 b/d over June figures. Total growth of 77,000 b/d corresponds to 50 per cent of the 155,000 b/d drop displayed the previous month.

With product exports rising 44,000 b/d to 460,000 b/d, India's total net oil imports averaged almost 2.0m b/d, an increase of 131,000 b/d from a year earlier. Crude oil net imports stood at 2.2m b/d, a gain of 282,000 b/d over a year ago, while product exports averaged 200,000 b/d.

Stock movements

US

Total commercial oil stocks in the US ended the month of August at 1,066.7m b, representing a build of 10.3m b, or 300,000 b/d. This represented a cushion of 4.3 per cent and 7.2 per cent, respectively, against the year-ago level and the five-year average. As in the previous month, the build was entirely due to product stock increases in all but gasoline as crude oil inventories declined further in August, although at a more moderate pace than in July.

Crude oil stocks lost 2.5m b to stand at 330.6m b in August, representing a considerable recovery compared with the 7.3m b draw recorded the previous month. Thus, crude oil inventories remained at comfortable levels of six per cent and 12 per cent, respectively, above a year ago and the five-year average. The trend in crude oil stocks is partly attributed to an increase in refinery input, which rose by 83,000 b/d to 15.8m b/d. Refinery runs inched up by 0.9 per cent to 92.6 per cent, lower than the 94.7

per cent seen in the same month last year. Also contributing to falling crude inventories was the 46,000m b/d drop in production to 5.1m b/d, which put the level one per cent below the same month last year. Following the shutdown of part of the Prudhoe Bay oil field, larger imports partly counterbalanced the downward impact of the situation. Imports increased by 90,000 b/d to 10.41m b/d. In terms of forward cover, crude oil inventories remained at 21.2 days, a healthy five per cent and 11 per cent cushion, respectively, against the year-ago level and the five-year average.

US gasoline stocks saw a seasonal decline of 3.0m b to 206.9m b in August, similar to the draw seen the previous month. Nonetheless, gasoline inventories remained at healthy levels, gaining 6.6 per cent and 4.2 per cent, respectively, over a year ago and the five-year average. With the end of the driving season and the shift towards distillates, as well as dwindling fears about this year's hurricane season, it suggested there was little reason for concern about gasoline supplies in the US. Thus, the rate of gasoline stock depletion was lower compared with a year ago and 2004.

Forward cover stood at 21.6 days, a gain of six per cent above the year-ago level, but only one per cent higher than the five-year average and less than the level reported in 2004. The recovery in gasoline inventories was due to greater gasoline imports, which rose by 9.8 per cent to 1.2m b/d (EIA four-week average) in August as a result of a 156,000 b/d increase in blending components, which offset a 47,000 b/d fall in conventional gasoline. The import of blending components led to a modest one per cent expansion in production (EIA four-week average) on a monthly basis in August, compared with a contraction in July.

This was due to the recovery in refinery runs supported by the attractive crack spread, which lasted until the end of August. However, crack spreads collapsed to \$10/b on both sides of the Atlantic following the recovery in US supply after several outages and the end of the driving season. Finally, a drop in domestic gasoline demand by 18,000 b/d to 9.6m b/d took place, but demand was still

140,000 b/d higher than the year-ago level in August and 250,000 b/d more than in the same week in 2004 (EIA four-week average).

This indicates that the somewhat bearish trend in the gasoline market is not associated to stagnating demand, but to other factors, such as the mild hurricane season and the end of the US driving season. The relatively high domestic gasoline demand also explains the low levels of gasoline inventories in terms of forward cover. Stock-builds ahead of the high demand for the winter heating season resulted in middle distillate inventories rising further by 7.4m b to 139.9m b on a monthly basis, 7.7 per cent above the five-year average and slightly above the year-ago level. The forward cover for distillate stocks stood at 34.1 days, two per cent and three per cent higher, respectively, than a year ago and the five-year average. Improved distillate margins led refiners to maximize distillate production.

Contrary to the trend in July, the stock-build relied mainly on diesel, which rose by 4.5m b to 80.67m b in August. This left diesel inventories with a cushion of two per cent and eight per cent, respectively, against the year-ago figure and the five-year average. An 11.8m b build in ULSD more than offset a 7.3m b decline in stocks of regular diesel fuel (15 ppm sulphur). Despite growing demand, diesel inventories managed to increase, owing to higher imports, which grew by 14 per cent to 265,000 b/d in August over the previous month (EIA four-week average). ULSD imports rose seven per cent to stand at 175,000 b/d over the previous month, while regular diesel fuel imports expanded by 29 per cent to 90,000 b/d (EIA four-week average). Concerning production, diesel increased by 100,000 b/d to 3.3m b/d, compared with the previous month, but ULSD output grew by nine per cent and regular diesel fuel dropped by six per cent.

High-sulphur distillate fuel, or heating oil inventories, rose 2.9m b to 59.3m b in August from the previous month, which looked healthy compared with the year-ago level and the five-year average. These stocks are expected to rise in the coming weeks in preparation for the winter season.

In the week ending September 8, total commercial oil inventories in the US increased by 4.4m b to reach 1,071.1m b, seven per cent and eight per cent above the year ago and the five-year average, respectively. Crude oil stocks recorded a drop of 2.9m b, which left the level at 327.72m b, due to a reduction in refinery runs of 0.5 per cent to 93 per cent from the previous week. Nevertheless, crude oil stocks looked comfortable at six per cent and 12 per cent above the year-ago figure and the five-year average, respectively. Gasoline stocks rose for the fourth week – by 110,000 barrels – to stand at 207m b, in line with market forecasts

In terms of forward demand cover, gasoline inventories stood at 21.7 days, three per cent higher than a year ago.

and following a slight weakening of domestic demand, due to the end of the driving season. In volume terms, gasoline stocks gained 7.8 per cent per cent from a year ago and five per cent against the five-year average.

In terms of forward demand cover, gasoline inventories stood at 21.7 days, three per cent higher than a year ago and on a par with the five-year average. The gasoline stock-build is related to a slowdown in demand, which fell by 250,000 b/d in the week ending September 8, amid high imports, which stood 30 per cent above the five-year average. Middle distillate inventories grew a further 4.6m b to 144.6m b, standing at very healthy levels compared with the year-ago level and the five-year average. Diesel accounted for nearly 70 per cent of the middle distillate stockbuild, rising by 3.2m b to 83.9m b week-on-week. This represented 11 per cent and 13 per cent cushions, respectively, on the year-ago level and the

five-year average. Greater diesel output, which grew to 3.4m b/d, explained the stockbuild, despite a week-on-week decline in imports.

Western Europe

Total commercial oil stocks in Eur-16 (Eu-15 plus Norway) were 8.4m b lower at the end of August, compared with the previous month. This left inventories on a par with the year-ago level, but represented a six per cent cushion on the five-year average. The draw came on the back of middle distillate inventories and crude oil.

The crude oil stock surplus in July reversed into a 3.5m b draw in August, prompted by higher refinery runs, which rose by 200,000 b/d, compared with July, and boosted the operable utilization rate to 94 per cent, although refinery throughputs were lower than in August 2003, owing to unplanned maintenance shutdowns in Mediterranean plants. Total product stocks experienced the sharpest draw, falling by 7.4m b to 624.7m b in August, compared with the previous month, which left them about two per cent lower than a year ago, but two per cent above the five-year average. In line with seasonal patterns, gasoline inventories declined by 100,000 b to 132.1m b, as a result of considerable exports to the US at the beginning of August with inventories losing 4.2m b, compared with the year-ago level and 4.0m b against the five-year average.

Contrary to the seasonal pattern, and after enjoying a surplus for two months, middle distillate inventories declined by 4.3m b to 382.4m b in August from the previous month. The draw, which was due to growing diesel demand and lower gasoil imports from Russia, amid brisk domestic demand and low refinery runs at Lithuania's Mazeikiai refinery, left stocks 5.6m b below a year earlier, but 18.8m b above the five-year average.

Residual fuel oil stocks fell further – by 2.1m b to 110.2m b in August from the previous month, as a result of high temperatures in Southern Europe in the first half of the month, which boosted demand for low-sulphur fuel oil used by air conditioning units. By contrast, an oversupply of high-sulphur grades was reported in August with the closing of the arbitrage win-

dow to Asia-Pacific due to record-high stock levels in Singapore.

Japan

Total commercial oil inventories in Japan were up 1.0m b to stand at 183.9m b in July, but remained below the year-ago level and the five-year average. This build was the result of the continuing upward trend in middle distillate stocks and a recovery in crude oil inventories.

A deficit in crude oil inventories of only 800,000 b took place in July, compared with 6.7m b the previous month. Nevertheless, the level of 116.4m b remained three per cent and 1.4 per cent below the year-ago level and the five-year average, respectively. A robust expansion in crude imports, which grew by 19.8 per cent to stand at 4.2m b/d, explained the outcome, despite an increase in refinery runs. Imports were boosted by an astounding 164 per cent increase in crude coming from Iran in July, but still remained two per cent below the level seen in the same period last year.

On the product side, stocks continued to build moderately, edging up 1.9m b to 67.5m b in July, compared with the previous month, but the cushions of 1.6 per cent and 0.7 per cent, respectively, against the year-ago level and the five-year average were less comfortable than in June. The lower imports – which fell by 3.5 per cent on a monthly basis – together with a continuing expansion in domestic sales, did not lead to a draw on inventories as production increased by around 11 per cent from last month, while export growth remained the same. Domestic sales were 0.7 per cent lower than in the same month last year, as a result of unusually low demand for gasoline for this year's summer driving season, owing to high oil prices. Gasoline demand usually peaks in the June to August period and although demand went up by 10.1 per cent from June, this was only 1.4 per cent higher than in July 2005. A sharp drop in demand for jet fuel of around six per cent took place in June when a 19.2 per cent increase occurred, while gasoil, Fuel Oil A, paraffin wax and asphalt domestic sales also slowed. Export growth of products remained almost the same, contributing to an improvement in the build in

product stocks. Compared with the previous month, gasoline stocks declined a steeper 1.6 per cent to 12.1m b in June, which left them at eight per cent and 8.5 per cent, respectively, below the year-ago level and the five-year average. As in the previous month, a hefty decline of 31.8 per cent in gasoline imports explained this draw. Likewise, a ten per cent increase in domestic sales and exports from the previous month also contributed to this outcome, regardless of the 10.6 per cent increase in production. Concerning middle distillates, the stock surplus that was registered in June doubled, rising by 4m b to stand at 35.6m b in July, 8.5 per cent higher than at the same time last year and 3.6 per cent above the five-year average. Kerosene stocks rose 23.8 per cent in July from the previous month to stand 17.4 per cent above the year-ago level, contributing to most of the build in middle distillate stocks. This development was due to a 33 per cent increase in production and a more moderate drop in imports, compared with the previous month and in order to avoid last year's experience when an insufficient stock level in the high season prompted a price rise.

Balance of supply/demand

Estimate for 2006

Estimated demand for OPEC crude in 2006 is expected to average 28.9m b/d. On a quarterly basis, the new forecast shows that demand for OPEC crude is expected at 29.9m b/d, 28.3m b/d, 28.7m b/d and 29m b/d in the first, second, third and fourth quarters. Estimated demand for OPEC oil has been reduced due to lower expectations for demand growth.

Forecast for 2007

Estimated demand for OPEC crude in 2007 is expected to average 28.1m b/d, representing a decline of 800,000 b/d over 2006. The forecast shows that demand for OPEC crude is expected at 29.2m b/d, 27m b/d, 28m b/d and 28.4m b/d in the first, second, third and fourth quarters. The expected decline remains unchanged, but the absolute level for the required crude is expected to be slightly lower.



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

World demand	2002	2003	2004	2005	1Q06	2Q06	3Q06	4Q06	2006	1Q07	2Q07	3Q07	4Q07	2007
OECD	47.9	48.6	49.3	49.5	50.1	48.0	49.4	50.5	49.5	50.5	48.1	49.6	50.8	49.8
North America	24.1	24.5	25.4	25.5	25.1	25.1	25.7	25.9	25.5	25.5	25.2	25.9	26.1	25.7
Western Europe	15.3	15.4	15.5	15.5	15.7	15.0	15.6	15.7	15.5	15.6	15.1	15.6	15.8	15.5
Pacific	8.5	8.6	8.5	8.6	9.3	7.9	8.1	8.9	8.5	9.4	7.8	8.1	8.9	8.6
Developing countries	20.3	20.6	21.7	22.5	22.8	23.2	23.2	23.2	23.1	23.3	23.7	23.9	23.8	23.7
FSU	3.7	3.8	3.8	3.8	3.7	3.6	3.8	4.0	3.8	3.8	3.5	3.8	4.1	3.8
Other Europe	0.8	0.8	0.9	0.9	1.0	0.9	0.9	0.9	0.9	1.0	0.9	0.9	0.9	0.9
China	5.0	5.6	6.5	6.5	7.1	7.3	6.8	7.1	7.1	7.4	7.8	7.3	7.5	7.5
(a) Total world demand	77.8	79.4	82.3	83.2	84.7	83.0	84.2	85.6	84.4	86.0	84.0	85.5	87.1	85.7
Non-OPEC supply														
OECD	21.9	21.7	21.3	20.3	20.3	19.9	20.0	20.7	20.2	20.7	20.7	20.7	21.1	20.8
North America	14.5	14.6	14.6	14.1	14.2	14.2	14.3	14.5	14.3	14.6	14.7	14.8	15.0	14.8
Western Europe	6.6	6.4	6.2	5.7	5.6	5.2	5.1	5.5	5.4	5.5	5.5	5.3	5.6	5.5
Pacific	0.8	0.7	0.6	0.6	0.5	0.5	0.5	0.6	0.5	0.6	0.6	0.6	0.6	0.6
Developing countries	11.5	11.6	12.0	12.5	12.9	12.8	13.2	13.6	13.1	13.6	13.6	13.8	14.1	13.8
FSU	9.3	10.3	11.1	11.5	11.7	12.0	12.2	12.3	12.1	12.3	12.5	12.7	12.9	12.6
Other Europe	0.2	0.2	0.2	0.2	0.2	0.1								
China	3.4	3.4	3.5	3.6	3.7	3.7	3.7	3.7	3.7	3.8	3.7	3.8	3.8	3.8
Processing gains	1.7	1.8	1.8	1.9										
Total non-OPEC supply	48.0	48.9	49.9	50.1	50.6	50.5	51.2	52.4	51.2	52.4	52.6	53.0	54.0	53.0
OPEC NGLS and non-conventionals	3.6	3.7	4.0	4.1	4.2	4.2	4.3	4.4	4.3	4.4	4.5	4.6	4.7	4.5
(b) Total non-OPEC supply and OPEC NGLS	51.6	52.6	53.9	54.2	54.8	54.7	55.5	56.8	55.4	56.8	57.1	57.6	58.7	57.5
OPEC crude supply and balance														
OPEC crude oil production¹	25.4	26.9	29.0	29.9	29.7	29.6								
Total supply	77.0	79.6	82.9	84.0	84.5	84.3								
Balance²	-0.8	0.2	0.7	0.8	-0.2	1.2								
Stocks														
OECD closing stock level m b														
Commercial	2478	2517	2550	2594	2597	2646								
SPR	1347	1411	1450	1487	1487	1493								
Total	3825	3928	4000	4081	4084	4139								
Oil-on-water	816	883	906	960	963	967								
Days of forward consumption in OECD														
Commercial onland stocks	51	51	51	52	54	54								
SPR	28	29	29	30	31	30								
Total	79	80	81	82	85	84								
Memo items														
FSU net exports	5.6	6.5	7.3	7.7	8.0	8.4	8.4	8.3	8.3	8.5	9.0	8.9	8.7	8.8
[(a) – (b)]	26.1	26.7	28.4	29.1	29.9	28.3	28.7	28.9	28.9	29.2	27.0	28.0	28.4	28.1

1. Secondary sources.

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

2. Stock change and miscellaneous.

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

The monthly evolution of spot prices for selected OPEC and non-OPEC crudes is presented in **Tables One and Two** on page 102, while **Graphs One and Two** (on page 103) show the evolution on a weekly basis. **Tables Three to Eight**, and the corresponding graphs on pages 104–105, 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					2006								Weeks 31–35 (week ending)				
	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Aug 4	Aug 11	Aug 18	Aug 25	Sep 1
Arab Light – Saudi Arabia	58.24	57.63	54.65	51.55	52.84	58.43	56.56	57.54	63.85	64.83	65.03	69.06	68.76	70.08	71.42	68.10	67.79	65.72
Basrah Light – Iraq	57.10	55.68	51.39	48.07	49.15	55.59	52.32	54.01	61.18	62.32	62.38	66.49	65.42	67.86	68.62	64.45	63.85	61.93
BCF-17 – Venezuela	46.15	50.79	47.51	41.33	42.34	47.90	45.90	49.52	56.01	56.62	55.01	58.72	60.29	62.03	63.45	59.85	58.51	56.62
Bonny Light – Nigeria	65.49	65.60	60.74	57.18	57.91	64.04	62.12	63.80	71.80	71.75	70.22	75.49	75.29	78.12	79.32	74.00	73.82	70.34
Es Sider – SP Libyan AJ	60.27	60.39	58.25	54.92	57.14	61.77	59.12	60.22	67.03	67.25	66.62	71.42	70.72	72.68	73.80	69.92	69.86	66.66
Iran Heavy – IR Iran	55.69	55.10	51.73	49.28	50.88	57.10	55.43	56.56	63.09	63.27	62.24	66.59	66.42	67.62	69.15	65.88	65.42	63.26
Kuwait Export – Kuwait	55.18	54.60	51.76	49.19	50.83	56.52	55.01	55.80	62.20	62.80	62.37	66.35	66.02	67.11	68.60	65.53	65.06	63.05
Marine – Qatar	57.49	58.37	55.80	53.17	54.72	59.85	59.06	59.39	65.62	66.29	66.16	70.21	70.05	70.90	72.56	69.73	69.05	67.22
Minas – Indonesia	61.07	60.27	58.64	53.87	54.43	63.35	61.35	62.30	69.17	70.47	68.49	74.13	75.42	76.92	78.96	74.68	73.93	71.26
Murban – UAE	61.78	62.68	59.30	56.13	57.47	62.72	61.77	62.33	68.46	69.84	69.66	73.70	73.66	74.36	76.04	73.26	72.77	71.02
Saharan Blend – Algeria	63.67	63.30	59.48	56.15	57.65	64.06	61.59	62.98	70.21	70.31	69.15	74.37	74.50	77.07	78.35	73.60	73.08	69.50
OPEC Reference Basket	57.82	57.88	54.63	51.29	52.65	58.48	56.62	57.87	64.44	65.11	64.60	68.89	68.81	70.35	71.72	68.13	67.67	65.39

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

\$/b

Crude/Country	2005					2006								Weeks 31–35 (week ending)				
	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Aug 4	Aug 11	Aug 18	Aug 25	Sep 1
Arab Heavy – Saudi Arabia	52.02	51.57	49.03	47.40	49.16	54.91	53.52	54.08	60.74	60.88	59.84	63.74	63.57	64.40	66.08	63.24	62.62	60.72
Brent – North Sea	64.06	62.75	58.75	55.41	57.02	63.05	60.12	62.08	70.35	69.83	68.69	73.66	73.11	76.35	77.30	72.21	71.47	67.39
Dubai – UAE	56.55	56.41	54.20	51.63	53.22	58.56	57.61	57.82	64.14	65.07	65.22	69.17	68.92	69.77	71.43	68.59	67.97	66.02
Ekofisk – North Sea	63.92	62.55	59.22	55.76	57.54	63.34	60.36	62.53	70.32	69.88	68.45	73.74	73.09	75.79	77.01	72.45	71.39	68.09
Iran Light – IR Iran	60.41	58.74	54.38	51.31	53.20	58.99	57.00	58.77	65.14	64.67	64.30	68.81	68.49	70.37	71.80	67.53	67.47	64.51
Isthmus – Mexico	59.66	59.92	55.64	51.57	52.77	58.54	53.87	56.85	64.51	64.82	63.88	68.30	67.47	70.44	71.04	66.45	65.50	63.33
Oman – Oman	57.46	58.24	55.52	52.78	54.21	59.35	58.61	59.19	65.54	66.39	66.17	70.22	70.12	70.93	72.63	69.80	69.16	67.29
Suez Mix – Egypt	56.01	55.91	52.83	49.29	51.59	56.92	54.54	55.54	62.43	62.46	61.95	66.51	65.78	68.18	69.20	64.89	64.44	61.65
Tia Juana Light ¹ – Venez.	54.22	53.87	51.48	48.77	49.23	54.27	50.97	52.32	58.77	58.66	56.98	60.93	60.99	63.51	64.22	60.07	59.21	57.10
Urals – Russia	58.64	58.23	55.80	52.38	54.63	59.58	57.06	58.11	64.95	65.09	64.51	69.20	68.49	70.65	71.72	67.65	67.41	64.40
WTI – North America	64.96	65.28	62.67	58.42	59.36	65.39	61.49	62.82	69.46	70.89	70.88	74.33	73.01	75.12	75.63	71.79	72.07	69.94

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

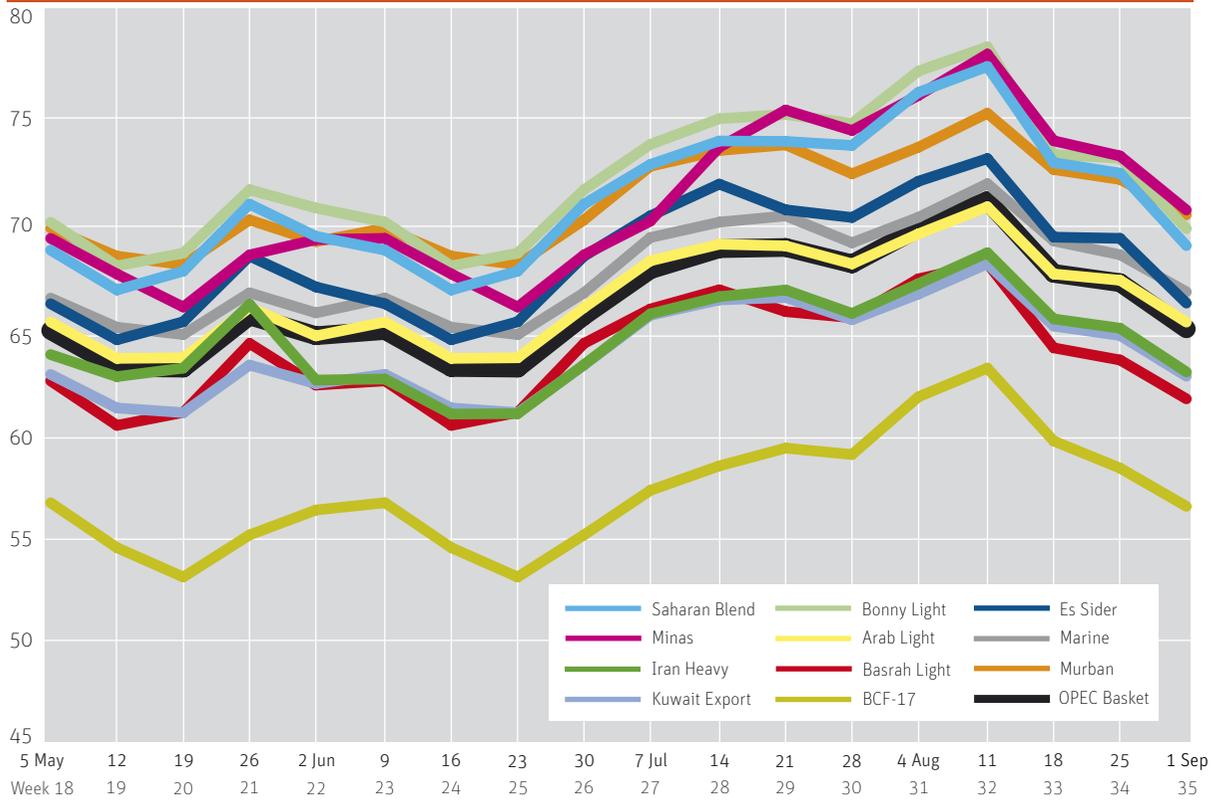
1. Tia Juana Light spot price = (TJL netback/Isthmus netback) x Isthmus spot price.

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

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

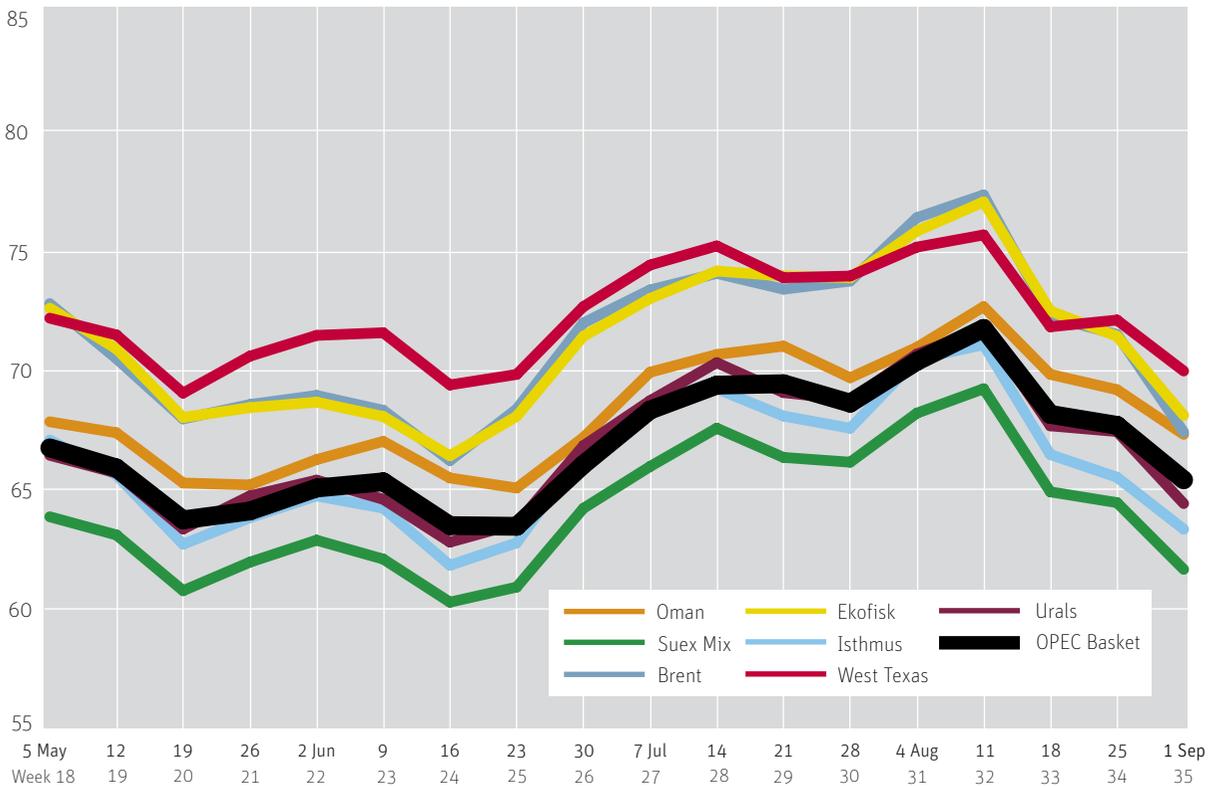
Graph 1: Evolution of the OPEC Reference Basket crudes, May to August 2006

\$/b



Graph 2: Evolution of spot prices for selected non-OPEC crudes, May to August 2006

\$/b



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

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

\$/b

	naphtha	regular gasoline unleaded	premium gasoline 50ppm	diesel ultra light	jet kero	fuel oil 1%S	fuel oil 3.5%S
2005							
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
April	77.49	80.84	90.97	84.69	84.70	47.77	47.67
May	78.73	83.24	93.84	86.03	87.00	47.14	48.13
June	80.63	84.91	95.72	86.13	87.06	44.65	44.60
July	84.43	91.03	102.17	87.80	89.69	46.10	46.79
August	81.35	82.74	93.21	89.75	91.68	46.38	46.41

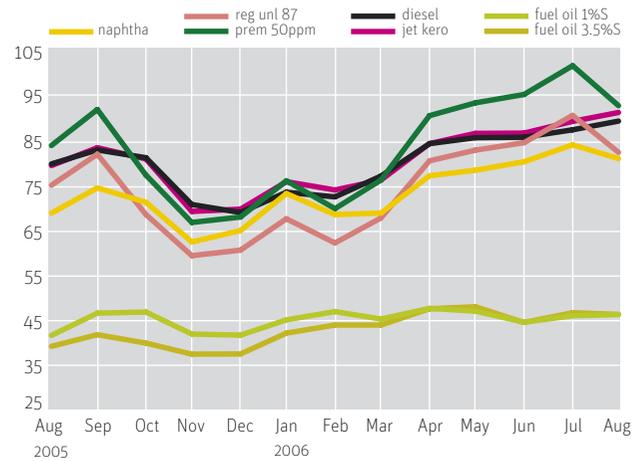


Table and Graph 4: South European market – spot cargoes, fob Italy

\$/b

	naphtha	premium gasoline 50ppm	diesel ultra light	fuel oil 1%S	fuel oil 3.5%S
2005					
August	58.32	83.45	80.97	43.55	37.73
September	62.01	88.35	84.73	48.43	41.43
October	58.43	75.86	81.66	45.39	39.15
November	51.20	64.69	69.80	41.91	35.57
December	53.71	67.95	70.64	43.53	35.02
2006					
January	59.23	75.71	74.58	47.98	39.62
February	56.42	68.48	74.41	51.10	42.56
March	57.70	77.70	77.59	47.73	43.29
April	64.78	90.10	84.93	47.66	46.28
May	65.85	94.46	87.09	48.89	46.44
June	67.45	95.00	85.85	46.95	44.47
July	70.21	102.69	88.92	49.59	46.80
August	67.81	93.24	89.83	49.86	44.99

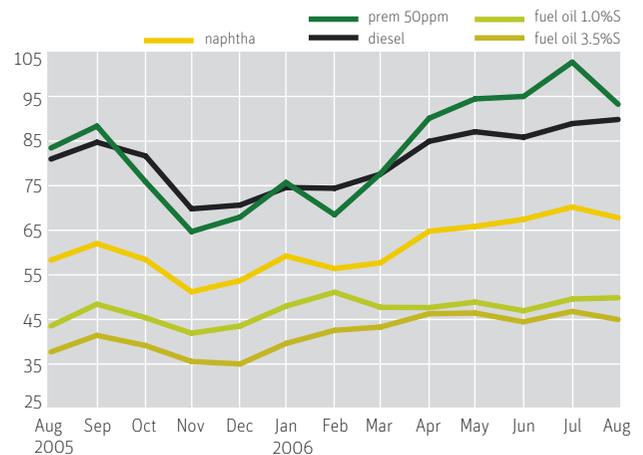
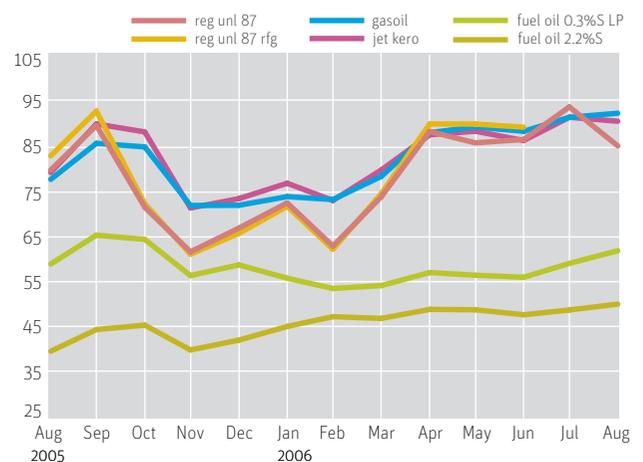


Table and Graph 5: US East Coast market – spot cargoes, New York

\$/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						
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
April	88.59	90.25	88.32	87.84	57.04	48.80
May	86.03	90.23	89.57	88.63	56.44	48.72
June	86.79	89.54	88.62	86.56	55.98	47.60
July	94.07	na	91.74	91.74	59.09	48.67
August	85.35	na	92.66	90.87	61.91	49.98



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					
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	37.15
December	62.83	71.27	73.56	37.93	37.15
2006					
January	73.77	73.77	77.25	40.99	40.34
February	60.19	69.56	74.65	43.17	42.44
March	71.08	74.98	79.53	42.78	42.56
April	79.53	83.72	88.06	44.80	44.72
May	72.61	83.50	87.84	44.72	44.65
June	78.88	81.20	88.22	43.60	43.37
July	82.38	82.39	91.23	44.67	44.55
August	71.17	85.12	90.20	46.00	45.51

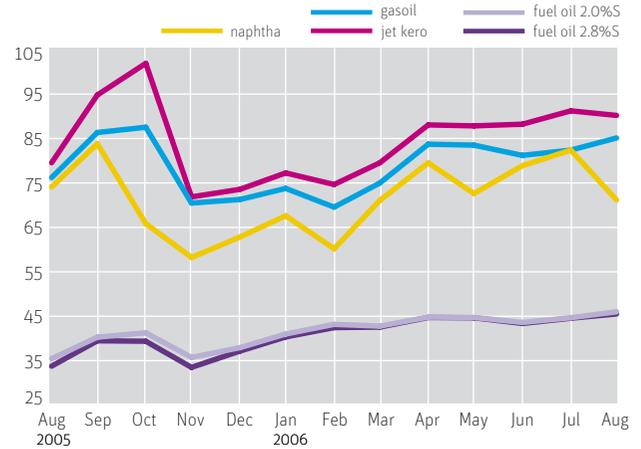


Table and Graph 7: Singapore market – spot cargoes, fob

\$/b

	naphtha	premium gasoline unl 95	premium gasoline unl 92	diesel ultra light	jet kero	fuel oil 180 Cst	fuel oil 380 Cst
2005							
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	70.37	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
April	64.45	81.13	80.15	90.68	84.77	51.81	51.32
May	65.59	86.80	86.17	92.78	85.55	52.02	51.32
June	68.06	82.76	82.21	89.13	86.18	49.68	48.46
July	70.55	85.50	84.47	88.17	87.57	52.28	50.72
August	66.59	81.22	80.36	88.19	89.47	50.16	47.61

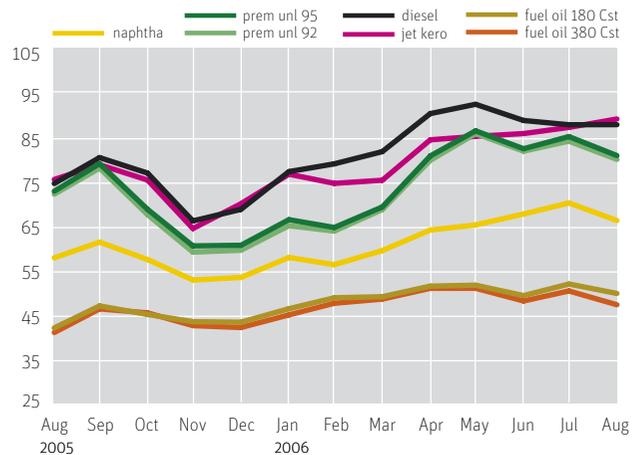
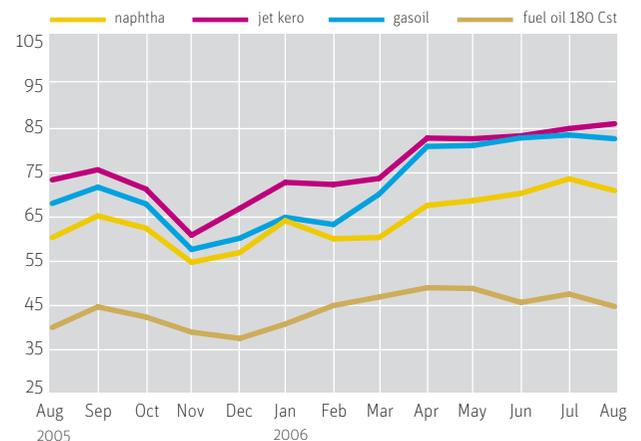


Table and Graph 8: Middle East Gulf market – spot cargoes, fob

\$/b

	naphtha	gasoil	jet kero	fuel oil 180 Cst
2005				
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
April	67.65	80.97	82.86	49.03
May	68.72	81.18	82.71	48.87
June	70.37	82.91	83.38	45.71
July	73.66	83.57	85.02	47.60
August	70.99	82.72	86.11	44.79



na not available.

Source: Platts. Prices are average of available days.

Forthcoming events

CGES 10th Annual Symposium, October 30–31, 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@cgcs.co.uk; web site: www.cgcs.co.uk.

Chad international oil and gas exhibition and conference, October 30–31, 2006, N'Djamena, Republic of Chad. Details: ITE Group Plc, 105 Salusbury Road, London, NW6 6RG, UK. Tel: +44 207 596 5269; fax: +44 207 596 5106; e-mail: Julia.romanenko@ite-exhibitions.com; web site: www.ite-exhibitions.com/og.

11th Condensate and naphtha forum, October 30–31, 2006; Petrochemical feedstocks: issues and alternatives, November 1–2, 2006, Phuket, Thailand. 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.

Natural gas market fundamentals, November 2–3, 2006, Vancouver, Canada. Details: Canadian Energy Research Institute (CERI), #150, 3512–33 Street NW, Calgary T2L 2A6, Canada. Tel: +1 403 282 1231; fax: +1 403 284 4181; email: staple@ceri.ca; web site: www.ceri.ca.

Oil and gas finance for non-financial managers, November 6–10, 2006, London, UK. Details: CWC Associates Ltd, 3 Tyers Gate, London SE1 3HX, UK. Tel: +44 207 089 4200; fax: +44 207 089 4203; e-mail: awilliams@thecwcgroup.com; web site: www.thecwcgroup.com.

LNG supplies for Asian markets, November 6–8, 2006, Singapore. 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.

Korean oil and gas conference 2006, November 6–8, 2006, Seoul, Korea. 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.

IADC International well control conference and exhibition, November 7–8, 2006, Abu Dhabi, UAE. Details: International Association of Drilling Contractors, PO Box 500733, Knowledge Village, Block 2B, Office G23, Dubai, UAE. Tel: +971 4 390 2750; fax: +971 4 366 4648; e-mail: info@iadc.org; web site: www.iadc.org.

Jeddah water and power forum 2006, November 11–13, 2006, Jeddah, Saudi Arabia. Details: CWC Associates Ltd, 3 Tyers Gate, London SE1 3HX, UK. Tel: +44 207 089 4200; fax: +44 207 089 4203; e-mail: awilliams@thecwcgroup.com; web site: www.thecwcgroup.com.

Canada's oil sands industry, November 13–14, 2006, Fort McMurray, Canada. Details: Canadian Energy Research Institute (CERI), #150, 3512–33 Street NW, Calgary T2L 2A6, Canada. Tel: +1 403 282 1231; fax: +1 403 284 4181; email: staple@ceri.ca; web site: www.ceri.ca.

Electric industry fundamentals, November 13–14, 2006, Toronto, Canada. Details: Canadian Energy Research Institute (CERI), #150, 3512–33 Street NW, Calgary T2L 2A6, Canada. Tel: +1 403 282 1231; fax: +1 403 284 4181; email: staple@ceri.ca; web site: www.ceri.ca.

Oil and gas exchange 2006, November 13–14, 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.

Negotiating upstream oil and gas contracts, November 13–17, 2006, London, UK. Details: CWC Associates Ltd, 3 Tyers Gate, London SE1 3HX, UK. Tel: +44 207 089 4200; fax: +44 207 089 4203; e-mail: awilliams@thecwcgroup.com; web site: www.thecwcgroup.com.

LNG and gas contracts and project financing, November 13–17, 2006, Singapore. Details: CWC Associates Ltd, 3 Tyers Gate, London SE1 3HX, UK. Tel: +44 207 089 4200; fax: +44 207 089 4203; e-mail: awilliams@thecwcgroup.com; web site: www.thecwcgroup.com.

Oil and sustainable development, November 14–15, 2006, London, UK. Details: CWC Associates Ltd, 3 Tyers Gate, London SE1 3HX, UK. Tel: +44 207 089 4200; fax: +44 207 089 4203; e-mail: awilliams@thecwcgroup.com; web site: www.thecwcgroup.com.

The energy markets: evaluating trends and risks, November 14–17, 2006, London, UK. Details: The Petroleum Economist Ltd, 69 Carter Lane, London EC4V 5EQ, UK. Tel: +44 207 779 8840; fax: 44 207 779 8899; e-mail: training@petroleum-economist.com; web site: www.petroleum-economist.com.

FPSO Masterclass 2006, November 15–17, 2006, Perth, Australia. Details: IBC Energy Conferences, 69-77 Paul Street, London, EC2A 4LQ, UK. Tel: +44 207 017 5518; fax: +44 207 017 4745; e-mail: lindsay.ambrose@informa.com; web site: www.ibcenergy.com.

Introduction to the upstream petroleum industry, November 16–17, 2006, Calgary, Canada. Details: CWC Associates Ltd, 3 Tyers Gate, London SE1 3HX, UK. Tel: +44 207 089 4200; fax: +44 207 089 4203; e-mail: awilliams@thecwcgroup.com; web site: www.thecwcgroup.com.

Introduction to the Canadian downstream petroleum industry, November 16–17, 2006, Calgary, Canada. Details: CWC Associates Ltd, 3 Tyers Gate, London SE1 3HX, UK. Tel: +44 207 089 4200; fax: +44 207 089 4203; e-mail: awilliams@thecwcgroup.com; web site: www.thecwcgroup.com.

Saudi energy forum 2006, November 18–20, 2006, Dammam, Saudi Arabia. Details: CWC Associates Ltd, 3 Tyers Gate, London SE1 3HX, UK. Tel: +44 207 089 4200; fax: +44 207 089 4203; e-mail: awilliams@thecwcgroup.com; web site: www.thecwcgroup.com.

12th Annual energy conference, November 19–21, 2006, Abu Dhabi, UAE. Details: The Emirates Centre for Strategic Studies and Research (ECSSR), Conference Department, PO Box 4567, Abu Dhabi, UAE. Tel: +971 2 404 4421; fax: +971 2 404 4422; e-mail: conferences@ecssr.ae; web site: www.ecssr.ae.

Economic of downstream oil, November 20–22, 2006, Singapore. 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.

Measuring and managing upstream oil and gas performance, November 20–22, 2006, London, UK. Details: The Petroleum Economist Ltd, 69 Carter Lane, London EC4V 5EQ, UK. Tel: +44 207 779 8840; fax: 44 207 779 8899; e-mail: training@petroleum-economist.com; web site: www.petroleum-economist.com.

World oil and gas strategy and economics, November 20–24, 2006, London, UK. Details: CWC Associates Ltd, 3 Tyers Gate, London SE1 3HX, UK. Tel: +44 207 089 4200; fax: +44 207 089 4203; e-mail: awilliams@thecwcgroup.com; web site: www.thecwcgroup.com.

Economics and refining and oil quality, November 23–24, 2006, Singapore. 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.

Future fuels 2006, November 27–29, 2006, Washington DC, USA. Details: CWC Associates Ltd, 3 Tyers Gate, London SE1 3HX, UK. Tel: +44 207 089 4200; fax: +44 207 089 4203; e-mail: awilliams@thecwcgroup.com; web site: www.thecwcgroup.com.



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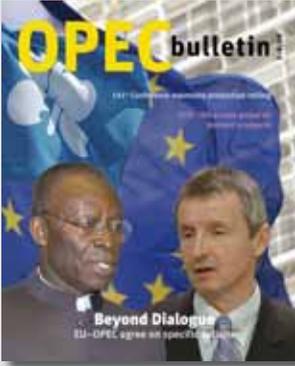
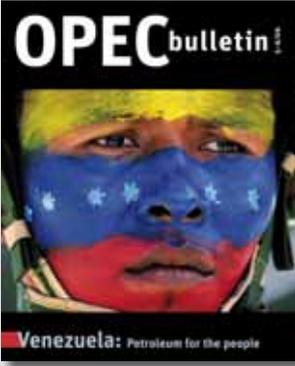
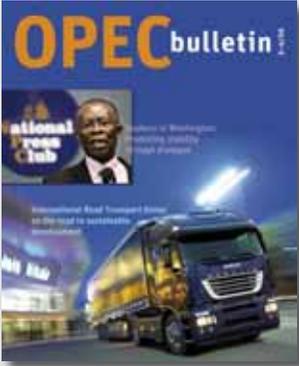
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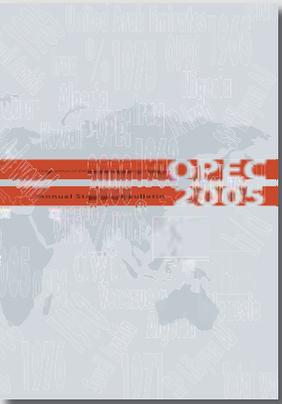


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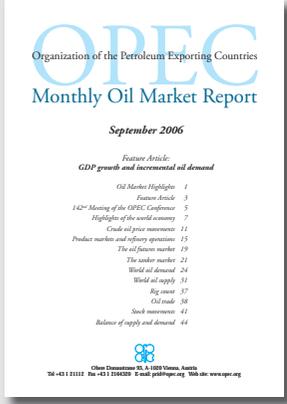


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