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10/11



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## The Information Age, oil and the future

The 'Information Age' has transformed lives across the planet in previously unimaginable ways over the past two decades. The internet, mobile phones, laptops, satellite navigation systems, social networking sites and other, now-familiar high-tech systems and equipment have created a new global culture, even with its own evolving language.

However, it has not always been a pure process. Sometimes misinformation slips in, disguised as information. Access to information does not always mean access to good information.

Indeed, this has always been the case with information. However remarkable today's technology may be, human nature remains the same. Most people value honest, objective, helpful information and will be happy to share this with others. A minority think otherwise and will adapt information channels for their own ends. Some people just make mistakes in conveying information. This is as true today as it was half a century ago when OPEC was formed.

But the differences with the past in today's heavily computerized world lie in the sheer speed of communications and the recently acquired expectation for it to be instant, the astonishing volume of information we have access to with just a tap on a touch-screen, and the rapidly expanding global outreach of the information revolution itself. Indeed, the world is still far from coming to terms with the true potential and repercussions of the Information Age, economically, politically and socially. This will continue to reveal itself as the years pass.

The oil industry has adjusted well to this new communications era, and this has coincided with other important advances affecting the flow of information.

OPEC has played a big part in this progress. This includes enhancing dialogue and cooperation between OPEC and non-OPEC producers and between producers and consumers. The activities of the International Energy Forum are prominent here, especially the affiliated Joint Organizations Data Initiative, whose specific purpose is the collation and supply of data about the industry. The bilateral energy dialogues OPEC has entered into with the European Union, China and Russia play an important role too, as do the closer ties with the International Energy Agency, the International Monetary Fund and other such bodies.

These have all tied in with the industry's perennial need for access to accurate, objective and timely information to support its activities right along the supply chain, as it seeks to meet the rising number of challenges facing it today and in the future. These challenges are centred around expectations of continued rises in demand, but must accommodate, at the same time, more stringent rules and regulations, the drive for more efficiency and, more generally, the need to reconcile energy use with sustainable development and environmental harmony, as our Member Countries' Heads of State and Government pointed out at the Third OPEC Summit in 2007.

This is where the media come in. In their diverse forms, they provide a vital channel for spreading information about the oil sector within the energy industry itself, to decision-makers further afield, to academics, to associated institutions and to the public at large. Their reports and in-depth features — as well as being accurate, objective and timely, as mentioned above — must also be interesting and informative enough to catch the attention of their targeted audiences in a highly competitive global media environment.

Indeed, OPEC has recognized the very special qualities required of top-rate journalists and other media professionals in 'The OPEC Award for Journalism', which will be presented for the second time at next June's OPEC International Seminar.

With all this in mind, therefore, it is always heartening for us when long-established, highly acclaimed institutions or individuals in the media achieve something special. This does not mean that we always agree with what they write about us or our Member Countries! But, at the same time, we recognise that they are acting in accordance with their set professional standards, and, what is more, over the years this has contributed significantly to the healthy evolution of the energy industry — which, after all, is our common aim.

Hence, we should like to congratulate the staff, past and present, of *Petroleum Intelligence Weekly*, on reaching its 50<sup>th</sup> anniversary in October (see page 34). And we look forward to this widely read industrial newsletter maintaining its high standard of reporting on the oil industry long into the future.



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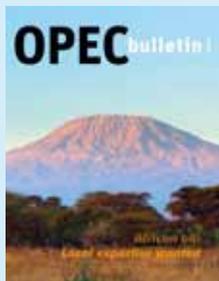


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**Cover**  
 This month's cover shows the imposing Mount Kilimanjaro in Tanzania, Africa. The OPEC Bulletin has been focussing on oil activities on the continent in the last few issues. Cover image courtesy Shutterstock.

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**OPEC Membership and aims**

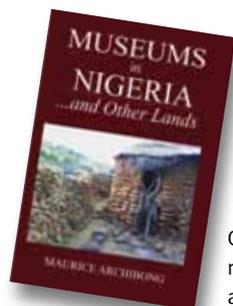
OPEC is a permanent, intergovernmental Organization, established in Baghdad, on September 10-14, 1960, by IR Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. Its objective — to coordinate and unify petroleum policies among its Member Countries, in order to secure fair and stable prices for petroleum producers; 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 comprises 12 Members: Qatar joined in 1961; SP Libyan AJ (1962); United Arab Emirates (Abu Dhabi, 1967); Algeria (1969); Nigeria (1971); Angola (2007). Ecuador joined OPEC in 1973, suspended its Membership in 1992, and rejoined in 2007. Gabon joined in 1975 and left in 1995. Indonesia joined in 1962 and suspended its Membership on December 31, 2008.

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

### Editorial policy

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## Growing economic uncertainties impact oil price volatility

In reflecting the growing uncertainties associated with the global economy, OPEC has again warned of the necessity of remaining alert to the risks of a growing imbalance in international oil markets.

### Demand growth revised down

In its *Monthly Oil Market Report (MOMR)* for October, the Organization said that in the current economic environment, it had been forced to reduce its forecast for world oil demand in 2011 from the initial growth figure of 1.2 per cent to now stand at one per cent.

When translated into barrels of oil, demand growth had been revised down by 180,000 b/d to show growth of 900,000 b/d this year.

Revisions since the initial forecast had been much lower than other forecasts, which began the year with a more optimistic economic outlook, the report's feature article commented.

It stated that the adjustments had been carried out not only in OECD countries, but also in some emerging countries, including China, which had been a key driving force behind global oil demand growth in recent years.

"So far, clear signs of weakening demand have had only a limited impact on overall oil market fundamentals," it observed. The *MOMR* pointed out that, in the international oil markets, crude oil prices had been increasingly volatile since May with a general pattern of steady rises followed by sharp drops.

ICE Brent had been trading in a widening range of around \$100–120/barrel.

"This volatility has been more pronounced amid rising concerns about the economic uncertainties and associated risks in OECD countries," said the report.

Since late April, crude price direction had broadly tracked fluctuations in equity markets, which had kept oil prices sensitive to ongoing macroeconomic developments.

In response to the increasingly fragile outlook for the world economy, the FTSE 100 index experienced a loss of almost nine per cent

and the euro had declined by ten per cent against the US dollar on the back of growing uncertainties in the Euro-zone.

The shifting economic mood had also resulted in an even larger drop in Brent futures prices of nearly 13 per cent over this same period, the feature article stated.

## Challenging first half

The *MOMR* said that when the global growth forecast for 2011 was first published in July 2010, growth expectations stood at 3.7 per cent.

“While this is only negligibly higher than the current forecast of 3.6 per cent, it masks the fact that the slowdown in advanced economies has been sharper than expected.”

The report said that OECD growth expectations for 2011 currently stood at 1.6 per cent, significantly lower than the initial forecast of two per cent.

The United States, in particular, had faced a much more challenging first half than originally anticipated, while the tragic events in Japan had also impacted growth expectations.

And while the Euro-zone performed relatively well initially, sovereign debt challenges in some countries in the region had since emerged as a key threat going forward.

“This indicates that the related issues are deeper than originally thought and that solving them might be far costlier than previously forecast,” the report professed.

“Even if the fallout is contained, the sovereign debt crisis is likely to result in much slower economic growth in the Euro-zone over the months to come as austerity measures weigh on the expansion.

“The risks for the Euro-zone are considerable, given major refinancing volumes of the financially weaker Euro-zone countries in the coming quarters combined with rising yields.”

The *MOMR* said that, consequently, the global growth forecast for 2012 had been adjusted sharply lower since the first estimate in July 2011 of 4.1 per cent to currently stand at 3.7 per cent.

It noted that while policymakers in developed countries had been trying to sustain momentum in economic growth, major emerging economies had been actively seeking to avoid overheating in their economies.

“Over the past six months, major developing economies have tried to curb their rising inflation rates through tight monetary policies. However, more recently, they have been faced with the growing downside risk of decelerating growth in their major trading partners in the developed economies, as reflected in lower exports and declining foreign investments,” the feature article maintained.

## Other forecasts lower

It observed that many concerns regarding the slowdown of the global expansion had been similarly highlighted in other forecasts. This included the most recent World Economic Outlook by the International Monetary Fund (IMF), which had reduced its global growth expectations for 2011 from 4.3 per cent in July 2010 to four per cent, as well as the consensus forecast which now stood at 3.8 per cent, compared with 4.1 per cent in July last year.

“As a result, forecasts are moving toward the more cautious view that the OPEC Secretariat has held since the initial forecast,” the *MOMR* stated. 

# Oil & Money

International Herald Tribune  
THE GLOBAL EDITION OF THE NEW YORK TIMES

Energy  
Intelligence

## *There's a bright future out there...*

*This year's Oil & Money conference under the theme 'Risk and the New Energy Map' brought together a plethora of industry stakeholders to debate the multiplicity of issues reshaping the industry. From the Asian boom to the overall weakening economic outlook in the West; from the importance of technology and innovation in helping develop the harder to find resources to the role of prices and costs. There were both risks and potential rewards on display, as **James Griffin** reports.*

As delegates convened for the annual Oil & Money conference in London there was a general feeling that the past year had been a particularly testing one for the oil industry. The October event discussed such issues as the global macro-economic situation, the sovereign debt crisis in the Euro-zone, the recent social unrest seen in many parts of the world, the nuclear catastrophe at Fukushima in Japan, the increased public scrutiny of the oil industry

following last year's Macondo disaster, environmental-related issues, oil price volatility and increased speculator activity on the main commodity exchanges. As Michael O'Dwyer, Managing Director, Co-Head Oil and Gas Group, Morgan Stanley, summed up succinctly: "Today, uncertainty is the greatest certainty."

Nevertheless, any pessimistic tones about the uncertainties and challenges facing the industry appeared to be



outweighed by optimism for the industry's long-term outlook. There was clear recognition that the industry had a bright future; global demand is expected to increase, there are more than enough resources to meet this demand and satisfy consumer needs for decades to come, and the industry continues to innovate and expand its technology base. However, it was apparent that the path to that bright future would not be an easy one; there was much for stakeholders to take on board when looking at the new energy map.

The general positive tone was further underscored in the conference's acknowledgment of the achievements of two individuals. José Sergio Gabrielli, Chief Executive Officer (CEO) of Brazil's Petrobras, was named Petroleum Executive of the Year, with the award emphasizing that under his management the company had made discoveries that are likely to more than double reserves and

production and had become a leader in deepwater exploration and production technology. And in his fifth consecutive year as OPEC Secretary General, Abdalla Salem El-Badri was recognized for his outstanding achievement in running the OPEC Secretariat and in previously helping to build-up and lead Libya's oil industry.

### A shifting global economy

There was little doubt that most delegates saw the global economy as the main challenge for the industry in the near-term. Expanding deficits, ballooning sovereign debts, the need for fiscal consolidation were to the fore. Economists and oil analysts have gradually cut projections for oil demand for this year and 2012 as the extent of the economic slowdown, particularly in Europe and the US, has become clearer, although

*Above left: José Sergio Gabrielli (l), Chief Executive Officer (CEO) of Brazil's Petrobras, talks to Christophe de Margerie, Total Chairman and CEO.*

*Above: OPEC Secretary General, Abdalla Salem El-Badri (r), talks to moderator Nordine Ait-Laousine, President, Nalcosa.*

*Anon Sirisaengtaksin, President and CEO of Thailand's PTT Exploration.*



*HRH Prince Turki Al Faisal, Chairman of the King Faisal Centre for Research and Islamic Studies.*



*Photographs courtesy Oil & Money.*

many intangibles remain. In its October oil market report, OPEC revised down both its 2011 and 2012 forecast for world oil demand growth. These developments were highlighted by El-Badri who stressed that the economy offered a “mixed picture and we are struggling to have stable economic growth.”

In fact, for the OECD overall, 77 per cent of the conference’s participants who voted said the chances of another recession in the world’s developed economies of the OECD were high. (Organizers of the conference provided all delegates with hand-held voting devices and asked a series of questions throughout the conference.) As highlighted by many speakers, today it is emerging economies that are the main drivers behind current economic growth, although it was pointed out that they should not be viewed as immune from the worsening economic conditions in the OECD region.

This emerging economy trend is expected to continue, with many speakers emphasizing that this would be the basis for the future expansion of oil demand. Christophe de Margerie, Total Chairman and CEO, stressed that pessimism about energy demand is misplaced. “We are looking at things as Westerners,” he said. “In the East, they do not have the same feeling.” He added that demand will grow because some 1.5 billion people living in poor countries still do not have access to electricity, illustrating the potential for greater consumption.

This point was elaborated on by Anon Sirisaengtaksin, President and CEO of Thailand’s PTT Exploration, as well as by Petrobras’ Gabrielli. Sirisaengtaksin stressed that Asia is expected to have nine of the top 25 cities in terms of GDP by 2025 (the figure is two today) and that the continent had 2.5 billion people moving to the category he described as “middle class”. Asia’s growth, he said, would be the main driver behind global energy demand.

Gabrielli emphasized a different point, but perhaps one sometimes overlooked. He stated that in developing countries, oil demand growth is actually outstripping economic expansion. This new trend, he said, was driven by the transformation of income distribution in developing countries, which is enabling higher energy consumption. He cited the example of his home country Brazil, where gross domestic product grew by 7.3 per cent last year,

while total oil demand rose by 10.5 per cent and gasoline demand by 19 per cent.

## Supply, costs and investments

From the supply perspective, there were a number of references to the recent unrest in parts of the Middle East-North Africa region. In terms of the much-discussed supplies from Libya, however, there was a generally optimistic feeling about the country’s future. Speaking to journalists, El-Badri said that “there is not much damage to oil facilities. The NOC and oil companies are moving fast to come up with 1m b/d in six months and return to normal production in 15 months or less. Now Libya is on track and the market must be ready to receive the Libyan crude.”

El-Badri also pointed out that production capacity would also be increasing in other OPEC Member Countries in the coming years. He said that based on the latest upstream project list provided by Member Countries, there were 132 projects for the five-year period 2011–15. This could translate into an investment figure of close to \$300 billion should all projects be realized, he stated, but was keen to point out that it was important to continually monitor such issues as price developments and the global economy. He said that these investments should lead to comfortable levels of spare capacity.

The issue of spare capacity and investments was also raised by HRH Prince Turki Al Faisal, Chairman of the King Faisal Centre for Research and Islamic Studies. He stated that Saudi Arabia’s spare production capacity was the result of many years of investment in infrastructure, underlining the Kingdom’s commitment to stability and its consumers.

Looking to the longer term, El-Badri said that the outlook indicates that there is more than enough oil to meet demand well into the future. This was supported by Gabrielli who said that there were more than 100 years of reserves, in terms of conventional and non-conventional resources. However, he stressed, as the industry goes into new frontiers, new technology will be needed, leading to further increases in costs.

Gabrielli is certainly one who knows, given the technology and financing required for the development of

Petrobras' pre-salt plays. The company says it is looking to grow its workforce from 58,000 direct employees to 74,400 by 2015 as it aims to drill more than 1,000 offshore wells during the 2011–15 period. It aims to reach an oil production level in Brazil of 4.9m b/d in 2020, with 1.9m b/d from the pre-salt. While Gabrielli stated that the break-even cost for oil produced from its reserves was “below \$45/b, including capital costs”, the cost of the industry’s marginal barrel was deemed to be higher. De Margerie stated that he “does not believe it is possible to produce all oil at \$70/b”.

El-Badri also highlighted the issue of costs, when discussing factors affecting the oil price. He stated that upstream costs increased by around 130 per cent between 2004 and 2008, and although they fell slightly in 2009, they have risen again in 2010 and 2011. He added: “The cost of food, medicine, clothes and equipment — the cost of everything is really increasing. We said in the past that \$75–85/b was a reasonable price, but that was about three or four years ago. It is not really valid anymore because other costs are moving higher.” He stressed, however, that OPEC does not have a target price, emphasizing that prices in the Organization’s upcoming World Oil Outlook 2011 were only assumptions.

## Technology

Following on from Gabrielli’s first session comments on technology, the issue of technological innovation became a common theme of the event. Helge Lund, President and CEO of Statoil, spoke of the increased public scrutiny of operations, particularly post-Macondo, stressing that the best defense in a volatile environment is excellence, in terms of technology, operations and safety. In this regard, it was interesting to note that the offshore industry actually has an excellent safety record in terms of total recordable incident rate, when compared with other industries, such as construction, manufacturing and air transportation, said Ali Moshri, President, Chevron Africa and Latin America Exploration and Production Company. And technology was clearly at the centre of this excellence.

Reference was also made to possible developments in the Arctic, as well as subsea and ultra-deepwater

projects. Thierry Pilenko, Chairman and CEO of Technip, highlighted the increased complexity of seismic interpretation and reservoir monitoring, as well as the technology and scale required for projects such as the Pazflor subsea developments in Angola. At depths of between 600 m and 1,200 m, he said, Pazflor covered 600 sq km or “six times the area of Paris!”

In the gas industry too, alongside the developments in horizontal drilling and hydraulic fracturing that have seen a boom in the US shale gas industry, there was also specific reference to the development of liquefied natural gas (LNG) and floating LNG (FLNG). Pilenko underlined the complex technology required for the six mega LNG trains in Qatar, which when at their construction peak employed 70,000 people. And Malcolm Brinded, Executive Director for Upstream International, Royal Dutch Shell, called the development of the FLNG facility at the Prelude field off the coast of Western Australia a “groundbreaking innovation”.

## A bright future

While uncertainties and challenges abound for the industry, as one delegate stressed, they always have done throughout the industry’s history. There are risks, many more complex than before, associated with the new energy map, but also rewards. There were plenty of upbeat comments about the industry’s future with Lund stating that “fundamentally, we are operating in an attractive industry ... and there is plenty of room for all players in the oil and gas industry.”

This expansion, as well as the fact that the world is becoming increasingly interdependent, is bringing stakeholders ever-closer together. Relationships are deepening across the whole spectrum of the industry and many speakers emphasized the significance of company-to-company, government-to-government, as well as region-to-region and organization-based collaborations as essential elements of the path to a bright future. Following the presentations, debates and conversations at Oil & Money, it seemed like an apt takeaway for delegates as they departed to various corners of the world.

*Additional reporting by Sally Jones.*



## Oil stability needed more than ever as uncertainty clouds global energy map

*In connection with the 32<sup>nd</sup> Oil & Money Conference, in London, in October, OPEC Secretary General, **Abdalla Salem El-Badri**, who was in attendance, was asked by the event's long-time organizer, the International Herald Tribune, to write an article for the newspaper to coincide with the opening of the conference, which this year had as its theme 'Risk and the New Energy Map'. In the article, El-Badri points to the difficulty of reading such a map, due to the ongoing uncertainty surrounding the future path of the global economy and, hence, the wellbeing of international oil markets.*

Whether we consider economic or political factors, reading the new energy map of 2011 is difficult. Political instability in the oil exporting countries of the Middle East and North Africa (MENA) has led to changes in governments, new political actors and, in some cases, a temporary suspension of oil-producing and exporting activities.

This year's outlook has also been complicated by the tsunami in Japan and the ensuing Fukushima nuclear crisis. We do not know what will happen to the share of nuclear power in the global energy mix. But it is clear that its future expansion is now in question.

In contrast to all this, last year's energy map was rather uncomplicated. Towards the end of the year, energy markets were relatively tranquil, the energy mix was expanding, and the oil and gas industries faced promising scenarios.

This year, however, there is an entirely new world. Reading today's energy map thus requires great care — and the understanding that it could change unexpectedly.

Widespread instability across the MENA region has raised important questions about the long-term impact on upstream investments, oil and gas production, and hydrocarbon exports in the region.

If unrest continues, production and exports could continue to be affected. The temporary loss of Libya's crude oil production, for example, put significant pressure on world oil markets. But other OPEC Member Countries have been able to help stabilize the markets by increasing their production.

Responding to events like these, in order to ensure market balance, is precisely what OPEC continually strives to do. It is why OPEC remains committed to maintaining spare capacity: to provide ample supply levels during times of constraint.

There has also been a significant shift in the global economic environment. This has brought new risks for the energy industry, in general, and for oil, in particular.

Just a few months ago, at the time of OPEC's last Ministerial Meeting, the global economic outlook suggested growth, as well as an increase in oil demand and a modest rise in crude prices.

At the time, OPEC was thinking that the market would need 1.5 million barrels/day in extra production. But ongoing problems in the world's largest economies have required revisions to this outlook.

Despite generous stimulus packages, the recovery in the United States has not turned out as expected. Continuing unemployment — and the historic downgrading of America's debt rating — have posed significant challenges to policymakers.

And in the European Union, there is a sovereign debt crisis in some countries which now threatens the stability of the world's financial system.

All this has prompted OPEC to revise its forecasts for world economic growth. In its September *Monthly Oil Market Report*, expectations for global growth were



*OPEC Secretary General, Abdalla Salem El-Badri.*

revised down from 3.7 to 3.6 per cent in 2011, and from 4.0 to 3.9 per cent in 2012.

On the other hand, developing countries seem to be growing rapidly and steadily. In fact, OPEC sees the majority of global GDP growth in 2011 coming from developing countries.

China, in particular, continues to grow robustly, despite some manufacturing weakness. Recent OPEC figures put its GDP growth at nine per cent, or more, in 2011 and 8.5 per cent in 2012. This translates into a growing appetite for energy.

In fact, while the outlook for the global economy is uncertain, overall energy demand — and oil, in particular — is set to increase. OPEC sees global energy demand increasing by around 50 per cent from 2010 to 2035, even if significant energy efficiency gains are assumed. And in all this, fossil fuels will continue to play a central role.

Fossil fuels offer the best prospects for meeting the world's energy needs. They offer distinct advantages over alternative energies, due to the relative affordability of their projects and existing infrastructure. Over the next 20 years, they are seen as contributing more than 83 per cent to the global energy mix.

Additionally, even with oil's share seen as falling from 35 per cent to around 30 per cent of the global energy mix by 2030, trends suggest that its overall share will remain very strong.

The supply outlook also indicates that there is more than enough oil to meet demand well into the future. Estimates of original endowments suggest total world crude oil and natural gas liquid resources of around 3.5 trillion barrels. Of this, 1.4tr were in non-OPEC countries and 2.1tr in OPEC Member Countries.

Production in OPEC Member Countries is still strong, despite recent instability in some regions, and supply levels continue to provide significant forward cover.

Currently, more than 40 per cent of the world's crude oil production comes from OPEC Countries and there is still enough collective spare capacity to address market needs.

Of course, future supply depends on timely and well-planned investments in capacity expansion. Investments are central to ensuring future supply. In an industry characterized by long lead times and high capital costs, these investments depend on certain demand levels and predictability, what we call "security of demand".

The current outlook, however, does little to provide oil producers with much security. The uncertain impact on oil demand of new environmental policies and taxes in some countries have made many investment projects difficult. In addition, there is the rising cost of raw materials and the shortage of skilled manpower.

Another source of uncertainty is the future of United Nations Framework Convention on Climate Change (UNFCCC) negotiations. First, there was the lack of consensus in Copenhagen. Then, in Cancún, while some compromises were reached which restored trust in the negotiation process, there were no real breakthrough decisions on any key substantive matters. Now it remains to be seen whether any important decisions will come out of Durban later this year.

Despite these sources of uncertainty, between 2011 and 2015 OPEC Member Countries are expected to invest hundreds of billions of dollars in upstream projects to maintain current — and provide additional — spare capacity. They will also continue to invest in various downstream projects.

OPEC has always stressed that an important investment requirement is having an enabling and stable price environment, without extreme fluctuations. In the past few years, however, we have seen periods of record high and extremely low prices.

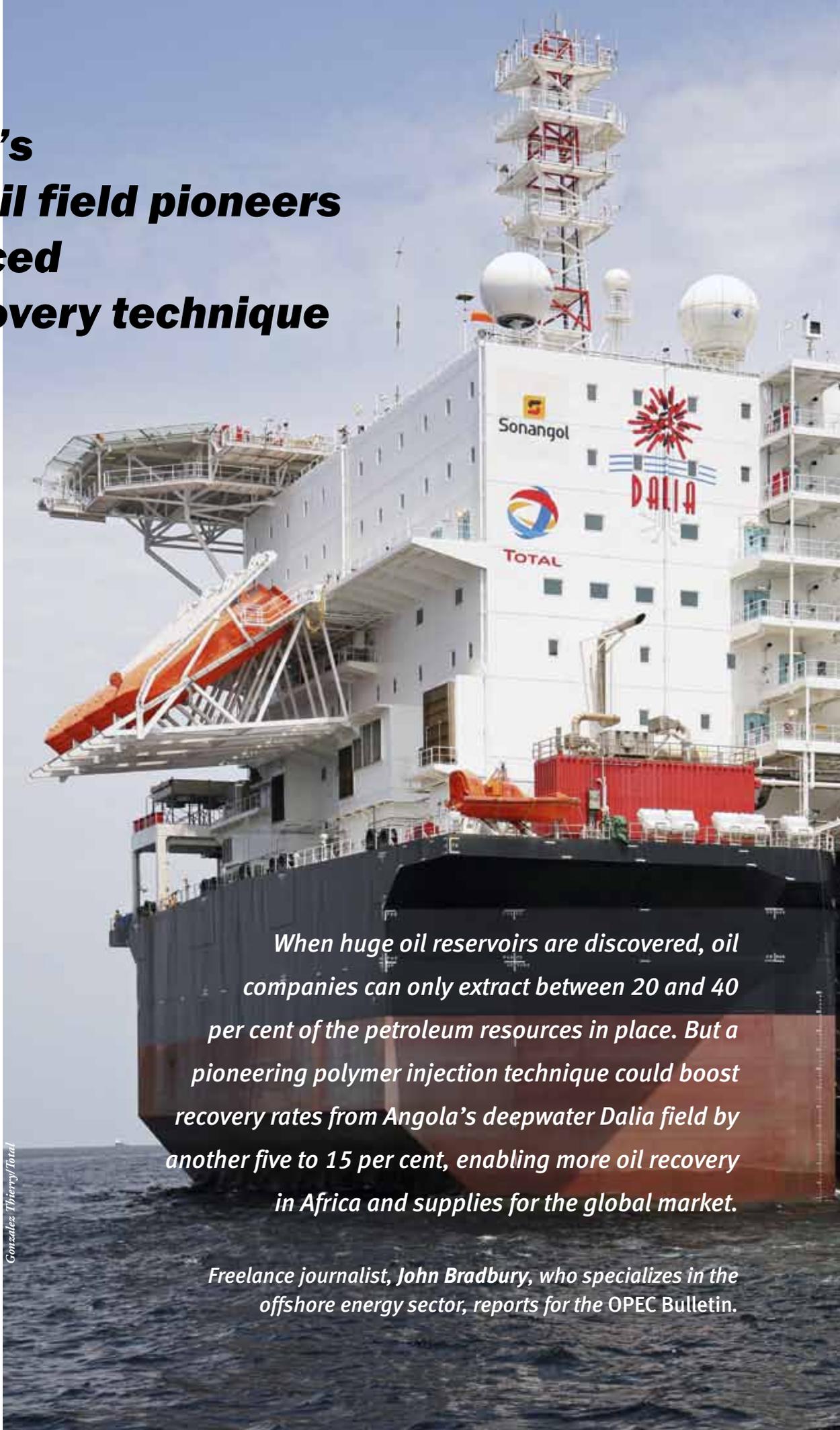
Extremely low crude prices result in declining revenues, which can force oil producers to cut budgets and scale back projects. Similarly, high prices can lead to a reduction in oil consumption, put future demand levels in doubt and threaten current investments in expanded supply.

This price volatility has served as a reminder that ensuring market balance and working to ensure security of demand, as well as of supply, is absolutely essential.

Without security of demand, OPEC Member Countries will have difficulty ensuring supply through collective actions. And in challenging, uncertain times like today, it is the actions of our Members — guided by a fundamental interest in balance — that are necessary.

In this way, despite what the energy map says, or the global outlook shows, we can be ready to act when necessary. 

## Angola's Dalia oil field pioneers enhanced oil recovery technique



*When huge oil reservoirs are discovered, oil companies can only extract between 20 and 40 per cent of the petroleum resources in place. But a pioneering polymer injection technique could boost recovery rates from Angola's deepwater Dalia field by another five to 15 per cent, enabling more oil recovery in Africa and supplies for the global market.*

*Freelance journalist, John Bradbury, who specializes in the offshore energy sector, reports for the OPEC Bulletin.*

Gonzalez Thierry/Total

In recent years, Brazil, Ghana and Uganda have emerged as some of the world's most exciting oil frontiers, boasting multi-billion barrels in oil discoveries.

However, despite this headline figure, the reality is that, often, much of the oil pinpointed is left behind once the field is brought onstream because of reservoir complexities and limitations in production technology.

But all this could change with a pioneering enhanced oil recovery (EOR) technique being used in Angola's deep-water Dalia oil field, which could become a benchmark in the industry.

French oil major, Total, together with the Angolan state oil firm, Sonangol, the concessionaire of the block 17/92 lease in question, and partners BP, Esso and Statoil, are injecting polymer into the field's Camelia reservoir, to boost oil recovery.

Beginning production in 2006, the consortium has spent over \$4 billion on Dalia, which lies 135 km offshore in water depths of between 1,200 and 1,500 metres.

Dalia's discovery in 1997 marked a significant step forward in the development of block 17, where 15 earlier discoveries have been made, such as the nearby Girassol, which started production in late 2001, and Jasmim, a Girassol satellite.

Some 71 wells, averaging 3,500 m in length, including 1,000 m of horizontal wells, have been, or will be, drilled by 2013, including 37 production wells, 31 water injection wells, and three gas injection wells.

Dalia holds an estimated 1bn b of oil and is producing 250,000 b/d through a floating, production, storage, and offloading (FPSO) vessel.

## Chemical injection

The partners in the venture want to improve Dalia's recovery by 5–15 per cent through the injection of polymer. A sample well was drilled early in the summer to assess the in-situ viscosity of the polymer to help decide on how the experiment might be extended.

Responses from different producer wells are not expected for two to three years, according to Total. By then, liquid production should exhibit an increasing trend in oil, and later on, a polymer breakthrough.

Danielle Morel, an EOR expert at Total's scientific and technical centre in Pau, south-western France, explained: "The idea of adding polymer is to thicken the viscosity of [injected] water, that is the idea to have a better sweep efficiency — the water/oil 'mobility ratio' is improved and the water will go everywhere in the reservoir."

This idea came after a feasibility study was carried out in 2003 to investigate the viability of polymer injection at Dalia and its potential benefits — three years before the field started producing.

Just one of the challenges of making this work is introducing the polymer to the mixture of sea water and produced water that is used for injection. This has been overcome by the qualification of an appropriate high molecular weight polymer and the installation of a special mixing unit on board the Dalia FPSO.

Another obstacle is the large spacing between injection and producer wells offshore, which are one km or more apart, whereas in typical onshore applications, the spacing between polymer injectors and producer wells would be about 400m.

"The polymer has to travel two to three times as far offshore," Morel pointed out.

## Logistics

Injecting polymer into offshore wells presents a logistical problem: "No polymer is available in Africa, so it has to be brought in from Europe, the United States, or China," informed Morel.

At present, the three wells injecting polymer into the Dalia reservoir are using between five and seven tonnes of polymer per day. This fact alone marks a new breakthrough for offshore oil technology as the "polymer injection has never been done before in the deep offshore sector, and secondly, we have started polymer injection very early on in the life of the field," Morel noted.

It is too early to tell what impact the polymer injection is having on the production profile within the Camelia reservoir and the field overall. Well samples should confirm the production response, after ensuring that the injected reservoir solution is consistent with what has been planned.

But if this programme is rolled out across the whole Dalia field — which is the long-term aim of the venture — that demand will surge to between 50 and 60 tonnes per day, raising the field's operational costs.

However, lessons are already being learned: Operational deployment is key, said Total. With the implementation of the project in Luanda, the Angolan capital, local operators are being trained in the technology by its specialists and progress is being monitored weekly between its headquarters and its local subsidiary, to provide the closest project control.

Right: An aerial view of the Dalia field's FPSO, offshore Angola.



Below: The Girassol development at Dalia, which began production in 2001.



Oyvind Hagen/Statoil

“We are clearly still in the ‘learning-curve’ phase for this world first deep offshore,” the operator added.

### Polymer’s uses

The polymer itself is a hydrolised polyacrylamide (HPAAM), which is widely used to treat drinkable water. In polymer chemistry, it is described as a random coil: think of it as microscopic spaghetti, which changes its configuration depending on the salinity — salt content — of the water with which it comes into contact.

In low salinity, it becomes fully stretched, but in high saline concentrations — as is the case at Dalia with 25 to 50 grammes per litre — it rolls into microscopic balls.

Selecting a high molecular weight HPAAM maintains a certain level of stretching to the molecule and therefore of the viscosity of the water.

Polymer injection at Dalia started in January 2009, far earlier than would normally be considered, which would be between ten and 15 years after the start of production at the field.

Morel said that this was to get the maximum benefit from the technology. “You can get more oil from the field and accelerate production at the same time. It is much better if you start early because you will reduce the amount of water produced with the oil and that is really beneficial from a sustainable development point of view — you will produce much less water.”



Gonzalez Thierry/Total

Once mixed with injection water, the polymer acts as a thickening agent: its long molecule chains unfurl, increasing the viscosity of the injected water to a level similar to the viscosity of the oil in the reservoir.

Dalia's oil has a specific gravity of around 22° API and if this project goes into full field production, Total hopes it can recover around eight per cent of the field's incremental oil — at a cost of perhaps \$8–10 per incremental barrel.

### Total's EOR investment

Worldwide, Total has invested a huge effort in extended oil recovery techniques, using a variety of EOR technologies,

from air to carbon dioxide (CO<sub>2</sub>), steam, and polymer injection, and to the application of surfactants and water alternating with gas.

Water flooding, however, still remains the most widely used recovery technique, and it dates back to the nineteenth century.

Water flooding alone can provide up to 70-80 per cent oil recovery in laboratory conditions, but in the real world of oil reservoirs, the recovery factor plummets, often to just 32 per cent — meaning that two-thirds of the discovered oil is left behind.

“Although recovery factors in water flooding can be as high as 40–50 per cent for light oil, the figure drops to a mere ten per cent when oil viscosity is in the hundred centipoises range,” Total pointed out in its EOR *Orbis* magazine.

### Recovery forms

Generally, there are three forms of recovery: primary, secondary and tertiary, with primary recovery referring to the use only of the existing energy — pressure — in the field to allow fluids recovery. Water flooding is regarded as a secondary recovery tool, and then comes tertiary — third level techniques, such as polymer injection, as well as CO<sub>2</sub>.

Primary recovery relies on reservoir pressure and potential aquifer support alone to produce oil; secondary recovery is where fluids are injected to maintain the pressure and push oil to the producers' well. For tertiary recovery, the injected fluids will, in addition, interact with the reservoir oil, or rock, to increase the recovery factor.

“At Dalia, we use injection of water to push oil from the injectors to production wells,” explained Morel. Gas is also injected back into the Dalia reservoir, to provide an additional drive mechanism, forcing oil towards production wells.

If successful, the same technique could conceivably be applied to all viscous or heavy oil fields across West Africa, from Total's own Miocene oils B17 development, to many others.

“All the viscous oil from Angola could benefit from chemical enhanced oil recovery,” maintained Morel. “And many of the large viscous oil fields in Congo and Nigeria, and the North Sea viscous oil fields are also under evaluation,” he stated.

By the end of January this year, cumulative oil production from Dalia was about ten per cent of the base case oil in place, and 33 per cent of the water flood base case. The full field polymer project could recover eight per cent of incremental oil, depending on the start and duration of the project.

With viscous oil, unconsolidated reservoirs and complex geological structures, the polymer injection technique being utilized at Dalia demonstrates that innovation is evolving in Africa — at one of the world's largest deepwater projects.



# Africa seeking to build oil wealth with local content

*Africa's oil producers are now generating billions of dollars in oil revenues. But how will their citizens benefit in terms of skills, businesses, and opportunities? Oil companies are keen to award contracts to local businesses and recruit nationals, but they are struggling with a shortage of skills and unrealistic local content targets set by governments. In this article for the OPEC Bulletin, Nigerian journalist, **Clara Nwachukwu**, reflects upon the track records of her own country, as well as Angola and Ghana, in building local content capacity.*

**T**he oil industry is characterized by large-scale, capital intensive, high-risk investments, requiring specialist skills and sophisticated technology.

For many developing nations, in discovering these huge resources, they are often ill-equipped to carry out production on their own and keep the benefits in-country.

This has resulted in contracts being awarded to foreign companies building equipment in other countries and effectively transferring wealth.

Foreign experts have also dominated the oil industries in host countries, much to the frustration of indigenes, who are often suffering from high unemployment rates.

Gabon, for example, tried to reverse this trend under demanding labour regulations in 2010, which limited the number of foreign workers to ten per cent or less of the total sector workforce.

This has caused problems with international oil companies (IOCs), who have complained that this is unrealistic considering the time needed to train up local people and give them sufficient experience to take senior positions.

Enacting local content policy is fraught with other political considerations — winning elections and curbing civil unrest — but leaders also tow a tight line with IOCs, whom they need to deliver the investment in their countries.

Consequently, Gabon's President, Ali Ben Bongo, found himself caught between satisfying labour unions and compromising with the IOCs to moderate some of the commercial and economic risks of indigenization, such as granting citizenship to foreign executives, according to Rolake Akinola, founding director at Vox Africa, a London-based political and business risk consultancy firm.

Despite all its apparent benefits, oil has been seen as being unable to lift Africans out of poverty considering

the disappointing attitudes of the multinationals, which argue that this is the role of government, and the geopolitical agendas of Europe, America and Asia, interested in sustaining their energy security.

Under increasing international and domestic pressure, African governments are determined to change this through implementing local content policies, which utilize human and material resources and services to add value to the economy.

They are working with nations like Norway, which has decades of experience, in drafting local content policies, in the hope of using oil discoveries to progress towards full economic diversification.

Norway boosted its own local content by awarding contracts to local bidders when they were competitive in terms of price, quality, delivery times and services. This established an indigenous oil industry through cooperation with IOCs.

From Nigeria to Angola, or Ghana to Algeria, the story is the same: every foreign oil company is now expected to have plans on “developing local economies, stimulating industrial development, increasing local capability, building a skilled workforce, and creating a competitive supplier base,” according to an Accenture report.

For host countries and oil companies, local content is the way to solidify a two-way relationship whereby bringing social and economic benefits, oil companies promote their long-term presence.

### Nigeria struggles to progress local content

Nigeria began commercial oil production in 1957, but the Nigerian Oil and Gas Industry Content Act was only signed into law on April 22, 2010, by President Goodluck Jonathan.

IOCs dominate the industry with an 80 per cent share and they outsource about 70 per cent of their operations to multinational service companies.

The Content Act will reverse this trend by ensuring that Nigerian operators and service companies are given first consideration in oil projects and contracts.

The move aims to generate about 300,000 jobs over the next five years and retain \$10 billion out of \$20bn average annual industry expenditure through retaining contracts in Nigeria, rather than going overseas.

The Nigerian Content Development and Monitoring Board (NCDMB), carved out from the state-owned Nigerian National Petroleum Corporation (NNPC), sets the basis for measuring and ensuring local participation and jobs.



Nigeria's President, Goodluck Jonathan.

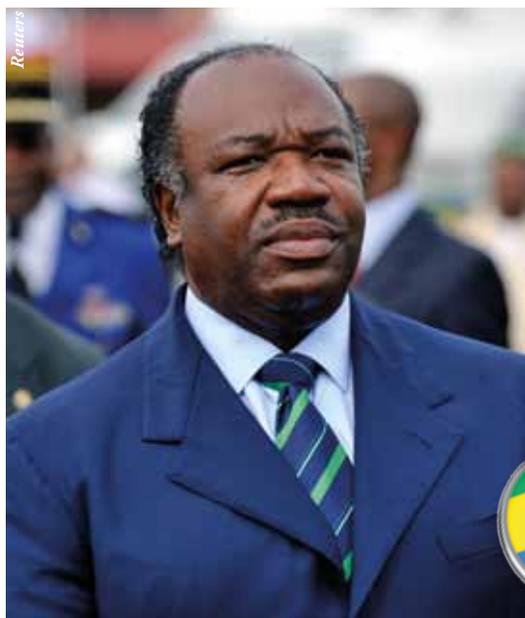


Failure to comply with the legislation could mean a fine equivalent to five per cent of the sum of each project, or its cancellation.

Unfortunately, Nigeria has not met its ambitious targets of 40 per cent local content by 2007 and 70 per cent by 2010.

According to local operators, as admirable as the Act's objectives are, they are proving difficult to implement.

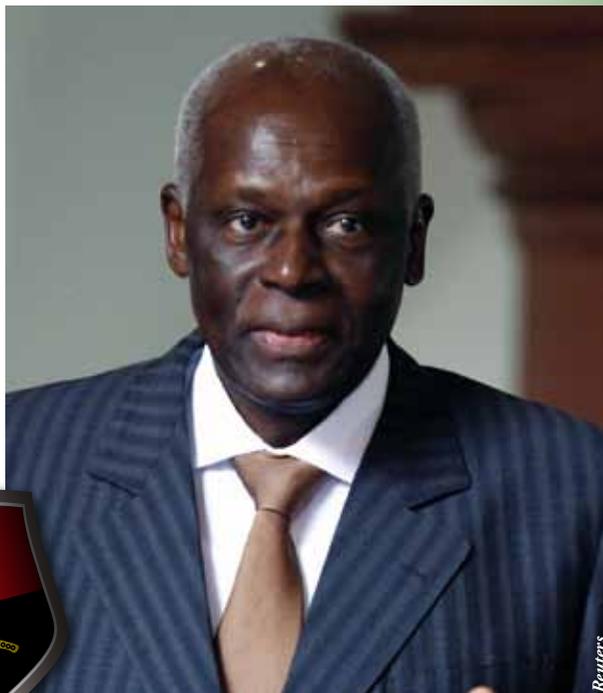
Pekun Oyeleke, in charge of content development at ExxonMobil Nigeria, identifies access to funds as a major challenge, even though the Nigerian government set up a \$1bn fund to support local contractors, as part of efforts to improve content development in the industry.



Gabon's President, Ali Ben Bongo.



Angola's President,  
José Eduardo dos  
Santos.



Other challenges Oyeleke identified are inadequate human capacity, poor energy supplies, and the scarcity of basic infrastructure.

Another element of uncertainty for operators is whether the Content Act should be passed separately, or be joined with the Petroleum Industry Bill (PIB), which will radically alter the structure of Nigeria's oil industry by breaking up the NNPC into separate entities and increasing the government's share of taxes.

But while the PIB remains under debate, individual companies have set up Nigerian content units to demonstrate their level of compliance with the Content Act in terms of man-hours contribution, domiciliation of equipment fabrications, and raw material sourcing.

Separately, companies publish their contributions to Nigerian content development.

Local contractors, however, are more afraid of the growing trend where multinational oil companies allegedly set up their own local companies to take up their own contracts, thereby defeating one of the major objectives of the content law in building local capacity.

Diezani Alison-Madueke, Nigeria's Minister of Petroleum Resources, has stressed that the legislation would "help balance the interest of the investors and the country's national interest in the oil and gas industry."

Critics have argued that the Content Act would indigenize the investment interests of foreigners, a claim that the Minister refutes.

To tackle the issue of access to funds for local contractors, Shell in Nigeria inaugurated the Shell Kobo Fund in June this year, in collaboration with three major local banks — First Bank, UBA and Zenith Bank.

The banks promised to "relax collateral requirements, reduce processing time and lower interest rates to enable community contractors establish a competitive advantage."

Muti Sunmonu, Shell Country Chair, expressed the hope that this would "reduce the funding challenges of our small contractors to a great extent."

## Angola positions itself as services supplier

Angola, which is still recovering from 27 years of civil war, is making progress, but still has many economic problems to surmount. Unlike Nigeria, where oil contributes only 30 per cent of the nation's GDP, Angola's accounts for roughly 85 per cent.

Given the development and growth of the Angolan petroleum industry, the Ministry of Petroleum, in 2003, issued an Order to ensure that national companies secured contracts for goods and services in the oil sector.

The Order stipulates that oil firms should hold competitive tenders for goods and support services. Those services and supplies of goods that do not require substantial investment, or expertise (eg catering, gardening, cleaning, transportation or water supply) are reserved for Angolan companies: that is, companies in which 51 per cent of the share capital is held by Angolan nationals. Domestic contractors may subcontract foreign companies to perform the contract.

Under the Order, Angolan companies benefit from preferential treatment in competitive tenders for services and goods.

The country's banking sector has also benefitted from its 'Angolanization' policy because operators must use domestic financial institutions for any deals.

Utilizing local businesses, Angola is emerging as a manufacturing and fabrication base for after-sales service and support for oil operations.

In 2002, different players in the oil industry formed the \$30 million Projecto de Desenvolvimento da Participação Nacional local content scheme. This supports and trains local companies to increase their productivity and quality and make them more capable of working with, and reaping the benefits of, the oil industry.

Last year, the local content target was that 90 per cent of staff in oil companies must be Angolans — up from 70 per cent — but the number of Angolans would differ from one employee grade to another.

United Kingdom-based political risk consultancy, Menas Associates, identifies the lack of skilled labour



Ghana's Civil Society Platform on Oil and Gas fears that "if the government does not develop a dedicated law to implement the local content policy (like in Nigeria), it may be abused and disregarded by oil companies."

Ghana started its local content process in 2008, compelling all stakeholders to consider local content as an important element in their project development and execution.

The government wants to see 90 per cent local content by 2020, a target which has been criticized as being unrealistic considering there are few

Ghanaians with the technical skills and experience.

The country's Deputy Energy Minister, Inusah Fuseini, has rejected this, stating that across the value chain, it is possible to reach the target.

"We are training people — because this is a critical natural resource of Ghana — to take over the control and management of those areas because we believe that if we have the requisite skill and manpower taking care of these areas — assuming they are patriotic enough — we should be able to utilize the resource for our own good."

With their country being a new oil producer, Ghanaians are anxious to benefit from the wealth this will bring and the government is determined not to fall to the "resources curse" as experienced by some other countries.

Ghana's policy compels that Ghanaian independent operators are first considered in the award of oil blocks, oil field licences, oil lifting licences, and other projects.

Further, all operators should strive to use goods and services produced by, or provided, in Ghana and prioritize those that are competitive in terms of price, quality, and timely availability.

Tullow Oil, which is producing oil from the Jubilee field, has established a 60-strong supply chain management team in Ghana to develop Ghanaian suppliers for contract pre-qualification status.

It has a mentoring scheme, whereby expatriate roles in its supply chain management department are shadowed by a Ghanaian national, so that next year the department will be nationalized.

Companies such as Conship, a leading Ghanaian logistics company, has seen business blossom from local content. It has supported Tullow Oil's imports and exports for the Jubilee project.

MacDonald Vasnani, Chief Executive Officer of the company, said it had acquired expertise and technology from Tullow and that its compliance with the Foreign Corrupt Practices Act meant it now adhered to international standards. ■■

*Above: Ghana's President, John Atta Mills, turns on the valve to allow the first barrel of crude to flow from the Jubilee offshore oil field.*

and technical capacity as the most significant impediment to Angola's local content policy.

In 2003, it was estimated that only 15 per cent of the population were employed in industry and services. Poor services, high crime rates, and a lack of amenities are additional hurdles which leave expatriate staff reluctant to stay in the country without substantial financial incentives.

So, what are the implications of this legislation? Foreign service companies working in Angola are required to partner with their local counterparts so that they can benefit from skills transfers and access to capital.

Foreign oil firms could also be exposed to higher prices considering that there is no competition between local and foreign contractors for certain services.

## **Ghana faces criticism of ambitious local content targets**

Ghana's commercial oil and gas discoveries in 2007 have positioned it with the opportunity to reduce oil imports, increase the country's export earnings and develop its gas-based industries.

Ghana's Petroleum (Exploration and Production) Law (PNDCL84) defines local content policy to cover four areas — training and employment, local goods and services, technology transfer to the state owned Ghana National Petroleum Corporation (GNPC), and GNPC's rights over acreages. But the law has not been implemented and a new draft policy on local content targets at least 90 per cent content on a per project basis.



## Fuel-efficient cars still consumers' choice as electric vehicles come up short

With uncertainty clouding the future direction of the global energy sector, the same could be said of the electric automobile industry.

A new study on consumer adoption of electric vehicles by Deloitte Touche Tohmatsu Limited's Global Manufacturing Industry Group maintains that the current situation with such vehicles presented a daunting challenge for both policymakers and automotive manufacturers seeking to encourage their adoption.

Craig Giffi, Vice Chairman, Automotive Practice leader, Deloitte US, who was involved in making the survey, was quoted as saying that the technology available for electric vehicles today was simply not in tune with the expectations of the consumer and demand for such vehicles.

He explained that consumers were fairly open to the use of electric vehicles, and there was some excitement about them, but unfortunately the technology may simply not be able "to advance fast enough", to meet any serious demand.

### Variety of questions

The online survey, conducted between November 2010 and May 2011, sought the views of some 13,500 consumers across the Americas, Asia and Europe in 17 countries. In addition to inquiring into the willingness and intent to purchase electric vehicles, it asked respondents a variety of questions related to the vehicle's major selling points, including price, range, and charge time.

Giffi said that in looking at some of the elements of dissatisfaction, although around 80 per cent of those surveyed said they drove less than an average of 80 km/day, most drivers in industrialized countries said they would only be satisfied with a range of at least 480 km per battery charge.

"Current battery capacity is nowhere near that number," Giffi stated, adding that manufacturers would have to bring efficiency up by another 300 per cent to come even close to these expectations.

### Out of reach financially

He pointed out that battery developers were hoping to introduce improved technology, but the reality was that any current improvement would unlikely be more than 20–50 per cent.

Then there was the cost. The study pointed to the fact that for mainstream consumers, the electric vehicle was still far beyond their reach financially.

It disclosed that potential first movers to electric vehicles around the world tended to be urban-dwellers, highly educated middle to upper class individuals (men more than women) that considered themselves "environmentally conscious, tech savvy, trendsetting, and politically active", for which an electric vehicle could be "cool" and stylish.

Giffi said that with this in mind, the fact was that without heavy government investment and conducive regulations, electric vehicles would simply stall in the market.

"You are asking consumers to pay more for a technology that will give them less convenience," he affirmed.

Giffi added that with new environmental standards forcing the manufacturers of conventional internal combustion engine (ICE) vehicles to increase fuel efficiency, these cars were capable of driving for much longer distances on less fuel.

These developments, he said, had only acted to make electric vehicles look an even worse proposition for consumers choosing their vehicles in a very competitive marketplace.

“The dilemma for both policymakers and manufacturers is how much do they invest, where do they invest it and what geography do they invest it in,” Giffi said. “There is enough uncertainty in that to keep it a guessing game for quite a long time,” he maintained.

Of the countries surveyed, China and India led the world with those considering themselves potential first movers at 50 per cent and 59 per cent, respectively.

However, this was in dramatic contrast to the potential first movers in Japan (four per cent), France (five per cent), Belgium (seven per cent) and Germany (nine per cent). Japan had the majority of respondents (52 per cent) who indicated they were not likely to consider an electric vehicle.

Europe, said the report, seemed divided, with more reluctance to consider an electric vehicle in Belgium, France, Germany, and the United Kingdom and greater receptivity in Spain, Italy and Turkey.

The US and Canada had very similar profiles with a near split between those willing to consider and potential first movers, versus those not likely to consider an electric vehicle.

Respondents in Brazil and Argentina were much more interested in electric vehicles than their counterparts in North America, while Australia’s respondents tended to look very similar to those in North America.

Finally, the Republic of Korea and Taiwan had profiles similar to those of the respondents in southern Europe.

In its conclusions, the study emphasized that the reality was that when consumers’ actual expectations for range, charge time, and purchase price for an electric vehicle were compared with the actual market offerings available today — in every country around the world included in the study — no more than 2–4 per cent of the population in any country would have their expectations met today.

“It is clear from the survey that consumers’ expectations for electric vehicles are much higher than anything manufacturers can deliver today,” it said.

“This presents a daunting challenge for both policymakers and automotive manufacturers should they like to encourage electric vehicle adoption,” it added.

The study said that consumers already interested in electric vehicles were just as likely to abandon their interest if the fuel efficiency of conventional vehicles continued to improve. The latter were the most affordable and promising alternative for most consumers today.

“In fact, dramatic improvements in ICE efficiency would likely reduce electric vehicle interest to

an afterthought for most consumers, based on their responses to the survey.

“When asked how much better ICEs had to improve to cause consumers to lose interest in electric vehicles, surprisingly, the level of improvement seems to be within striking range for most global automotive companies today,” observed the study.

## Improved fuel efficiency

“Further, a similar level of improvement is being mandated in the future by countries with clearly defined and binding fuel economy standards. Even for the majority of the environmentally conscious consumers who participated in the survey, significantly improved fuel efficiency for ICEs trumped their interest in electric vehicles. For these consumers, they have found their best alternative — a more fuel efficient ICE.”

Looking ahead, the study said that government policy would continue to play perhaps the most significant role in the adoption of electric vehicles.

“Government policies can and do come in all shapes and forms. Energy policies impacting the generation and distribution of electricity, as well as regulations concerning electric utility investment recovery and infrastructure build-out, will play a key role.

“Likewise, government policies directly impacting consumers in terms of incentives for the adoption of electric vehicles and potential penalties for the continued use of ICEs could have a dramatic effect,” said the study.

In the end, however, the study suggested that only a small niche of today’s consumers would find current technology acceptable, and that small fraction of consumers would not result in the mass adoption of pure electric vehicle technology over the next decade.

The study said that in looking out over a ten-year horizon, it seemed much more likely that a broad array of alternatives to the pure ICE and the pure electric vehicle would continue to make incursions on the overall automobile market.

Ultimately, which technology enjoys the most success would depend on ever-changing consumer expectations and preferences, coupled with effective government policies.

Meanwhile, said the study, automotive manufacturers would continue to develop their technologies with the aim of winning consumers around the world with whatever technology mix gave them the best advantage in the global marketplace. 

# Iraq's crude oil production set to reach eight-year high in 2011



*Iraq's Oil Minister, Abdul-Kareem Luaibi Bahedh.*

Iraq's crude oil production is this year set to reach its highest level since 2003.

According to the country's Oil Ministry, domestic output, which has been steadily recovering in line with Iraq's reconstruction efforts and an improving security situation, is forecast to hit three million barrels/day by the end of 2011, compared with current production of 2.9m b/d.

## Full steam ahead

Ministry spokesman, Asim Jihad, stated that the OPEC Member Country's crude oil exports were slated to amount to 2.5m b/d at the start of 2012.

"Iraq is moving full steam ahead to increase exports to 2.5m b/d at the start of next year. Today, Iraq is producing at a level of 2.9m b/d," the Reuters News Agency quoted him as saying.

Iraq's oil exports in September were put at 2.1m b/d. Volumes are expected to rise as a first floating terminal

begins operations on January 1, 2012. The country has a total of three such terminals planned, which will support its growing export programme from oil fields in the south of the country.

In reaching a succession of deals with international partners, Iraq initially announced plans to boost its crude oil output capacity to around 12m b/d by 2017.

However, the country's Oil Minister, Abdul-Kareem Luaibi Bahedh, has since conceded that a new target of up to 8.5m b/d was more realistic, with the completion date extended to 13 or 14 years.

He was quoted as saying that the Iraqi government was studying reports and would make a decision by next year on the targeted capacity figure. It would then speak to the companies already signed up to the development programme to revise plans, if necessary.

## More reasonable target

In September, the need to lower the targeted figure was endorsed by the head of the country's Oil and Energy Committee, Adnan Al-Janabi, who maintained that a more reasonable target was around 5m b/d.

"I think we need to revise our future targets of production. I think it will be reasonable to have a production of 5m b/d until starting quota discussions with OPEC," he was quoted as saying by Reuters.

Iraq does not have a production quota within the overall OPEC output ceiling. Officials have said that, due to the country's need for revenues during its reconstruction phase, the quota issue would not become a consideration and discussed by the Organization until the country reached an output capacity of around 4m b/d.

Meanwhile, the country's oil production plans have been boosted with the news that output at the giant Rumaila South oil field has recovered to 460,000 b/d after pipeline attacks. Officials said that normal production of 650,000 b/d was expected to resume very quickly.

The Rumaila North field has normal production of around 540,000 b/d. The Rumaila fields have estimated reserves of around 17 billion barrels and produce the bulk of Iraq's total output.



# Saudi Aramco aiming to become biggest integrated energy firm

Saudi Aramco's current development programme will turn the integrated company into the world's largest refiner of petroleum, according to its President and Chief Executive Officer, Khalid A Al-Falih (pictured right).

"Others are reducing their exposure, but we see it (refining) as an area of growth," he was quoted as saying, adding that Saudi Aramco planned to increase its overall refining capacity to more than five million barrels/day.

Speaking at a petrochemicals signing ceremony in Dhahran, Al-Falih noted that the company was in the process of boosting its refining and petrochemicals operations and was ultimately aiming to acquire the mantle as the world's biggest integrated energy concern.

At the ceremony for the provision of the Sadara petrochemicals complex, situated in the east of the Kingdom, he commented that investing in such advanced multi-billion dollar projects as Sadara was in line with Saudi Aramco's aim to be the world's leading integrated energy company by 2020.

Sadara, a 50–50 joint venture between Saudi Aramco and Dow Chemical of the United States, comprises plans to construct 26 manufacturing units that, according to Dow Chemical Chairman Andrew Liveris, made it "arguably the most ambitious petrochemical project ever undertaken."

Al-Falih stated that a good contracting market should keep capital costs for Sadara under \$20 billion. Sadara would use ethane as feedstock for around one-third of its chemicals output.

South Korean firms have already signed up for three of the project's 12–14 engineering, procurement and construction packages. More will be put out to tender soon, with awards set to be made in the second quarter of next year.

Earlier this year, Saudi Aramco, under Al-Falih, embarked on its five-year \$125bn development programme to enhance its diversification from primarily an upstream operator to one also heavily involved in downstream activities as well.

Al-Falih, who, when appointed to his current position in January 2009 brought 30 years of experience at Saudi Aramco with him, said that, at the moment, the company's operating portfolio was unbalanced.



"We need to bring some balance to our portfolio. What remains is the petrochemicals. We want to leverage our refineries, we want to make them more profitable," he was quoted as saying.

Al-Falih disclosed that by the middle of the decade, Saudi Aramco would hike its production of petrochemicals to eight million tons a year.

Sadara, he stated, would account for 3m t annually by 2016, adding that he hoped the complex would expand.

The company's other significant chemicals investment, the Petro-Rabigh plant, was already producing 2.4m t annually, while a second-phase expansion would provide another 2.6m t a year by 2015.

Meanwhile, Prince Saud bin Thunayan Al-Saud, Chairman of the Royal Commission of Jubail and Yanbu, forecast that the Kingdom would account for ten per cent of the world's petrochemicals by 2015, compared with eight per cent now.

Increases in output would come from the Sadara, Kayan, and Jubail operations, he said. ❖❖

# UAE, Saudi Arabia seeing the future power of solar

Dubai Emirate is aiming to produce five per cent of its domestic electricity from renewable sources in the next two decades, with solar spearheading the push.

“Soon we will have a very big solar project in Dubai. We have identified the place and we are trying to find a date to announce it,” commented Saeed Mohammed Al-Tayer, Vice Chairman of Dubai’s Supreme Council of Energy and Chief Executive Officer of the Dubai Electricity and Water Authority (DEWA).

Addressing a press conference, he stressed that, in line with Dubai’s energy strategy, the aim was to have five per cent of renewables in the domestic electricity supply mix by 2030. This was mainly going to be solar.

According to the Emirate’s Integrated Energy Strategy for 2030, energy imports and carbon dioxide emissions would be reduced by 30 per cent, while solar power and nuclear power, to be imported from Abu Dhabi, would lead to a reduction in the use of domestic gas, currently used for power generation.

Al-Tayer said that by 2030, Dubai aimed to generate 71 per cent of its electricity from gas, 12 per cent from coal, another 12 per cent from nuclear and five per cent from renewables.

Nejib Zaafrani, Secretary General and Chief Executive Officer of the Dubai Supreme Energy Council, was quoted as saying that investments totaling many billions of dollars were expected to be made to

attain Dubai’s goals pertaining to the use of renewables in the future.

The United Arab Emirates (UAE) hopes to start its first nuclear power plant in 2017. Eventually, the OPEC Member Country is looking to cover 25 per cent of its power requirements with the nuclear option.

Solar power is also being seriously looked at in fellow OPEC Member, Saudi Arabia, with Saudi Aramco’s Chief Executive Officer, Khalid A Al-Falih, announcing that his company was looking to start the production of solar cells in two to three years’ time.

He was quoted by Japan’s *Nikkei* business daily as saying that output would come from a joint venture between his company and Japanese thin-film solar cell manufacturer, Showa Shell Sekiyu.

In an interview, Al-Falih said that the Kingdom was looking at ways of bringing about industrial diversification and introducing Showa Shell’s technology into Saudi Arabia would be a big contribution in this regard.

Saudi Arabia, like other oil producers in the Gulf region, is looking to reduce its dependence on fossil fuels for domestic use, looking instead at nuclear and renewables.

Two years ago, Saudi Aramco and Showa Shell signed an accord to build small-scale pilot solar facilities in the Kingdom. This year, the two sides launched a 500 kilowatt solar power plant in Saudi Arabia.

Showa Shell is one-third owned by Royal Dutch Shell with a 15 per cent share held by Saudi Aramco.



# Venezuela's Junin 6 looking good for early 50,000 b/d production



Venezuela's Junin 6 oil block, one of the most advanced new schemes in the OPEC Member Country's giant Orinoco crude oil belt, could see production hitting 50,000 barrels/day next year.

The exploitation of the block, a joint venture between Venezuela's national oil company, Petroleos de Venezuela SA (PDVSA), and a Russian consortium, is part of a comprehensive programme to develop Venezuela's extra-heavy oil resources and thus boost the overall output capacity of the country.

## Ahead of schedule

According to the initial projections of PDVSA, first production at Junin 6 was to start in May 2012 at a modest level of around 2,000 b/d. This was set to expand to 13,000 b/d the following year.

However, development work at the field has been progressing so well that the latest forecast is for 50,000 b/d to be attained at the well in 2012.

This was disclosed during a visit to the field by Venezuela's Energy and Petroleum Minister, Rafael Ramirez (*pictured left*), along with Russian Energy Minister and Deputy Prime Minister, Igor Sechin.

Ramirez was quoted as saying that around \$525 million would be invested in the first phase at Junin 6. An upgrader for the scheme should be in operation by 2016.

Venezuela, with the help of several foreign oil firms and investment of around \$80 billion, is looking to boost its oil output capability by over 2m b/d through such projects in the Orinoco region.

The crude oil in the Orinoco Belt is tar-like and needs to be converted into lighter oil. This requires some considerable investment for the necessary upgrader facilities.

The Russian consortium, which has a 40 per cent interest in Junin 6, comprises TNK-BP, Rosneft, Gazprom, Surgutneftegaz and Lukoil.

Meanwhile, Ramirez has reiterated that his country planned to raise its production capability to 4m b/d by 2014.

Speaking at a conference with various multinational energy firms, he said Venezuela was looking to diversify its oil shipments away from its more traditional customers to the fast-growing economies in Asia.

The Minister, who listed such countries as China, Japan and India, was quoted as saying that in the first eight months of this year, Venezuela's exports to Asia amounted to an average of 618,000 b/d. This was 139,000 b/d more than in 2002.

China alone had benefited from 460,000 b/d of Venezuela's crude oil in the period, he added.

Ramirez noted that Venezuelan President, Hugo Chávez, had pledged to raise his country's oil exports to China to 1m b/d by 2014, in a bid to develop its economic and political ties with the Asian powerhouse. ■■

# Providing modern energy to billions who lack it is achievable — IEA



Reuters

Maria van der Hoeven, IEA's Executive Director.

Giving modern energy to the billions in the world who lack it is an achievable goal if funding increases to more than five times current levels and is matched by faster reforms, according to the International Energy Agency (IEA).

A report by the Paris-based OECD energy watchdog stresses that energy poverty is an unacceptable blight and one that will not disappear, unless strong, coordinated actions are taken on a global scale.

But it maintains that universal access to modern energy by 2030 is an achievable goal, as long as there are those willing to help pay for it.

“Eradicating energy poverty is a moral imperative, and this report shows that it is achievable. Now it is just a question of mustering the political will,” the IEA’s Executive Director, Maria van der Hoeven, was quoted as saying as she launched the report.

“In too many countries today, children cannot do their homework because they have no light. Food cannot be kept because there is no electricity. In short, modern society cannot function.

“The United Nations has declared 2012 the ‘International Year of Sustainable Energy for All’, and this is an excellent opportunity for us to agree on rapid collective action to address this unacceptable problem,” she affirmed.

The IEA report, *Energy for all: financing access for the poor*, is an early excerpt of the World Energy Outlook for 2011.

Ms Van der Hoeven and the IEA’s Chief Economist, Fatih Birol, launched the report at a special ‘Energy for All’ conference, organized by the Norwegian government and the IEA to explore financing solutions and policies for increased energy access.

The report contains some disturbing findings, including the fact that over 1.3 billion people — around 20 per cent of the global population — lack access to electricity, while 2.7bn, around 40 per cent of the population, are without clean cooking facilities.

It observes that more than 95 per cent of the people affected are either in sub-Saharan Africa, or developing Asia.

Modern energy access, it states, would fundamentally improve their lives by improving education, achieving gender equality, attaining environmental sustainability, preventing premature deaths from respiratory diseases, and accelerating global economic growth and prosperity.

The report says that investment of \$48bn per year is needed to provide universal energy access to the billions of the world’s poor who lack it by 2030.

While this is more than five times the current level of investment to expand energy access, it only represents around three per cent of projected global energy investment, it observes.

The report points out that there is not necessarily any tension between achieving universal energy access, climate sustainability and energy security.

Providing electricity access to those who lack it would increase carbon dioxide emissions by only 0.7 per cent, equivalent to the annual emissions of New York State, but giving electricity to a population more than 50 times the size.

The study says that, in 2009, \$9.1bn was invested globally in extending access to modern energy services. But in the absence of more vigorous action, 1.0bn people would remain without electricity and, despite progress, population growth means that 2.7bn people would remain without clean cooking facilities in 2030.

Of the \$48bn per year required to fix the problem, \$18bn would need to come from multilateral and bilateral development sources, \$15bn from the governments of developing countries and \$15bn from the private sector.

“This means that all sources of funding need to grow significantly, with the private sector needing to increase the most,” contends the report.

“National governments must adopt strong governance and regulatory frameworks and invest in internal capacity-building.

“The public sector, including multilateral and bilateral institutions, needs to use its tools to leverage greater private sector investment where the commercial case is marginal and encourage the development of replicable business models,” it adds.



# US shale oil output facing high costs, potential curbs from new regulations

With companies in the United States excited about a possible oil shale bonanza, the picture does not seem quite so rosy with one chief executive in the industry warning that costs are rising, while output is facing potential restrictions.

John Hess, Chief Executive Officer of the Hess Corporation, said that oil production from shale concessions at sites from North Dakota to Texas could potentially reach up to two million b/d in the next five to seven years, which was considerably more than the current output of 700,000 b/d.

However, he told an energy conference in Stamford that new regulations would pose the greatest challenge to the expansion of the fledgling industry.

## Rising costs

Hess explained that the US government was in the process of evaluating new regulations on the chemicals used in hydraulic fracturing, called ‘fracking’, a new technology that has transformed the domestic gas industry and brought about the shale oil revolution.

In addition, he said, the industry was having to deal with rising costs for ‘fracking’ and other drilling, which presented further risks to shale drilling in North Dakota and Texas.

The exploitation of shale oil, also referred to as ‘tight’ oil because it is found between layers of shale rock, relies on the ‘fracking’ process, which entails blasting water, sand and chemicals into the rock.

Hess said that companies were also having to work in difficult wintery conditions and deal with the threat of acute flooding in the springtime.

He noted that these two developments alone had forced his company to spend between \$7–10 million on each well it was working on in the region. Each well’s development had initially been estimated at costing \$6m. But the oil executive said that the prospect of shale oil was a potential “game changer”, offering a lower risk with more returns.

Hess is the third-largest oil producer and the largest

gas producer in North Dakota, with over 40,000 b/d of oil equivalent.

## Government regulation

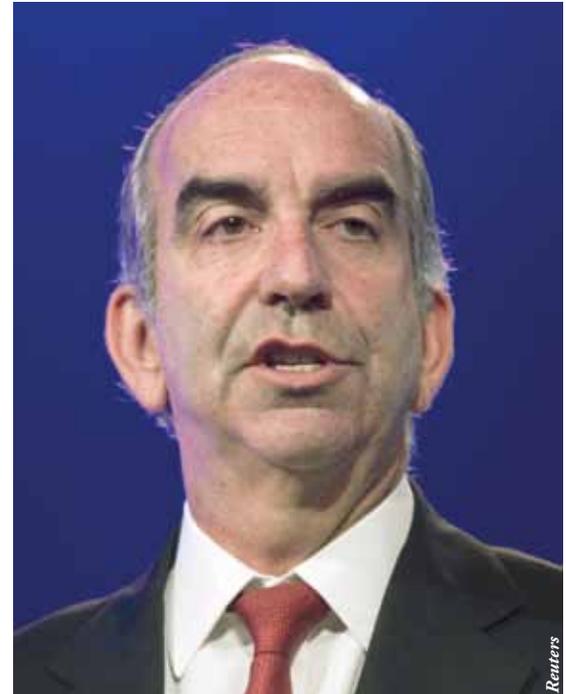
Meanwhile, the US National Petroleum Council has given an optimistic outlook for the nation’s latest source of new oil, which it said had a potential production capability of 2–3m b/d by 2035.

But, in a report to the country’s Energy Secretary, Steven Chu, the Council also pointed to the issue of excessive government regulation, which, it warned, could heavily constrain output.

It stated that if the federal and state governments in the US moved to limit the ‘fracking’ practices of companies, or apply new taxes for such oil exploration and production, shale oil output could remain at a plateau of around 600,000 b/d.

The report, which urged the government to remove bans on drilling and make more concessions available for such development, said things were made more difficult by the fact that faith in the oil industry from a public point of view was “frayed”, following the effects of the Gulf of Mexico environmental disaster.

In support of its recommendations, it called for the establishment of new regional councils to promote best practices in the domestic oil and gas industry, to work with communities and address their concerns.



John Hess, Chief Executive Officer of the Hess Corporation.



US Energy Secretary, Steven Chu.

# Kuwait to host IEA-OPEC workshop on CO<sub>2</sub> use in enhanced oil recovery

OPEC and the Paris-based International Energy Agency (IEA) will hold a joint workshop on the use of carbon dioxide (CO<sub>2</sub>) for enhanced oil recovery (EOR), in Kuwait City, on February 7–8, 2012.

## IEA/OPEC cooperation

The date and venue of the workshop were confirmed at a preparatory meeting attended by officials from the two sides at OPEC’s Headquarters in Vienna, in October.

The convening of the workshop falls under the umbrella of furthering cooperation between the IEA and

OPEC, which has developed on several fronts since ties were established some years ago.

Two other workshops are tentatively planned — one is scheduled to be convened in April 2012, in Iran, in collaboration with the IEA’s greenhouse gas (GHG) programme, while the other, a possible follow-up, would be hosted by the United Arab Emirates (UAE) in November next year.

The IEA is keen to establish a roadmap for CO<sub>2</sub> use for EOR, similar to the one the Agency established for carbon capture and storage (CCS), an initiative which is welcomed by OPEC Member Countries. ■■

*Officials from the IEA and OPEC, who attended the preparatory meeting in Vienna.*



## Saudi Arabia's Crown Prince Sultan dies at 85

Saudi Arabia has received tributes from presidents, heads of state and government leaders the world over following the death of its popular Crown Prince Sultan bin Abdulaziz Al-Saud, who passed away while in New York, on October 22.

Crown Prince Sultan, the half-brother of Saudi King Abdullah, who is two years the elder, had been receiving medical treatment in the United States. He underwent surgery in New York in February 2009 for an undisclosed illness and spent nearly a year abroad, recuperating in the US and in Morocco.

In a statement announcing his death, the Saudi Royal Court said: "It is with deep sorrow and grief that the Custodian of the Two Holy Mosques, King Abdullah bin Abdulaziz Al-Saud, mourns the loss of his brother and Crown Prince, His Royal Highness Prince Sultan Abdulaziz Al-Saud."

The statement, carried by the official Saudi Press Agency (SPA), added: "With his demise, the nation and the world have lost one of the most prominent leaders, who worked for the service of his religion, nation and humanity as a whole."

Crown Prince Sultan was born in Riyadh on January 5, 1931. According to SPA, he was brought up by his father, the late King Abdul Aziz, the Founder of the Kingdom of Saudi Arabia. He was educated in the Royal Court and was clearly on the rise when named Governor of Riyadh in 1947 at an early age. In 1953, he was appointed Agriculture Minister and two years later became Minister of Transport. In 1962, the Crown Prince was appointed Minister of Defense and Aviation.

He became the Kingdom's Second Deputy Premier in June 1982, in addition to retaining his responsibilities as Minister of Defense and Aviation and Inspector General.

In August 2005, the Crown Prince was appointed Deputy Premier, again in addition to his responsibilities as Minister



*Saudi Arabia's Crown Prince Sultan bin Abdulaziz Al-Saud addressing the United Nations in New York.*

of Defense and Aviation and Inspector General.

Crown Prince Sultan participated in most official Saudi delegations headed by the Late King Faisal bin Abdulaziz Al-Saud.

These included the Arab and Islamic Summits and the sessions of the General Assembly of the United Nations. Of note, he attended the 40<sup>th</sup>, 50<sup>th</sup> and 60<sup>th</sup> anniversary celebrations of the UN.

Crown Prince Sultan headed the delegation of Saudi Arabia at the Third Summit of OPEC Heads of State and Government, which was hosted by the Kingdom in Riyadh, in November 2007.

He was also appointed to high-ranking positions on numerous companies, organizations, councils and committees and throughout his career was awarded many honours and distinguished medals.

The Crown Prince was renowned for his charitable work, both at home and abroad, establishing two charities — the Prince Sultan bin Abdulaziz Al-Saud Foundation, a non-profitable organization established in 1995, and the Prince Sultan bin Abdulaziz Special Committee for Relief, which was set up in Niger, in 1998.

Of the many tributes that have been made, including several from OPEC Member Countries, Crown Prince Sultan has been described as "a historic personality known for his wisdom and vision", as "playing a crucial role in the modernization of Saudi Arabia, particularly in the field of defense" and a person who "dedicated himself to the welfare and security of his people and country."

UN Secretary-General, Ban Ki-moon, said: "I have learned with deep sorrow and sadness the news of the death of Prince Sultan bin Abdulaziz who exerted great services to his country for many years and gained the respect of the world for his wisdom and his potential as a statesman of high-caliber."





An iconic Nok terra cotta piece.



Ori Olokun bronze sculpture found in Ile-Ife.



One of the over 1,000 soap stone statuettes on show at the National Museum in Esie, Kwara State.

# Glimpses into museums in Nigeria and worldwide

If you have not been to a museum before, *Museums in Nigeria ... and Other Lands* could make it premium on your wish list. From the far-flung museum in Esie community in Nigeria to the sprawling Egyptian Museum, this informative book takes the reader on an inexpensive pilgrimage into the geography of antiquities and institutions that serve as repositories. **Henry Akubuiro**, journalist and writer, reviews this new publication for the **OPEC Bulletin**.



Perhaps, Maurice Archibong wrote *Museums in Nigeria ... and Other Lands* not just for museum and culture aficionados, but for the academia. This is derived from the painstaking manner in which he dwells on geographical details of, first, Nigeria, his home country, and other specifics of artefacts found in world museums.

The etymology of museum, history and types of museums are all enumerated to give congruence to that intellectual bent. Interestingly, however, this journey of countless miles across borders is done with a leisurely canter.

For artifact dealers, the book details the variety of classical objects that one can obtain in Nigeria, as well as how to import or export these items. Having been retarded by many factors, including misappropriation of artefacts in Nigerian museums, the book does not fail to chronicle this as a way of drawing attention to the pervading cultural malady.

For the foreigner, especially, the book's early chapters are a veritable guide to understanding the socio-political composition of Nigeria.

Information found in these sections includes the historical foundation of Nigeria — its peoples and public holidays.

Among the miscellaneous information in the opening chapter are the locations of museums in the country, the number of museums globally, specialized museums and the most-visited museums in the world.

While many believe that Nigeria's first museum is the Jos National Museum, established in 1952, Archibong hinted that the first such establishment in the country was actually opened in 1945, at Esie, a community in Kwara State, though it was a community museum.

From the abundant information at his disposal, the author depicts a realistic picture of the collections of museums in Nigeria. To a large extent, he writes, museums

in Nigeria "mirror the values, mores, or, simply put, the culture of the country's numerous people."

Besides, says the author, museums in the country present ancient and contemporary objects reflecting traditional and modern architecture, clothing items, cooking utensils and sundrywares, thus providing a guide to the evolution of religion, trade, transportation, traditional institution and encounters with the colonialists and their impacts.

A widely traveled journalist and consistent voice in Nigerian culture and tourism, Archibong provides vivid images to buttress information of national monuments and world heritage sites in the country and beyond.

Some of these include Benin City Moat, built around 1920; the Palace of Deji Akure, built in 1150 AD; and Rock Paintings in Birnin Kudu, located in Jigawa State, northern Nigeria.

Others include the Ita Yemoo Grove, Kano City Wall, Osun Osogbo Sacred Grove and King Nana's Palace in Koko, Delta State.

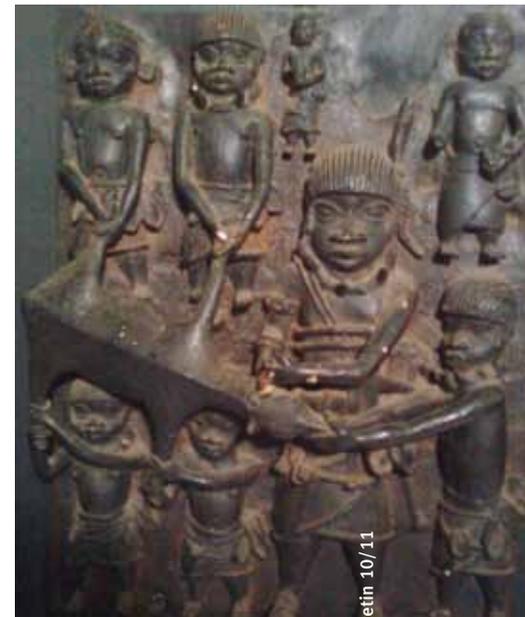
Drawing from his troubadour instinct, the author makes incisive revelations of what one can obtain from each national museum, from Ijagun in Nigeria's south-western Ogun State to the north-western state of Sokoto.

At the Oron Museum, *Museums in Nigeria ...* avails us of information of the significance of *ekpu* carvings. *Ekpu*, in the local parlance, symbolizes one's deity. *Ekpu* carvings, writes the author, are derived from the most durable woods, which is why many *ekpu* carvings have outlived generations.

In Chapter Five, titled *Nigeria's Museum Compass*, the author focuses attention on the situation of select museums from each of the country's six geopolitical zones.



Above: The entrance of the National Museum, also known as Gidan Makama, in Kano.



Above: A mezzo rilievo brass work found at the National Museum, Benin City, Edo State.



*The old residency, a National Monument, as well as home of the National Museum in Calabar, Cross River State.*



*The National Museum at Onikan, Lagos.*

Of significant interest in the author's findings is the National Museum at Umuahia, Abia. In this museum, the author, using pictures, tells the story of the Nigeria Civil War, which lasted three years — from 1967. The museum shows the sharp contrast between the airpower of the federal forces and their *Biafran* counterparts.

For instance, while the federal troops used a Russian-made aircraft, the Ilyushin bomber, for aerial warfare, the *Biafrans* relied on the minicoon, dubbed the *Biafran* Mosquito, a light aircraft flown by a Swede, Count Carl Gustav.

The chapter also reveals the contrast between the armored personal carriers of both sides; with the federal side, as usual, boasting a more sophisticated version.



*An ivory tapping tool on show at the National Museum, Owo, Ondo State, alongside a fifth century terra cotta pot excavated in Calabar, Cross River State.*

In the sixth chapter, Archibong relies on his travels to some museums in Ghana, Ethiopia, Germany and the United Kingdom, as well as on correspondence and readings to present sufficient information on the state of museums worldwide.

Apart from teaching his immediate target audience — in Africa — Archibong attempts to give his book an international perspective.

The special place of Egypt in world museums is chronicled in this chapter, where Archibong reveals that the first world museum was set up by Ptolemy in around 290BC, in the Egyptian port city of Alexandria.

Egypt is also home to four other museums of international renown, comprising the Alexandria National Museum, the Greco-Roman Museum, the Library of Alexandria Museum and the Royal Museum.

His x-ray of museums in Ethiopia also shows Ethiopia's relevance in the world's ancient civilization.

In the National Museum of Ethiopia, we have, for example, a section "Pre-Axumite to 20<sup>th</sup> Century Archaeological Heritage" specimens.

Also, considering the place of Emperor Haile Selassie in Ethiopia's history; the last emperor of this Horn of Africa country, not surprisingly, has at least four museums named in his honour and dedicated to the display of his memorabilia.

There is also no dearth of information on museums in the Americas — from Brazil to the United States, Archibong shows a grasp of the world of museums with detailed information.



Above: The Institute of Ethiopian Studies building, which houses relics used by the late Emperor Haile Selassie, in Addis Ababa, Ethiopia.

Above right: The main block of the National War Museum in Umuahia, Abia State.

Besides, the book has a section on Asian museums, with significant mentions of museums in Japan, China and Korea.

The same goes for museums in Europe. Germany, as a haven of museums, writes the author, boasts over 500 art museums. We also have hundreds of other specialized museums in this West European country.

“... In spite of various efforts over several decades at stemming the tide, the illegal trade in cultural property thrives to this day...,” writes Archibong about the regrettable tale of vanishing treasures in Nigeria as documented in the book’s seventh chapter.

From available evidence, the author suggests that the plundering of Nigerian museum objects has been going on for about 100 years.

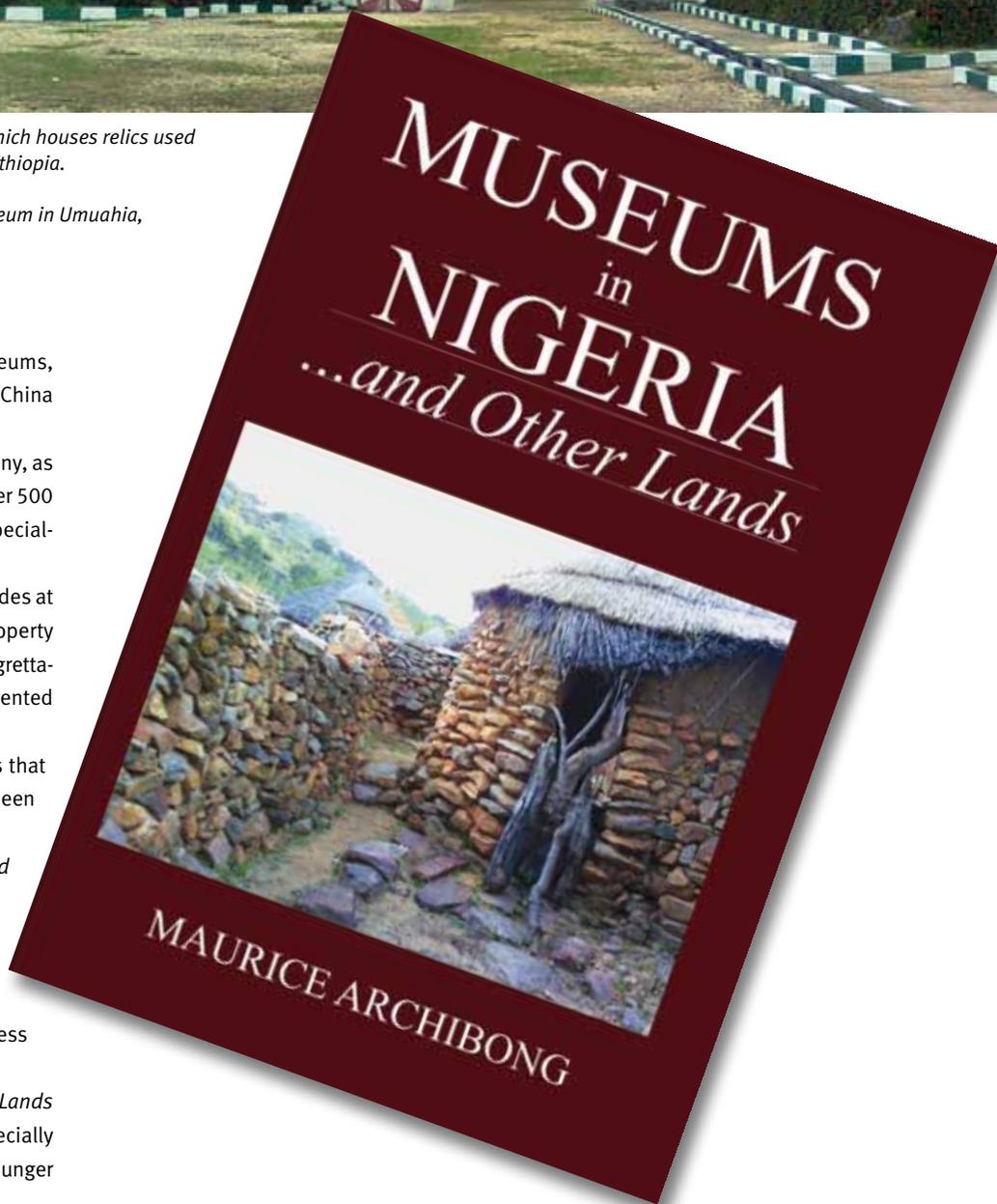
The concluding chapter, *Suggestions and Conclusion*, offers useful tips for museum security, the need for practical museology and making museums people-oriented.

The chapter also makes a case for more museums, including specialized museums, but less emphasis on traditional religion objects.

To be candid, *Museums in Nigeria ... and Other Lands* is a significant intervention in today’s world, especially in Nigeria and other African countries, where the younger generations are victims of acculturation.

*Museums in Nigeria ... and Other Lands* is, therefore, an enormous endowment to Nigeria’s cultural repository of literature.

For more on *Museums in Nigeria ... and Other Lands*, visit [www.mauricearchibongtravels.blogspot.com](http://www.mauricearchibongtravels.blogspot.com).



*Museums in Nigeria ... and Other Lands*, Blast Forward Enterprises, Lagos, pp231.



Photographs courtesy Maurice Archibong.

# PIW is 50!

Fifty years ago, in its infancy, the PIW newsletter pioneered groundbreaking insights into how the oil industry functioned. And its intrepid founder is renowned for the contribution she made to the creation of OPEC. Today, almost two decades after her death, the publication continues to be regarded as a leading source of information about the petroleum sector and is widely consulted by the energy community at large. **Keith Marchant** reports.

**Energy Intelligence**  
**PETROLEUM INTELLIGENCE WEEKLY**  
 50th Anniversary  
 MON., OCT. 10, 2011

**Wanda's Baby: PIW's Launch 50 Years Ago**  
 Fifty years ago, Wanda Jablonski, an already legendary international energy journalist, launched Petroleum Intelligence Weekly. In recognition of that anniversary, PIW is publishing the following excerpt from her biography by Anna Rubino, entitled Queen of the Oil Club, which describes the early days of the publication. Wanda had no children and she often referred to PIW as her baby. In oil industry circles PIW gained a reputation for authoritativeness and earned the nickname the Bible. Queen of the Oil Club was published in 2008 and was translated into Chinese earlier this year.

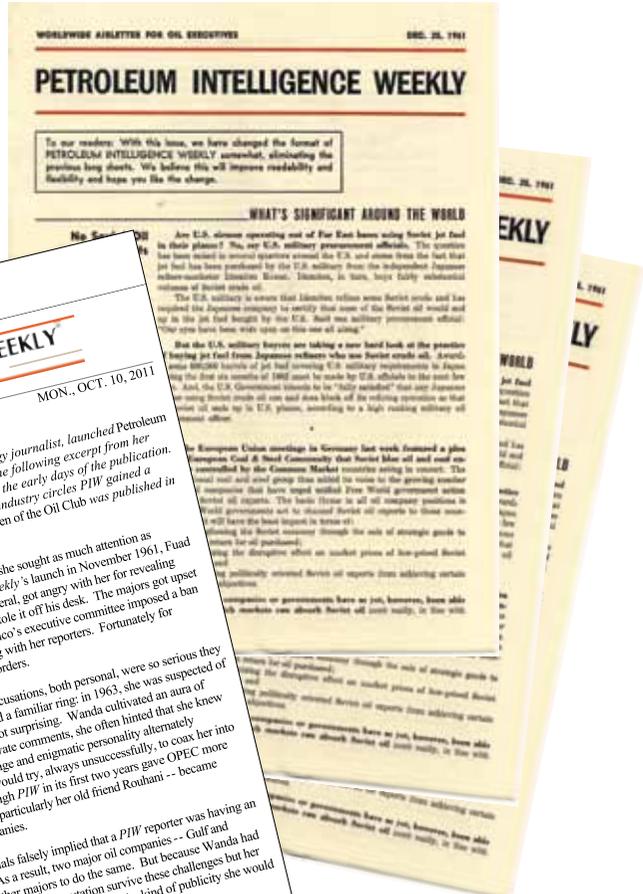
Wanda courted controversy -- often positive, sometimes nearly toxic -- as she sought as much attention as possible for her newsletter. Within months of Petroleum Intelligence Weekly's launch in November 1961, Fuad Rouhani, Wanda's Iranian friend who became OPEC's first secretary general, got angry with her for revealing details of a secret study prepared for the new organization. He said she stole it off his desk. The majors got upset on speaking with her, and some majors forbade employees from talking with her reporters. Fortunately for Wanda, most of her sources, especially senior officials, ignored these orders.

She welcomed the attention, but two accusations, both personal, were so serious they could have derailed her. One threat had a familiar ring: in 1963, she was suspected of being a spy. In some ways, this was not surprising. Wanda cultivated an aura of secrecy. In published articles and private comments, she often hinted that she knew more than she would say. Her badinage and enigmatic personality alternately attracted and baffled contacts who would try, always unsuccessfully, to coax her into revealing her sources. So even though PIW in its first two years gave OPEC more substantive coverage than anyone else, particularly her old friend Rouhani -- became convinced that Wanda was a paid agent for the major oil companies.

The other accusation came that same year when Gulf Oil officials falsely implied that a PIW reporter was having an affair with one of their employees in return for information. As a result, two major oil companies -- Gulf and Texaco -- canceled their subscription to PIW. The cancellation of Gulf and Texaco -- established PIW's credibility and the newsletter benefited from the unexpected publicity that Wanda sought, but she knew how to

**Getting Into Print**  
 At its onset in 1961, Petroleum Intelligence Weekly was dismayed with its poor quality and scanty subscriptions, mainly from its own readers. For most readers, she amassed a collection of newsletters that were generally of poor quality. When *Forbes* later questioned her about the quality of her newsletters, she said it's no good, they won't be a source of worry.

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Pictured are copies of the front covers of the original issue of *The Oil Daily* and an early issue of PIW, together with an extract from the October 3, 2011, issue of PIW referring back to the newsletter's launch.

*Petroleum Intelligence Weekly* ('PIW', as it has become affectionately known) was founded by legendary, globetrotting oil journalist Wanda Jablonski in October 1961.

This was two-and-a-half years after she had set up the first meeting between two of OPEC's five founding fathers, Dr Juan Pablo Pérez Alfonzo, Venezuela's Minister of Mines and Hydrocarbons, and Abdullah Al-Tariki, Saudi Arabia's Director General (and later Minister) of Petroleum and Mineral Affairs, at the inaugural Arab Oil Congress, in Cairo, in April 1959.

This memorable meeting remains embedded in the folklore of the industry, adding, as it did, to the gathering momentum that led to OPEC's creation in Baghdad, on September 14, 1960.

At that time, Jablonski was a well-known figure in oil circles in the very different world of the 1950s. Then, the dominant 'Seven Sisters' international oil companies held a powerful grip on the industry outside the former centrally planned economies, to the detriment of the domestic economic interests and aspirations of the oil-producing, developing countries from within whose borders much of the world's traded oil came.

The Energy Intelligence Group, which now owns *PIW*, says on its Website that Jablonski "virtually single-handedly invented international energy journalism." Few people would disagree with that.

It continues: "A primary focus (in its early days) was to cover the simmering conflict between major international oil companies and the oil-producing countries — particularly those that formed OPEC in about the same year that *PIW* published its first issues. Wanda was driven and a perfectionist."

Today, *PIW*, which is now also distributed on-line, describes itself as providing an "analytical insight for informed decision-making in the international oil and

gas industry. Every week, it offers concise analysis about the most significant developments in the industry and explains the implications for specific sectors and the global energy business." There are also in-depth analyses and data on significant news and trends.

The newsletter is read widely at the OPEC Secretariat, and this has probably been the case throughout OPEC's life-time, with their two histories coinciding as they do, as well as with the close association Jablonski had with top officials from many oil-producing developing countries, even before the birth of the Organization.

On a more frequent basis, the Secretariat also subscribes to *PIW's* sister journal, the *International Oil Daily*, which itself turns ten next year.

Another member of the Energy Intelligence Group, *The Oil Daily*, predates the pair of them and celebrates its 60th anniversary this year. That newsletter was started in order to cover the booming post-World War Two United States oil industry, the largest producer in the world at that time, and has since gone from strength to strength.

A copy of the first issue of *The Oil Daily*, dated October 3, 1951, was made available to participants at the 2011 Oil and Money conference in London on October 11–12, where Energy Intelligence was co-sponsor, together with the *International Herald Tribune*. The conference's theme was *Risk and the New Energy Map* and a report appears in this issue of the *OPEC Bulletin*.

An early copy of *PIW* was also available, dated December 25, 1961, and this was the first issue in a new format, "eliminating the previous long sheets. We believe this will improve readability and flexibility and hope you like the change," as it said at the top of page one.

It certainly did and readers clearly liked the change, as its longevity has proved, with it consistently maintaining the highest standards of energy journalism since then.



In the course of his official duties, OPEC Secretary General, Abdalla Salem El-Badri, visits, receives and holds talks with numerous dignitaries.

This page is dedicated to capturing those visits in pictures.



A delegation from the Venezuelan state oil company, PDVSA, visited the OPEC Secretary General on September 28, 2011. Present were (l-r): Dr Joaquin Parra, Advisor to the Venezuelan Minister of Energy and Petroleum; Eng Angel González, General Director of Exploration and Production, at the Venezuelan Ministry of Energy and Petroleum; Abdalla Salem El-Badri, OPEC Secretary General; and Mariana Zerpa Morloy, Corporate Manager, Legal Counsel, PDVSA.



M Philippe Carré, Ambassador of France to Austria, paid a courtesy visit to Abdalla Salem El-Badri, OPEC Secretary General, on September 29, 2011.



A delegation from RAG Austria, comprising Members of the RAG Board of Directors, various RAG staff members, the Mayor and Chief of Police of the town of Zistersdorf, and a representative from the Leoben University, paid a visit to Abdalla Salem El-Badri, OPEC Secretary General, and other OPEC staff, on September 28, 2011. Pictured from l-r are: KR Wolfgang Peischl, Mayor of Zistersdorf; Franz Strahammer; Markus Mitteregger, RAG CEO; Univ Prof DI Dr Herbert Hofstätter, Montan University of Leoben; DI Bernhard Schmidt; Zorely Figueroa, OPEC; Mag Dr Michael Längle, RAG CFO; Karl Stoiber, Chief of Police of Zistersdorf; Abdalla Salem El-Badri, OPEC Secretary General; Alfred Rossak; Sabine Loibl; Gerhard Rebel; DI Manfred Leitner; Gerhard Bach; Ing Thomas Prohaska; Dr Jörg Spitz, OPEC.

**Students and professional groups wanting to know more about OPEC visit the Secretariat regularly, in order to receive briefings from the Public Relations and Information Department.**



*Pictured here is a group of master students from the Diplomatic Academy, Vienna, Austria, who visited the OPEC Secretariat on October 12.*



*A group of students from the Business College of Cologne, Germany, visited the OPEC Secretariat on October 12.*



*Pictured above is a group of students from the Vienna University of Economics and Business, who visited the OPEC Secretariat on September 29.*

# OPEC sponsors news agencies round table at World Newspaper Week

by Sally Jones



What is a news wire? Do readers want more video coverage from mainstream media agencies? And what is the future role of news agencies in the current business climate?

These were just some of the topics raised at a working lunch sponsored by OPEC at the annual World Newspaper Week and World Editors' Forum, which took place in Vienna on October 10–15.

At the event, entitled 'The News Agencies Round Table', close to 150 international journalists and media representatives from news organizations, such as the *New York Times* and the *Spanish News Agency (EFE)*, listened as senior executives from *Reuters*, *Agence France Press*, *Deutsche Press Agency* and the *Austrian Press Agency*, discussed the critical issues facing global news agencies today.



Pictured right are the four principal speakers who addressed the World Editors Forum, during World Newspaper Week in Vienna.



The panelists, moderated by author and news industry analyst, Ken Doctor, debated the need for news agencies to be more diversified and shift their businesses away from pure print journalism.

The panel also exchanged views on the challenges of finding new customers in the ever-competitive world of news generation, while at the same time continuing to satisfy their existing clients and readerships.

Speakers comprised Peter Kropsch, Chief Executive Officer of the *Austrian Press Agency (APA)*, Michael Ludewig, Deputy Editor-in-Chief at the *Deutsche Press Agency (DPA)*, Phillippe Massonnet, Global News Director of *Agence France Press (AFP)*, and Christoph Pleitgen, Managing Director of the *Reuters News Agency*.

*DPA's* Ludewig explained that it is imperative for management to have good relationships with journalists, so as to be able to keep in close contact with what is needed in the world of 'story-telling'.

And in the all too fluid media industry, Peter Kropsch, of *APA*, spoke of the need for news agencies to add new dimensions to their coverage and find revenues outside of core business areas.

The panelists also spoke about mixing business models, so as to include other mediums of journalism as media enters the digital news decade.

In addition, they shared views on the problems of shrinking revenues and the impact which this has on editorial teams.

One way of getting around this problem is to create "partnerships" and share coverage with other news agencies, *AFP's* Phillippe Massonnet told the *OPEC Bulletin*.

Following the lunch discussion, attendees met with several representatives from *OPEC's* Public Relations and Information Department (PRID) and exchanged ideas about the energy industry and the function of *OPEC* in the global oil market.

The annual gathering, which takes place in a different capital city each year, brings together publishers, chief editors, CEOs, managing directors and other senior newspaper executives to examine the strategies of leading media companies and to exchange views with their colleagues around the world. ■■



Uniting against Poverty

# OFID to host meeting of new UN Group on

# SUSTAINABLE ENERGY FOR ALL



*Suleiman J Al-Herbish (back row, second left), Director-General of the OPEC Fund for International Development (OFID), pictured with Ban Ki-Moon (front row, centre), United Nations Secretary-General, and other members of the special group.*

# OPEC Fund for International Development (OFID)

***The OPEC Fund for International Development (OFID) is to host the second meeting of the High-level Group on Sustainable Energy for All by 2030 — “a ground-breaking new energy initiative”.***

OFID will host the second meeting of a new High-level Group on Sustainable Energy for All by 2030 (SE4ALL) at its headquarters in Vienna on November 19–20, 2011.

And Suleiman J Al-Herbish, Director-General of the OPEC Fund for International Development (OFID), has been appointed by Ban Ki-Moon, United Nations Secretary-General, to represent his Vienna-based institution on this group.

The appointment was made following a *UN Private Sector Forum on Sustainable Energy for All*, hosted by the UN Global Compact, in collaboration with the United Nations Industrial Development Organization (UNIDO) and UN Energy in September, when the UN Secretary General announced the establishment of the group to lay the groundwork for this ‘ground-breaking new energy initiative’ — Sustainable Energy for All by 2030 (SE4ALL).

Charged with delivering a Global Action Agenda in the lead-up to the Rio+20 UN Conference on Sustainable Development, scheduled for June 4–6, 2012, in Rio de Janeiro, Brazil, other members of the Group include the Director-General of the International Renewable Energy Agency (IRENA), Adnan Amin; United Nations Environment Programme (UNEP) Executive Director, Achim Steiner; and United Nations Development Programme (UNDP) Administrator, Helen Clark.

UNIDO Director General, Kandeh Yumkella, and Charles Holliday, Chairman of the Bank of America, will lead the Group, which comprises 30 members from business, government, financial institutions and civil society from across the globe.

The primary objective of the Group is to develop a strategy to combat energy poverty and achieve equitable access to energy, based on three intertwined global targets — ensuring universal access to modern energy services; doubling the rate of improvement in energy efficiency; and doubling the share of renewable energy in the global energy mix.

The initiative will call for private sector and national commitments and attract global attention to the importance of energy for development and poverty alleviation.

Commenting on his appointment to the High-level Group, Al-Herbish said he looked forward to representing OFID and “sharing our institution’s expertise and experience in helping shape the Global Energy Poverty Alleviation Action Agenda.”

In 2010, the 65<sup>th</sup> UN General Assembly declared 2012 as the *International Year of Sustainable Energy for All* in recognition that “access to affordable modern energy services is essential for sustainable development and for the achievement of the Millennium Development Goals (MDGs).”

## **“Historic opportunity”**

This year, along with the Rio+20 Summit, is being referred to by Ban Ki-Moon as a “historic opportunity” to place the issue of universal access at the forefront of the international agenda. He has called on all partners to take bold action.

According to the 2012 *International Year of Sustainable Energy for All* website, more than 1.4 billion



## Uniting against Poverty

people worldwide have no access to electricity, and 1bn more only have intermittent access. Some 2.7bn people — almost half of humanity — rely on traditional biomass for cooking and heating.

It points out that access to energy transforms lives. Sustainable energy affords new opportunities for the poorest to escape the worst impacts of poverty. It provides people the means to generate income, provide health care services, improve education, and protect the environment.

Lack of access to energy hinders development and poses risks to human health and safety. The fact is that smoke from polluting and inefficient cooking, lighting, and heating devices kills nearly 2m people prematurely every year, primarily women and children, and causes a range of chronic illnesses.

The website stresses that efficient and renewable sources of energy are often the best and most cost-effective option for providing access to energy. The use of energy-efficient products reduces the amount of energy that must be supplied for lighting and other needs.

Similarly, more efficient distribution and use of energy could free up power that is now lost or wasted, as well as capital to invest in additional energy supply or economic development.

### Renewable energy sources

Energy sources, such as wind and solar, can provide energy without negative impacts to the environment, reach remote rural areas, particularly via distributed generation and the use of mini-grids, and generate employment.

At present, renewable energy sources provide 19 per cent of global energy consumption. Small-scale renewable technologies could reach a large number of people currently without access to energy.

The website maintains that until impoverished populations have enhanced access to affordable and reliable sources of energy, there is little chance they will be able to change their situation.

Those residing in remote, rural areas are the most vulnerable as the majority of them depend on agriculture for sustenance and their livelihood and are unable to enjoy the benefits of electricity-powered technologies, such as modern irrigation systems and food processing and cold storage equipment that would enable them to boost yields and enhance food security.

The alleviation of energy poverty is a priority area for OFID, which, together with much of the global community, considers universal energy access to be the “missing ninth” MDG.

### Additional resources

Since the Third OPEC Summit in November 2007 and the subsequent Solemn Declaration encouraging efforts in this regard, OFID has earmarked additional resources for the energy sector.

It also has assumed a key role in the international Energy for the Poor Initiative, which was launched in June 2008 to provide a structured and unified response to the problem of energy poverty.

OFID has maintained its contribution to the global energy poverty dialogue through its involvement in a number of high-level events.

In April this year, the institution hosted the Crans Montana Forum’s High-level Panel Energy Poverty—*A key issue for peace, stability and development: Can industry lead the necessary changes?*

In his keynote speech to the event, Al-Herbish said the key topics being discussed at the Forum, such as sustainable development and poverty alleviation, particularly energy poverty, were at the “heart of OFID’s mission.”

The OFID Director-General outlined how the institution was tackling the energy poverty issue on a number of fronts, including increasing its share of energy operations under its Public Sector and Trade Finance portfolio.

He also highlighted OFID’s recently-signed memoranda of understanding with development partners,

# OPEC Fund for International Development (OFID)

such as the Asian Development Bank, the International Fund for Agricultural Development and the World Bank, with the view to focusing future collaboration on energy access.

In June, an OFID delegation actively participated in the Vienna Energy Forum 2011, addressing the first High-Level Panel on Paving the Way for Universal Energy Access and the panel on financing universal energy access.

In November, OFID will host the Second International Energy Forum *OFID Symposium on Energy Poverty*.

This gathering will discuss, among other topics, how universal access to modern energy can be achieved by 2030 and look at mechanisms for financing energy access for the poor, as well as transferring local, national and regional experiences in combating energy poverty to other regions.

In keeping with its pledge to step up its assistance to energy-related projects, OFID's Governing Board has this year approved a number of public sector loans to help bolster the energy sectors in various countries in Africa, Asia and Latin America. And more are in the pipeline.

In 2010, almost a quarter of OFID's commitments went to 18 energy-related projects in 11 countries, most of them in Africa, where energy poverty is the most severe. The operations financed support for a mix of energy sources, including renewables.

## New partnerships

OFID is also forging new partnerships with the energy industry, such as the one with the Shell Foundation, a charitable institution that will, in collaboration with the social enterprise d.light, supply solar lanterns to thousands of poor people in the remote, rural regions of Kenya and Tanzania.

This represents the first grant approved under a new Energy Poverty Grant Programme, which was approved by OFID's Ministerial Council in June this year and set up specifically to channel financing to grassroots energy schemes.



This section includes highlights from the OPEC Monthly Oil Market Report (MOMR) for October 2011, published by the Petroleum Studies Department of the Secretariat, with additional graphs and tables. The publication may be downloaded in PDF format from our Website ([www.opec.org](http://www.opec.org)), provided OPEC is credited as the source for any usage.

## Crude oil price movements

The OPEC Reference Basket proved to be volatile in September, moving within a wide range of \$102–112/barrel as market sentiment was dominated by economic uncertainties around the globe, particularly in Europe, due to Greece's debt problems and the fears of contagion to other countries.

On a monthly basis, the Basket rose by \$1.29/b, or 1.2 per cent, in September to average \$107.61/b.

All Basket components recovered in September, except Venezuelan crude, Merey, which dropped by a further 69¢ to average \$92.78/b, the lowest level since the \$87.51/b recorded last February.

The recovery in the OPEC Reference Basket was driven essentially by Ecuador's Oriente, which jumped by \$5.91/b, or 6.0 per cent, as well as by light African crudes.

Algeria's Saharan Blend and Nigeria's Bonny Light continued to benefit from the combination of stronger demand from Asian buyers and the lack of light grades as Libyan crude remained absent from the market.

African light crudes were also supported by strong refining margins in Europe.

On a quarterly basis, the OPEC Basket fell by \$3.74/b, or 3.3 per cent, to average \$108.44/b. That was the first decline since the \$2.77/b of the third quarter of 2010.

It is worth mentioning that the Basket increased over the previous three quarters. It recovered in the fourth quarter of 2010 by \$10.12/b and by \$17.39/b in the first quarter of 2011, followed by another gain of almost \$11/b in the second quarter of this year.

Increasing concerns about global economic growth added more bearishness to the oil market in early October, when the OPEC Basket fell to \$99.65/b on the first trading day of the month. That was the lowest level since the third week of February.

However, on October 10, the OPEC Basket stood at \$104.67/b.

Crude oil futures witnessed two distinct trends in September. Prices in the first half of the month showed some recovery before they weakened significantly within the second half of the month amid bearish sentiment in September

on the back of a gloomy economic outlook and slowing demand.

A similar trend was observed in equity markets and other commodities, highlighting the impact of the macroeconomic outlook on investors. As market sentiment turned gloomy with eventual slowing oil demand, many investors halted investing in crude oil futures, while others engaged in strong sell-offs.

The weakness in crude oil futures was also attributed to the strength of the US dollar against the euro as the latter continued to suffer from the European debt crisis. The expectations of the return of Libyan crude oil added more bearishness to the market.

On the US market, the Nymex WTI front-month crude contract averaged \$85.61/b in September, the lowest level since the \$84.31/b recorded in November 2010 and a loss of 73¢ from the previous month.

Growing worries that Greece will default on its debt and a global economic slowdown will reduce demand for oil significantly weakened crude oil market sentiment in early October when Nymex WTI fell to \$75.67/b on October

**OPEC Reference Basket:** An average of Saharan Blend (Algeria), Girassol (Angola), Oriente (Ecuador), 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 (UAE) and Merey (Venezuela).

4. That was the lowest close since the \$75.18/b of September 23, 2010.

In London, ICE Brent followed the same trend. The front-month contract closed at a monthly average of \$109.91/b in September, down 2¢ from August.

Similar to US crude oil, ICE Brent continued its downward trend in the first week of October, falling below \$100/b for the first time since the end of January 2011.

## Commodity markets

The World Bank index for non-energy commodities dropped further by 2.5 per cent month-on-month in September (-1.6 per cent in August), due to a strong fall in base metal and agricultural prices.

However, the Bank's energy commodity index (crude oil, natural gas and coal) showed a 0.4 per cent gain (-6.3 per cent in August), driven by increased interest in Australian coal, supported by Chinese demand.

A dramatic sell-off took place across commodity markets in September, as prices were affected by fears of a double-dip recession, given macroeconomic headwinds, strong concerns over the European debt crisis, weak US economic data and slowing Chinese growth. The appreciation of the dollar against other currencies also added to the bearish sentiment in these markets.

After plummeting by eight per cent m-o-m in August, Henry Hub natural gas prices declined by 3.8 per cent in September on continued weak fundamentals and fading support from the hurricane season, as well as the growing economic pessimism.

Agricultural prices decreased by 1.4 per cent m-o-m in September (+0.2 per cent August) on a negative macroeconomic outlook. The sell-off was worse in wheat, corn, soybean and sorghum.

Corn prices plummeted by 4.8 per cent m-o-m in September, compared with a three per cent gain in the previous month, due to slowing economic growth, despite an anticipated supply/demand shortfall and low inventories.

Wheat prices also saw a hefty decline of 3.4 per cent m-o-m in September, compared with a 7.6 per cent gain the previous month.

Base metal prices on the London Metal Exchange (LME) reported the strongest losses in September, plummeting by 6.8 per cent m-o-m, compared with a seven per cent decrease in August, despite solid fundamentals.

Copper prices were down 7.8 per cent m-o-m in September, compared with a 6.7 per cent drop the previous month, while aluminium prices decreased by 3.6 per cent, compared with a 5.8 per cent fall in August, driven by the pessimistic macroeconomic outlook.

Gold prices increased at a considerably slower pace of one per cent m-o-m in September, following fast growth of 11.8 per cent the previous month.

Gold prices tested all-time highs above \$1,900/oz in August, but dipped below \$1,500/oz, pressured by uncertainties, risk aversion and the need for liquidity, which weighed on prices amid the worsening of financial and economic conditions. This was exacerbated by a stronger US dollar.

Silver prices fell by 5.4 per cent m-o-m in September, compared with a rise of 5.7 per cent the previous month, similar to the trend in gold prices.

## World oil demand

Demand for OPEC crude this year remained unchanged from the previous assessment as the downward adjustment in world oil demand offset the downward revision in non-OPEC supply.

Within quarters, the first two quarters experienced a positive revision of 100,000 b/d, while the third quarter remained almost unchanged. However, the final three months of the year saw a downward revision of 200,000 b/d.

At 29.9m b/d, demand for OPEC crude oil stood 100,000 b/d above 2010. The first and the second quarters of 2011 showed growth of 800,000 b/d and 100,000 b/d, respectively, while the third quarter is estimated to see a contraction of 400,000 b/d. The fourth quarter is

expected to remain unchanged, compared with the same period last year.

In 2012, demand for OPEC crude is projected to average 29.9m b/d, representing a downward revision of 100,000 b/d from the previous report, as the downward adjustment in global demand outpaced the downward revision in non-OPEC supply.

Within the quarters next year, the bulk of the revision came from the third and fourth quarters, which were revised down by 400,000 b/d and 300,000 b/d, respectively, while the second quarter saw an upward adjustment of 100,000 b/d.

Required OPEC crude in 2012 is forecast to remain unchanged versus the current year. Estimated growth in the first quarter expected at 100,000 b/d, followed by a contraction of 500,000 b/d in the second, while the third quarter is forecast to remain unchanged. The final quarter of the year is expected to see an increase of 400,000 b/d.

Meanwhile, the economic downturn is tak-

**“... the debt problems in the Euro-zone are causing European Union economies to lose some of their estimated growth this year.”**

ing its toll on world oil demand, especially in the OECD region. The decelerating US economy, high unemployment rate and feelings of uncertainty among consumers has damped US oil demand.

Similarly, the debt problems in the Euro-zone are causing European Union economies to lose some of their estimated growth this year.

Furthermore, the delay in Japan's rebuilding efforts is contributing to the lower-than-expected oil demand.

The above factors are likely to reduce OECD oil demand growth by some 100,000 b/d this year. Our initial world oil demand growth estimate was 1m b/d; however the above factors

**“Indonesian oil demand has been in the growing mode for the past few years and this trend is expected to continue for the rest of this year and beyond.”**

have pushed world oil demand further down than expected.

Deteriorating OECD economies have affected other major emerging economies, such as India and China. Both countries' GDP have been revised down, leading to less oil use by 700,000 b/d for 2011.

The uncertainty in the short term still exists, making US oil demand the wild card this year. This might further weaken world oil demand in the fourth quarter.

The world oil demand estimate was revised down by 180,000 b/d to show growth of 900,000 b/d in 2011, averaging 87.8m b/d.

The troubled US economy, along with higher retail prices in some months, caused the country's gasoline consumption to plunge sharply by 2.2 per cent in the first three quarters of 2011. Gasoline demand represents almost half of the country's total oil use.

Gasoline consumption has been the engine behind oil demand growth in the past few years. Given the fact that the driving season is behind us, gasoline demand is not expected to show any healthy move for the remainder of this year and in the first quarter of 2012. As a result, US oil demand growth was revised down by 100,000 b/d for the year.

Canadian and Mexican oil demand is looking positive this year, but due to the weak use of oil in the US for the whole of 2011, North American regional oil demand has been revised down by 900,000 b/d to stand at an annual decline of 100,000 b/d, averaging 87.8m b/d.

Europe's economy is continuing with its dim picture because debt is piling up in some Euro-zone countries. This is strongly reflected in the continent's oil demand.

Lower manufacturing production is causing industrial fuel use to slide and economic uncertainties are pushing consumers to reduce their intake of transport fuel.

Germany's declining oil demand is the major reason behind the OECD Europe downward revision in third and fourth-quarter oil demand.

What can be seen in Germany is similar for all of Europe's 'Big Four' – declining oil demand in the third and fourth quarters. In July alone, their gasoline and diesel consumption plunged by 200,000 b/d.

Hence, OECD Europe's total contraction in oil demand was revised down by a further 50,000 b/d in 2011 to stand at 160,000 b/d.

Japanese oil demand has been hit strongly by the March earthquake, which reduced the country's oil demand in the second quarter by 150,000 b/d year-on-year.

Crude oil burning in power plants in lieu of damaged nuclear plants increased Japan's crude demand by 70 per cent in the first eight months of 2011. This eased the decline in products in other sectors of the economy.

As for the fourth quarter, Japan's oil demand is not expected to mount as the country's recovery plan is not gearing up yet. Following minor growth in the third quarter, Japanese oil demand is expected to be flat in the fourth quarter y-o-y.

The Japanese earthquake disaster has indirectly affected the South Korean economy. The country's oil demand behaviour has been to a certain degree similar to that of Japan. Second quarter oil consumption was sharply negative; however, the third quarter was slightly positive.

Given the extra use of crude burning by Japanese power plants, the OECD Pacific region's oil demand is forecast to decline by only 20,000 b/d in 2011.

Due to a slowdown in India's economy, the country's GDP was assessed down by 0.1 per cent for 2011. Two sectors – transport and industry – are affected by this slowdown and are reducing the country's total oil demand.

Given the downward trend in India's oil

demand, Other Asian oil demand was revised down by 30,000 b/d in both the third and fourth quarters. Despite this revision, the region's oil demand is expected to grow by 230,000 b/d in the fourth quarter y-o-y. India's oil demand is estimated to grow by 120,000 b/d in 2011, averaging at 3.4m b/d.

Indonesian oil demand has been in the growing mode for the past few years and this trend is expected to continue for the rest of this year and beyond. Indonesian economic growth of six per cent is pushing the country's oil demand up this year by one per cent y-o-y.

Thailand's healthy economy is pushing the use of oil up by 34,000 b/d for 2011.

However, due to weaker-than-expected oil demand in the third quarter in India, the Other Asia oil demand growth forecast was revised down by 16,000 b/d to stand at 230,000 b/d in 2011, averaging 10.4m b/d.

Fuel switching to gas dampened Saudi Arabian oil demand this summer. Gasoline, as well as both fuel and crude oil, used by power plants are the products that are consumed the most in the Kingdom. Given the decline in oil use by the industrial sector, Saudi oil demand was slightly weaker this summer. However, the region's oil demand is expected to grow this year by 180,000 b/d.

Brazil's oil demand plunged into the negative in July, caused mainly by lower use of alcohol. Brazil is reducing the use of biofuel blend, due to tight production that occurred this summer. Hence, Brazil's oil demand in both August and September grew by 60,000 b/d y-o-y each.

Given the healthy growth in oil use in the region, Latin America's oil demand growth is forecast at 170,000 b/d y-o-y, averaging 6.4m b/d in 2011.

Developing countries' oil demand growth is forecast at 600,000 b/d y-o-y, averaging 27.6m b/d.

Russian oil demand has been in the growing mode since 2009. Transport fuel is the reason behind the growth.

In total, Former Soviet Union (FSU) oil demand is forecast to grow by 100,000 b/d y-o-y in 2011, averaging 4.2m b/d. FSU GDP is estimated at 4.4 per cent this year and as an

emerging economy, a lot of energy intensive projects are underway within the region.

Despite a third quarter slowdown, it is expected that China's fourth quarter oil use will be semi-strong as forecast. However, the country's oil demand growth was revised down by 50,000 b/d in 2011. The country's oil demand growth is forecast at 5.4 per cent, or 500,000 b/d y-o-y, averaging 9.4m b/d.

Looking at 2012, uncertainty in the world economy has dimmed the economic outlook for the coming year. As a result, the world GDP forecast for next year has been revised down further. Most of the uncertainty is attributed to the OECD region.

US oil demand is likely to play a major role in total world oil demand next year. Retail petroleum product prices are expected to be the second major factor affecting oil demand in the coming year.

Should retail prices persist at current levels, then transport fuels are likely to be affected, particularly in the US.

European oil demand is not expected to show any growth next year. This reflects not only a slowing economy, but also other factors, such as high taxes on oil. The EU taxes on energy are the highest, representing more than 60 per cent of the sales price.

Chinese oil demand is not expected to be as solid as usual because of new government policies aimed at reducing transport fuel use.

India's increase in retail prices is playing a major role in easing domestic oil consumption next year.

The Middle East and Latin America are expected to maintain the same trend as this year, supported by growth in Saudi Arabia and Brazil, respectively.

Due to the recent downward revision in world GDP, next year's oil demand growth forecast was revised down by 70,000 b/d to stand at 1.2m b/d y-o-y to average 89.0m b/d.

## World oil supply

Preliminary figures show that global oil supply averaged 88.50m b/d in September, a gain of

760,000 b/d from the previous month, supported by estimated increases in non-OPEC supply.

OPEC crude is estimated to have had a 33.8 per cent share in global supply in the month. The estimate is based on preliminary data for non-OPEC supply, estimates for OPEC NGLs and OPEC crude production, according to secondary sources.

Meanwhile, non-OPEC oil supply is forecast to grow by 360,000 b/d in 2011 to average 52.63m b/d. This represents a downward revision of 160,000 b/d, compared with the previous month, while anticipated growth experienced a downward revision of 140,000 b/d.

Historical revisions to a few countries' supply in 2009 and 2010 affected the 2011 forecast. Additionally, many revisions were introduced to the forecast in 2011, with the majority affecting the second half.

Adjustments to updated actual production data in the first half have also affected the outlook, along with various other changes in the second half.

The largest revision was experienced in Latin America, mainly on updated production data. All 2011 quarters encountered downward revisions, as the various upward revisions seen in some countries' supply forecasts were insufficient to offset the downward adjustments.

North America is now expected to have the highest growth among all non-OPEC regions in 2011, followed by Latin America and the FSU, while OECD Western Europe is projected to be the region with the biggest decline.

OECD supply is foreseen to grow in 2011, as growth in North America is seen to more than offset the decline in Western Europe and the OECD Pacific.

The US, Colombia, Russia, Canada, and Brazil are anticipated to be the main drivers of growth in 2011, while the United Kingdom, Norway, Yemen, and Malaysia are seen to have the largest declines in supply.

On a quarterly basis, non-OPEC supply this year is seen to average 52.77m b/d, 51.95m b/d, 52.49m b/d and 53.31m b/d, respectively.

According to preliminary data, non-OPEC oil supply averaged 52.39m b/d during the first

three quarters of 2011, indicating growth of 310,000 b/d over the same period of 2010.

Total OECD oil supply is expected to increase by 50,000 b/d to average 20.03m b/d in 2011, unchanged from the previous report. On a quarterly basis, OECD oil supply this year is expected to average 20.14m b/d, 19.73m b/d, 19.98m b/d and 20.27m b/d, respectively.

Oil supply from North America is projected to increase by 330,000 b/d in 2011 to average

**“Total OECD Western Europe oil supply is forecast to drop by 220,000 b/d in 2011, the largest decline among all non-OPEC regions, to average 4.16m b/d.”**

15.32m b/d, an upward revision of 25,000 b/d from the previous month. On a quarterly basis, North America's oil supply this year is slated to average 15.31m b/d, 15.20m b/d, 15.35m b/d and 15.42m b/d, respectively.

Canada's oil supply is forecast to increase by 100,000 b/d in 2011 to average 3.49m b/d, a downward revision of 20,000 b/d from the previous assessment. On a quarterly basis, Canada's oil supply this year is seen to average 3.57m b/d, 3.30m b/d, 3.50m b/d and 3.58m b/d, respectively.

Mexico's oil supply is estimated to decline by 20,000 b/d in 2011 to average 2.94m b/d, flat from the previous report. On a quarterly basis, Mexico's oil supply this year is seen to stand at 2.97m b/d, 2.96m b/d, 2.92m b/d and 2.92m b/d, respectively.

Total OECD Western Europe oil supply is forecast to drop by 220,000 b/d in 2011, the largest decline among all non-OPEC regions, to average 4.16m b/d, representing a downward revision of 20,000 b/d from the previous month.

**“Russia’s oil supply is expected to increase by 100,000 b/d in 2011 to average 10.24m b/d, indicating an upward revision of 20,000 b/d from the previous month.”**

The ongoing output decline in North Sea production is expected to continue in 2011. On a quarterly basis, oil supply from the region is estimated to average 4.31m b/d, 4.03m b/d, 4.06m b/d and 4.25m b/d, respectively.

Norway’s oil supply is projected to decline by 90,000 b/d in 2011 to average 2.05m b/d, indicating an upward revision of 20,000 b/d from the previous report. On a quarterly basis, Norway’s oil supply this year is slated to aver-

age 2.14m b/d, 1.94m b/d, 2.01m b/d and 2.08m b/d, respectively.

The UK’s oil supply is foreseen to decline by 170,000 b/d in 2011 to average 1.19m b/d, representing a downward revision of 50,000 b/d from the previous month. On a quarterly basis, the UK’s oil supply this year is seen to average 1.27m b/d, 1.17m b/d, 1.11m b/d and 1.24m b/d, respectively.

Total OECD Pacific oil supply is foreseen to decline by 50,000 b/d to average 550,000 b/d in 2011, representing a downward revision of less than 10,000 b/d from the previous month. On a quarterly basis, total OECD Pacific oil supply this year is seen to average 520,000 b/d, 500,000 b/d, 570,000 b/d and 600,000 b/d, respectively.

Australia’s oil supply is expected to average 460,000 b/d in 2011, a decline of 50,000 b/d, and indicating a downward revision of less than 10,000 b/d from the previous report. On a quarterly basis, Australia’s oil supply this year is seen to average 420,000 b/d, 420,000 b/d, 480,000 b/d and 500,000 b/d, respectively.

Total developing countries’ oil supply is projected to increase by 100,000 b/d in 2011

to average 12.81m b/d; indicating a significant downward revision of 120,000 b/d from the previous month.

All developing country regions’ supply forecasts experienced downward revisions with Latin America experiencing the largest drop, compared with the previous month.

Latin America and Africa are expected to achieve supply growth, while Other Asia and the Middle East are seen to decline in 2011.

Colombia is expected to achieve the highest growth, followed by Ghana, Brazil and India, while Yemen, Malaysia, and Indonesia are expected to experience the largest declines.

On a quarterly basis, Developing countries’ oil supply this year is seen to stand at 12.82m b/d, 12.49m b/d, 12.81m b/d and 13.12m b/d, respectively.

According to preliminary data, developing countries’ first half oil supply remained flat, compared with the same period of 2010.

Other Asia oil supply is expected to average 3.62m b/d in 2011, a decline of 60,000 b/d from the previous year, and a downward revision of 35,000 b/d, compared with the previous assessment.

India’s oil supply is foreseen to increase by 50,000 b/d in 2011, the only growth among all Other Asia group countries, to average 910,000 b/d, representing a downward revision of less than 10,000 b/d from the previous report. On a quarterly basis, Other Asia’s oil supply this year is slated to stand at 3.68m b/d, 3.53m b/d, 3.62m b/d and 3.67m b/d, respectively.

Indonesia’s oil supply is forecast to decline by 40,000 b/d in 2011 to average 990,000 b/d, representing a downward revision of 10,000 b/d from the previous month.

Latin America’s oil supply is anticipated to increase by 170,000 b/d in 2011 to average 4.84m b/d, indicating a significant downward revision of 55,000 b/d from the previous report.

Argentina’s oil supply is expected to average 730,000 b/d in 2011, a decline of 20,000 b/d, indicating an upward revision of 10,000 b/d from the previous month.

Colombia’s oil supply is projected to increase by 140,000 b/d in 2011, the second-largest growth among all non-OPEC countries,

to average 940,000 b/d, indicating an upward revision of 10,000 b/d from the previous report.

On a quarterly basis, Latin America’s oil supply this year is seen to stand at 4.75m b/d, 4.72m b/d, 4.86m b/d and 5.02m b/d, respectively.

Brazil’s oil supply is projected to increase by 60,000 b/d in 2011 to average 2.86m b/d, indicating a significant downward revision of 70,000 b/d from the previous month. On a quarterly basis, Brazil’s oil supply this year is seen to average 2.66m b/d, 2.67m b/d, 2.71m b/d and 2.83m b/d, respectively.

The Middle East’s oil supply is estimated to decline by 50,000 b/d in 2011 to average 1.73m b/d, indicating a downward revision of 15,000 b/d from the previous month. On a quarterly basis, the Middle East’s oil supply this year is seen to stand at 1.78m b/d, 1.65m b/d, 1.72m b/d and 1.76m b/d, respectively.

Egypt’s oil supply is expected to remain relatively flat in 2011, compared with a year ago, to average 710,000 b/d, representing a minor upward revision of less than 10,000 b/d from the previous report.

Africa’s oil supply is forecast to increase by 40,000 b/d in 2011 to average 2.62m b/d, indicating a downward revision of 10,000 b/d from the previous report. On a quarterly basis, Africa’s oil supply this year is estimated to average 2.62m b/d, 2.59m b/d, 2.62m b/d and 2.67m b/d, respectively.

Total FSU oil supply is foreseen to increase by 100,000 b/d in 2011 to average 13.32m b/d, indicating a downward revision of 20,000 b/d from the previous month. On a quarterly basis, total FSU oil supply this year is estimated to average 13.32m b/d, 13.26m b/d, 13.29m b/d and 13.43m b/d, respectively.

Russia’s oil supply is expected to increase by 100,000 b/d in 2011 to average 10.24m b/d, indicating an upward revision of 20,000 b/d from the previous month. On a quarterly basis, Russia’s oil supply this year is estimated to average 10.21m b/d, 10.23m b/d, 10.27m b/d and 10.24m b/d, respectively. Russian oil production averaged 10.30m b/d in September, up by 20,000 b/d from a month earlier.

Kazakhstan’s oil supply is foreseen to

increase by 30,000 b/d in 2011 to average 1.63m b/d, indicating a minor downward revision of less than 10,000 b/d from the previous month. On a quarterly basis, Kazakhstan's oil supply this year is seen to stand at 1.66m b/d, 1.60m b/d, 1.57m b/d and 1.68m b/d, respectively.

Azerbaijan's oil supply is forecast to drop by 50,000 b/d in 2011 to average 1.02m b/d, indicating a downward revision of around 40,000 b/d from the previous report. On a quarterly basis, Azerbaijan's oil supply this year is seen to stand at 1.02m b/d, 1.00m b/d, 1.01m b/d and 1.07m b/d, respectively.

Other Europe's oil supply is seen to remain flat from 2010 and average 140,000 b/d in 2011.

China's oil supply is expected to increase by 70,000 b/d in 2011 to average 4.19m b/d, indicating a downward revision of 30,000 b/d from the previous month. On a quarterly basis, China's oil supply this year is expected to average 4.22m b/d, 4.19m b/d, 4.14m b/d and 4.21m b/d, respectively.

Looking at 2012, non-OPEC oil supply is forecast to increase by 830,000 b/d next year to average 53.46m b/d, representing a downward revision of 100,000 b/d over the previous month.

The healthy growth is seen in 2012 as non-OPEC output is projected to recover from the meager growth encountered in 2011, as a result of technical and other factors.

Latin America remains the region with the highest expected growth next year among all non-OPEC regions, supported by the foreseen growth in Brazil and Colombia.

North America is next in terms of growth in 2012, with the projected supply increases from the US and Canada seen to offset the decline expected in Mexico supply.

OECD Western Europe supply is expected to witness the biggest decline in 2012 compared with other non-OPEC regions.

On a quarterly basis, non-OPEC supply in 2012 is expected to average 53.49m b/d, 53.28m b/d, 53.34m b/d and 53.73m b/d, respectively.

The main changes in the non-OPEC supply

forecast in 2012 were experienced by the UK and Russia.

UK oil supply in 2012 is expected to average 1.13m b/d, a drop of 60,000 b/d from 2011, indicating a downward revision of around 30,000 b/d from the previous report.

Russia's oil supply is projected to increase by 60,000 b/d in 2012 to average 10.30m b/d.

## OPEC oil production

Total OPEC crude oil production averaged 29.90m b/d in September, down by around 77,000 b/d from the previous month, according to secondary sources.

OPEC crude oil production, not including Iraq, averaged 27.23m b/d in September, a decline of 78,000 b/d from August.

The crude output of Nigeria and Saudi Arabia experienced a decline in September, compared with the previous month, while production from Libya and Angola showed increases.

Production of OPEC NGLs and non-conventional oils are forecast to increase by 390,000 b/d in 2011 to average 5.29m b/d.

In 2012, output of OPEC NGLs and non-conventional oils is anticipated to grow by 360,000 b/d to average 5.65m b/d.

## Downstream activity

With the end of the summer driving season, gasoline and middle distillate demand continued to disappoint in the Atlantic Basin and the bearish sentiment was further fuelled by concern about economic developments and limited export opportunities.

Weaker demand remains the overwhelming factor across all parts of the barrel in the Atlantic Basin and margins have been falling since the first week of September.

The margin for WTI crude on the US Gulf Coast showed a sharp drop of \$3/b to stand at \$30/b in September, although it remained healthy thanks to the relatively cheaper WTI crude. On the other hand, the margin for Arab

Heavy crude on the US Gulf Coast showed a sharp drop of \$5/b.

In Europe, product market sentiment turned bearish and the product cracks moved down across the barrel, due to weaker domestic demand and the impact of the Euro-zone economic concerns. Additionally, bearish sentiment was fuelled by the reduction in gasoline exports to Africa, the US and the relatively lower naphtha requirements from the traditional markets in Asia.

The refinery margin for Brent crude in Rotterdam exhibited a sharp loss of almost \$3/b to drop to 70¢/b in September, the lowest level seen this year.

Asian refining margins managed to keep the ground gained the previous month on the back of strong light distillate demand amid a tighter market, which, along with the reduction in the Dubai price, could offset the loss in the bottom of the barrel. In Singapore, refinery margins for Dubai crude oil remained around \$5/b.

Relatively cheaper crudes have allowed US

**“Total OPEC crude oil production averaged 29.90m b/d in September, down by around 77,000 b/d from the previous month.”**

refiners to continue running at higher refinery runs, despite poor domestic product demand.

US refinery runs averaged 88 per cent of capacity during September, two per cent less than in the previous month, as some refineries were affected by adverse weather conditions.

Additionally, refiners continued refiguring operations to maximize gasoil production instead of gasoline; however gasoline stocks increased during the month, due to poor demand, keeping pressure on margins, while distillate stocks showed a steady level ahead of the winter season. However, both remained above the five-year average, although at lower levels than last year.

**“US gasoline demand decreased to 8.89m b/d in September. This represents a drop of 237,000 b/d over the previous month and a decline of 222,000 b/d from the same month last year.”**

European refiners continued to increase their throughputs after the maintenance season finished and the improvement seen in August in the refinery margins, which resulted in an increase in refinery runs to around 84 per cent, the highest level seen since January.

However, the drop in the margins during September could change the trend. Asian refiners continued to moderate the high run levels seen in previous months, due to maintenance.

Japan has reduced throughput to around 74 per cent and Singapore has been affected by the Shell refinery shutdown.

US gasoline demand decreased to 8.89m b/d in September. This represents a drop of 237,000 b/d over the previous month and a decline of 222,000 b/d from the same month last year.

Middle distillate demand decreased to 3.78m b/d in September, a drop of 74,000 b/d from the previous month and 102,000 b/d lower than in the same month last year.

The middle distillate market continued steadily over the month, despite refiners' maximizing production to take advantage of better margins versus gasoline ahead of the winter season.

The additional stock-builds since mid-July came to an end in September as refinery runs were reduced, lending some support to the market and offsetting the news about the worsening economic outlook.

Additional support came from healthy demand in Latin America – specifically, Argentina, Peru and Costa Rica – and arbitrage opportunities to Europe; however export

activities were partially limited by unfavourable weather conditions.

Weak domestic demand weighed on the US fuel oil market as seasonally low utility demand kept US East Coast prices under pressure. Some support came from the US Gulf Coast on demand for high sulphur fuel oil exports to Latin America, while arbitrage opportunities to Asia were limited.

Product market sentiment in Europe turned bearish and lost the recovery seen last month as product cracks decreased across the barrel due to weaker demand on the deteriorating economic situation in the Euro-zone.

European light distillate cracks suffered a sharp drop, due to poor gasoline demand and weak naphtha buying interest from petrochemical producers.

Gasoline demand has waned with the end of the summer driving season. In the case of naphtha, in addition to the impact of economic concerns, the petrochemical sector has lately preferred propane as a feedstock as it has been moved to a wider counter-seasonal discount, making naphtha less attractive for ethylene cracking units.

Additionally, bearish sentiment was fuelled by the reduction in gasoline demand from Africa and the Middle East and the relatively lower naphtha requirements from the traditional markets in Asia.

Looking ahead, the middle distillate market will be under pressure according to the expected economic performance ahead of the winter season.

Despite the reduced flows from Russia, the European fuel oil market continued losing ground this month, due to lower domestic demand for power generation and weaker Rotterdam bunker fuels sales.

Additional pressure came from ARA fuel oil stocks standing at their highest level since the first quarter of 2010. Looking ahead, the fuel oil market will come under pressure with the end of the peak utility demand season.

Asian light distillate cracks continued to be relatively healthy, despite increasing supply, on the back of strong regional demand and amid lower stocks.

The Asian naphtha market remained steady during the month as sentiment was supported by higher demand from South Korea, limited European inflows and expectations of lower Indian exports, due to maintenance peaking this month.

In the gasoline market, regional demand remained healthy, mainly from Indonesia. The strong demand was also reflected in Singapore light distillate stocks, which hit their lowest levels since the first quarter of 2009.

Looking ahead, the supply situation in Asia is changing with the return of the Formosa complex, which should ease the supply balance and begin to exert pressure on the market.

## Oil trade

Preliminary data indicates that US crude oil imports declined by 401,000 b/d, or 4.4 per cent, to average 8.8m b/d in September. Imports in the month were 423,000 b/d below last year's level, when they stood at 9.2m b/d. Similarly, year-to-date imports are 463,000 b/d lower than the level seen for the same period last year.

Oil imports averaged 8.9m b/d between January and September, compared with 9.4m b/d for the same period a year ago, implying a 4.9 per cent decline.

US oil product imports have dropped steadily since April to a current level of 2.0m b/d. Compared with the month before, the decline is around 63,000 b/d, or 3.04 per cent. For y-o-y data, a sharp drop of around 588,000 b/d, or 22.7 per cent, for September is registered.

Gasoline and jet fuel were the main contributors to the decline in September, falling by 14.8 per cent and 49.3 per cent, respectively.

On the other hand, US oil product exports rose slightly in September to 2.45m b/d, up by 3.78 per cent m-o-m and 7.3 per cent y-o-y. Fuel oil and jet fuel increased by 4.2 per cent and 11.9 per cent, respectively.

As a result, US net oil imports declined in September to 8.3m b/d, down by 554,000 b/d, or 6.23 per cent, from the previous month. However, net oil imports remained 12.1 per cent below the year-ago level.

Japan's crude oil imports continued to stabilize in August after a sustained decline in March-June, due to the tragic events early in the year. The trend was reversed in July, with imports rising by 15.2 per cent m-o-m, while in August they stood at 3.5m b/d, representing a slight decline of 5,000 b/d over the July level. However, y-o-y, July's imports represented a decline of 90,000 b/d, or 2.5 per cent.

Japan's oil product imports, including LPG, stood at 1.07m b/d, up by 4,000 b/d from the month before and 81,000 b/d more y-o-y.

As a result, Japan's net oil imports decreased slightly to 3.9m b/d, declining by 23,000 b/d from July, but increased by 89,000 b/d y-o-y.

China's crude oil imports rebounded in August to 4.97m b/d, up by 8.3 per cent. In a y-o-y comparison, the August level showed a slight increase of 0.7 per cent, or 34,000 b/d. Year-to-date, imports showed an increase of 266,000 b/d to 5.03m b/d, up by 5.6 per cent.

Similarly, China's oil product imports stood at 1.03m b/d, up by 10,000 b/d m-o-m, registering their first rise since the decline in March.

China's crude and oil product imports showed a total increase of 391,000 b/d, or seven per cent, from the previous month and an increase of 202,000 b/d, or 3.5 per cent, over a year earlier.

China's crude oil imports over the first eight months of 2011 registered an increase of 266,000 b/d, or 5.6 per cent, to stand at 5.0m b/d.

Similarly, the country's oil product imports over the same period averaged 1.1m b/d, 153,000 b/d, or 15.9 per cent, implying combined total growth of 420,000 b/d, compared with last year's level.

China's crude oil exports declined by 17,000 b/d to 29,000 b/d, while its oil product exports declined by 140,000 b/d, or 20.9 per cent, to 530,000 b/d.

Crude oil exports over the first eight months of 2011 stood at 49,000 b/d, 3.6 per cent above last year's level, while oil product exports over the same period stood at 640,000 b/d, 4.1 per cent below the level seen in the same 2010 period.

As a result, China's total net oil imports increased by 549,000 b/d, or 11.2 per cent, from the previous month to stand at 5.4m b/d in August. This was the lowest level since the 4.1m b/d registered last October.

India's crude oil imports increased by 121,000 b/d, or 3.7 per cent, in August, partially offsetting the decrease seen the month before to stand at a level of 3.35m b/d.

India's crude oil imports in the first eight months of 2011 were gauged at 3.40m b/d, 277,000 b/d, or 8.8 per cent, higher than in the same period the previous year.

The country's oil product imports declined for three consecutive months up to August by 9.2 per cent, or 30,000 b/d, to an average of around 287,000 b/d.

India's oil product imports in the first eight months of 2011 stood at 335,000 b/d, steady compared with the same period the previous year.

The country's oil product exports increased by 7,000 b/d from the month before to stand at 1.28m b/d. On an annual basis, its oil product exports increased by 5.4 per cent in August 2011.

As a result, India's net oil imports decreased by 99,000 b/d, or 4.4 per cent, to average 2.35m b/d, but remained above this year's lowest level in May of 2.10m b/d.

Total FSU crude exports rose in August by 210,000 b/d, or 3.5 per cent m-o-m, while oil product exports fell by 7.1 per cent, or 194,000 b/d, to a level of 2.56m b/d, due to the start of refinery maintenance programmes.

## Stock movements

In September, US commercial oil inventories fell for the second consecutive month, declining by 13.4m b. At 1,074.6m b, US commercial oil stocks are at their lowest level since April 2011. The drop was attributed solely to crude, which fell by 16.8m b, while oil product inventories rose by 3.4m b.

The decline in total US commercial oil inventories widened the deficit with a year ago to 55.7m b, or 4.9 per cent, from 3.8 per cent a

month earlier; however, they were broadly in line with the five-year average.

US commercial crude stocks fell sharply in September, reversing the build seen in the previous month to stand at 336.3m b, the lowest level since the end of last year.

Despite this draw, US commercial crude oil stocks still indicated a surplus of 7.7m b, or 2.3 per cent, with the five-year average, but stood 23.8m b, or 6.6 per cent, below a year ago.

The fall in US crude commercial stocks came despite lower crude runs, which declined by 340,000 b/d, averaging 15.1m b/d. This corresponds to a refinery operation rate of 87.7 per cent, 1.7 per cent lower than in the previous month, but 1.6 per cent higher than in the same month last year.

US oil product stocks rose by 3.4m b in September to end the month at 738.3m b, the second highest level since the end of last year.

The build in US product stocks in September came on the back of lower demand, reflecting a weak US economy. Total product demand

**“In September, US commercial oil inventories fell for the second consecutive month, declining by 13.4m b.”**

in September averaged just under 19.0m b/d, down by almost 400,000 b/d, or 2.1 per cent, from the previous month and 220,000 b/d, or 1.3 per cent, lower than in the same period last year.

Despite the build, US product inventories remained 31.8m b, or 4.1 per cent, below a year ago in the same period and 8.4m b, or 1.1 per cent, less than the five-year average.

Within products, the picture was mixed. Gasoline, jet fuel and middle distillates experienced builds of 4.9m b, 2.5m b and 100,000 b, respectively, while residual fuel and other unfinished product stocks declined by 4.0m b and 3.9m b, respectively.

At 213.7m b, gasoline stocks reversed the stock-draw incurred the previous month, widening the surplus with the five-year average to three per cent from 1.6 per cent a month earlier. However, the deficit with a year ago remained at 5.6m b, or 2.6 per cent.

The build in gasoline stocks came on the back of lower demand, which declined by around 200,000 b/d to average 8.9m b/d, down by 1.7 per cent from the same period last year.

## **“Japan’s commercial crude oil stocks erased the previous month’s build, falling by nearly 7.0m b to end the month at 97.5m b.”**

Distillate stocks saw a slight build, reversing the stock-draw seen the previous month to end September at 156.8m b, the highest level since the beginning of this year.

Distillate stocks stood 9.8m b, or 5.9 per cent, below a year ago, remaining at 6.8m b, or 4.5 per cent, above the five-year average.

In August, commercial oil stocks in Japan reversed the build experienced last month and fell by 1.4m b to stand at 176.2m b. At this level, Japanese commercial oil stocks stood at 4.6m b, or 2.7 per cent, above a year ago over the same period, but remained at 11.7m b, or

6.2 per cent, below the five-year average. This stock-draw was attributed to the decline of 6.9m b in crude, while product stocks abated this drop, rising by 5.5m b.

Japan’s commercial crude oil stocks erased the previous month’s build, falling by nearly 7.0m b to end the month at 97.5m b, the lowest level since February 2011.

Despite this stock-draw, crude commercial oil stocks in Japan remained in line with the previous year during the same month, but showed a deficit of 5.4m b, or 4.3 per cent, with the five-year average.

Japan’s total product inventories rose for the second consecutive month to stand at 78.7m b, the highest level since September 2009.

With this build, the surplus with a year ago widened to 5.9 per cent from 1.8 per cent a month earlier; however, the deficit with the five-year average remained at 11.7m b, or 6.2 per cent.

The build in Japanese total product stocks in August could mainly be attributed to the increase in refinery output, which rose by almost 240,000 b/d, or 7.5 per cent, to average 3.4m b/d.

At 37.6m b, distillate stocks stood 4.7m b, or 14.4 per cent, above a year ago at the same time, while remaining 2.8m b, or 6.9 per cent, below the five-year average.

Gasoline stocks rose by 500,000 b for the second consecutive month to end August at 13.2m b and remained 3.4 per cent above a year ago and 1.3 per cent higher than the seasonal norm.

Naphtha stocks remained almost at the same level as the previous month to stand at

10.9m b, indicating a deficit of 2.5 per cent with a year ago over the same period.

In Singapore at the end of August, oil product stocks continued their downward trend for the second consecutive month, but the drop was smaller than in July, to end the month at 43.58m b. With this draw, product stocks remained 4.5m b, or 9.4 per cent, below a year ago at the same time.

Within products, the picture was mixed; light and middle distillates saw a drop of around 1.2m b and 600,000 b, respectively, while fuel oil stocks increased by 1.8m b.

Singapore light distillate stocks plunged to a 21-month low below 9m b to stand at 2.9m b, 24 per cent lower than a month earlier.

Middle distillate stocks have experienced a stock-draw for two consecutive months, ending the month of August at 13.26m b, slightly above the level seen at the same time last year.

Fuel oil stocks climbed for the second consecutive month to the highest level since April to stand at 21.5m b. However despite this build, fuel oil inventories indicated a deficit of 1.7m b, or 7.5 per cent, with a year ago in the same period.

Oil product stocks in the Amsterdam-Rotterdam-Antwerp (ARA) area in August fell by 140,000 b to stand at 33.0m b, showing a deficit of 5.6m b, or 14.4 per cent, with last year at the same time.

Within products, the picture was mixed; fuel oil and jet fuel stocks saw a build of 900,000 b and 600,000 b, respectively, while gasoline, naphtha and gasoil declined by 900,000 b, 40,000 b and 700,000 b, respectively. 

Table A: World crude oil demand/supply balance															m b/d
<b>World demand</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>1Q11</b>	<b>2Q11</b>	<b>3Q11</b>	<b>4Q11</b>	<b>2011</b>	<b>1Q12</b>	<b>2Q12</b>	<b>3Q12</b>	<b>4Q12</b>	<b>2012</b>
<b>OECD</b>	49.5	49.3	47.6	45.6	46.2	46.3	44.6	46.0	46.5	45.9	46.3	44.6	46.0	46.5	45.9
North America	25.4	25.5	24.2	23.3	23.8	23.8	23.3	23.7	23.8	23.6	23.8	23.4	23.8	23.9	23.7
Western Europe	15.7	15.5	15.4	14.7	14.6	14.2	14.1	14.7	14.7	14.4	14.2	14.0	14.6	14.6	14.4
Pacific	8.5	8.4	8.0	7.7	7.8	8.3	7.1	7.7	8.1	7.8	8.3	7.1	7.6	8.0	7.7
<b>Developing countries</b>	23.6	24.8	25.6	26.2	27.0	27.2	27.5	27.8	27.9	27.6	27.8	28.1	28.4	28.5	28.2
<b>FSU</b>	4.0	4.0	4.1	4.0	4.1	4.1	4.0	4.4	4.5	4.2	4.2	4.0	4.5	4.6	4.3
<b>Other Europe</b>	0.9	0.8	0.8	0.7	0.7	0.7	0.6	0.7	0.8	0.7	0.7	0.7	0.7	0.8	0.7
<b>China</b>	7.2	7.6	8.0	8.3	9.0	9.1	9.5	9.5	9.6	9.4	9.6	10.0	10.0	10.1	9.9
<b>(a) Total world demand</b>	<b>85.2</b>	<b>86.5</b>	<b>86.1</b>	<b>84.7</b>	<b>86.9</b>	<b>87.5</b>	<b>86.2</b>	<b>88.4</b>	<b>89.2</b>	<b>87.8</b>	<b>88.6</b>	<b>87.4</b>	<b>89.6</b>	<b>90.4</b>	<b>89.0</b>
<b>Non-OPEC supply</b>															
<b>OECD</b>	20.1	20.0	19.5	19.7	20.0	20.1	19.7	20.0	20.3	20.0	20.2	20.1	20.0	20.2	20.1
North America	14.2	14.3	13.9	14.4	15.0	15.3	15.2	15.4	15.4	15.3	15.4	15.4	15.5	15.6	15.5
Western Europe	5.3	5.2	4.9	4.7	4.4	4.3	4.0	4.1	4.3	4.2	4.2	4.0	3.9	4.0	4.0
Pacific	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.6
<b>Developing countries</b>	11.9	11.9	12.2	12.4	12.7	12.8	12.5	12.8	13.1	12.8	13.2	13.2	13.3	13.3	13.3
<b>FSU</b>	12.0	12.5	12.6	13.0	13.2	13.3	13.3	13.3	13.4	13.3	13.5	13.4	13.5	13.5	13.5
<b>Other Europe</b>	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1
<b>China</b>	3.7	3.8	3.8	3.8	4.1	4.2	4.2	4.1	4.2	4.2	4.2	4.2	4.2	4.3	4.2
<b>Processing gains</b>	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2
<b>Total non-OPEC supply</b>	49.9	50.4	50.3	51.1	52.3	52.8	51.9	52.5	53.3	52.6	53.5	53.3	53.3	53.7	53.5
<b>OPEC NGLs and non-conventionals</b>	3.9	3.9	4.1	4.3	4.9	5.1	5.3	5.4	5.4	5.3	5.5	5.6	5.7	5.8	5.7
<b>(b) Total non-OPEC supply and OPEC NGLs</b>	<b>53.8</b>	<b>54.4</b>	<b>54.4</b>	<b>55.4</b>	<b>57.2</b>	<b>57.9</b>	<b>57.2</b>	<b>57.9</b>	<b>58.7</b>	<b>57.9</b>	<b>59.0</b>	<b>58.9</b>	<b>59.1</b>	<b>59.5</b>	<b>59.1</b>
<b>OPEC crude supply and balance</b>															
<b>OPEC crude oil production<sup>1</sup></b>	30.6	30.2	31.3	28.8	29.3	29.6	29.2	29.9							
Total supply	84.4	84.6	85.7	84.2	86.4	87.5	86.4	87.8							
<b>Balance<sup>2</sup></b>	-0.9	-2.0	-0.4	-0.5	-0.5	0.1	0.1	-0.6							
<b>Stocks</b>															
<b>OECD closing stock level<sup>m b</sup></b>															
Commercial	2655	2554	2679	2641	2668	2631	2677								
SPR	1499	1524	1527	1564	1561	1558	1561								
Total	4154	4079	4206	4205	4229	4189	4237								
Oil-on-water	919	948	969	919	871	891	853								
<b>Days of forward consumption in OECD</b>															
Commercial onland stocks	54	54	59	57	58	59	58								
SPR	30	32	33	34	34	35	34								
<b>Total</b>	84	86	92	91	92	94	92								
<b>Memo items</b>															
FSU net exports	8.1	8.5	8.5	9.0	9.1	9.2	9.3	8.9	9.0	9.1	9.3	9.4	9.0	9.0	9.2
<b>[(a) – (b)]</b>	<b>31.4</b>	<b>32.2</b>	<b>31.6</b>	<b>29.3</b>	<b>29.8</b>	<b>29.6</b>	<b>29.0</b>	<b>30.5</b>	<b>30.4</b>	<b>29.9</b>	<b>29.7</b>	<b>28.5</b>	<b>30.5</b>	<b>30.9</b>	<b>29.9</b>

1. Secondary sources.

2. Stock change and miscellaneous.

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

**Table A** above, prepared by the Secretariat's Petroleum 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 1 and 2** on page 54, while **Graphs 1 and 2** on page 55 show the evolution on a weekly basis. **Tables 3 to 8** and the corresponding graphs on pages 56–57 show the evolution of monthly average spot prices for important products in six major markets. (Data for Tables 1–8 is provided courtesy of Platt's Energy Services.)

Table 1: OPEC Reference Basket crude oil prices

\$/b

Crude/Member Country	2010				2011									Weeks 35-39 (week ending)				
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Sep 2	Sep 9	Sep 16	Sep 23	Sep 30
Arab Light – Saudi Arabia	74.55	79.93	83.32	89.24	93.59	101.21	110.37	118.27	110.08	109.37	111.61	106.43	107.72	110.19	110.41	108.86	107.18	103.16
Basrah Light – Iraq	73.70	79.36	82.14	88.09	92.33	99.52	109.16	117.05	107.93	106.65	109.87	105.07	106.68	109.29	109.55	108.06	106.05	101.76
Bonny Light – Nigeria	79.65	84.35	86.83	93.08	98.10	105.66	116.75	127.12	118.88	117.27	119.69	112.41	115.63	117.96	118.27	117.77	114.98	110.03
Es Sider – SP Libyan AJ	77.15	82.60	84.93	91.13	96.10	103.51	114.35	124.52	115.90	114.84	117.69	111.26	113.93	116.59	116.57	116.07	113.28	108.33
Girassol – Angola	77.25	82.55	85.80	91.36	96.18	104.42	115.35	123.74	114.91	114.07	116.63	110.60	111.59	114.95	114.29	113.06	110.67	106.77
Iran Heavy – IR Iran	73.58	78.99	82.24	87.81	92.22	99.29	108.05	116.27	108.28	107.39	110.34	104.90	105.54	108.29	107.97	106.86	104.99	101.06
Kuwait Export – Kuwait	72.92	78.10	81.59	87.25	91.45	98.75	107.66	115.64	107.59	106.65	109.33	104.51	105.16	107.89	107.56	106.05	104.90	100.91
Marine – Qatar	75.26	80.31	83.41	88.98	92.69	100.18	108.87	116.41	109.10	107.83	110.34	105.14	106.46	108.59	108.57	107.19	106.43	102.43
Merey* – Venezuela	66.91	71.21	73.07	77.30	80.09	87.51	96.22	104.44	98.44	99.92	103.26	99.81	99.12	101.90	100.98	100.38	98.49	95.66
Murban – UAE	76.93	82.20	85.36	91.06	95.04	102.75	111.93	119.95	113.37	112.06	114.33	108.92	109.57	111.88	111.83	110.34	109.53	105.33
Oriente – Ecuador	70.69	76.42	77.45	82.99	84.80	90.14	105.04	112.82	104.63	98.87	103.46	97.91	103.82	106.26	106.17	106.57	101.72	99.87
Saharan Blend – Algeria	78.95	83.90	86.28	92.46	97.50	105.01	115.95	126.57	116.80	115.74	117.29	111.16	115.03	116.97	117.67	117.17	114.38	109.43
OPEC Reference Basket	74.63	79.86	82.83	88.56	92.83	100.29	109.84	118.09	109.94	109.04	111.62	106.32	107.61	110.16	110.12	108.89	107.09	103.07

Table 2: Selected OPEC and non-OPEC spot crude oil prices

\$/b

Crude/country	2010				2011									Weeks 35-39 (week ending)				
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Sep 2	Sep 9	Sep 16	Sep 23	Sep 30
Minas – Indonesia <sup>1</sup>	79.47	83.35	85.96	94.98	99.74	105.29	114.62	127.19	119.69	116.28	121.71	117.03	113.32	120.09	116.31	113.41	112.41	108.10
Arab Heavy – Saudi Arabia	71.88	76.98	80.62	86.11	90.26	97.20	105.80	113.74	105.56	104.34	107.55	103.23	103.18	106.22	105.33	103.87	103.14	99.18
Brega – SP Libyan AJ	77.95	83.00	85.58	91.78	96.75	104.16	115.00	125.62	117.00	115.94	118.79	112.36	115.03	117.69	117.67	117.17	114.38	109.43
Brent – North Sea	77.80	82.75	85.33	91.53	96.35	103.76	114.60	123.72	115.10	114.04	116.89	110.46	113.13	115.79	115.77	115.27	112.48	107.53
Dubai – UAE	75.13	80.22	83.72	89.17	92.33	99.93	108.71	116.01	108.76	107.77	109.99	104.96	106.31	108.51	108.45	106.98	106.38	102.19
Ekofisk – North Sea	78.87	83.68	86.33	92.72	97.54	104.65	116.27	124.98	116.34	116.01	118.49	112.22	114.27	117.79	116.91	116.40	113.63	108.73
Iran Light – IR Iran	76.82	82.32	84.38	90.60	94.90	100.91	111.44	118.93	109.86	110.45	113.78	107.28	108.47	111.29	109.47	111.16	108.36	103.85
Isthmus – Mexico	74.16	79.58	82.03	88.17	90.46	94.56	107.97	117.90	109.62	106.30	108.62	101.06	104.05	105.49	106.80	106.75	102.74	98.86
Oman – Oman	75.43	80.44	83.91	89.24	92.49	100.27	109.00	116.56	109.25	107.90	110.41	105.30	106.65	108.84	108.80	107.34	106.51	102.77
Suez Mix – Egypt	74.63	78.76	81.97	86.88	90.87	98.64	108.40	116.50	108.06	108.81	112.08	106.33	107.56	111.53	110.58	109.69	106.92	101.51
Tia Juana Light <sup>2</sup> – Venez.	72.60	77.91	80.14	85.97	88.37	92.85	105.60	115.31	107.97	104.28	106.66	99.24	102.17	103.59	104.88	104.83	100.89	97.08
Urals – Russia	77.39	81.53	84.74	89.74	93.56	101.49	111.50	119.60	111.50	111.68	114.90	109.25	110.39	113.68	113.40	112.51	109.73	104.35
WTI – North America	75.14	81.89	84.08	89.15	89.49	89.40	102.99	109.89	101.19	96.21	97.14	86.30	85.60	88.17	87.57	88.84	83.50	81.59

Note: As per the decision of the 109<sup>th</sup> ECB (held in February 2008), the OPEC Reference Basket (ORB) has been recalculated including the Ecuadorian crude Oriente retroactive as of October 19, 2007. As per the decision of the 108<sup>th</sup> ECB, the ORB has been recalculated including the Angolan crude Girassol, retroactive January 2007. As of January 2006, monthly averages are based on daily quotations (as approved by the 105<sup>th</sup> Meeting of the Economic Commission Board). As of June 16, 2005 (ie 3W June), the ORB has been calculated according to the new methodology as agreed by the 136<sup>th</sup> (Extraordinary) Meeting of the Conference. As of January 2009, the ORB excludes Minas (Indonesia).

\* Upon the request of Venezuela, and as per the approval of the 111<sup>th</sup> ECB, BCF-17 has been replaced by Merey as of January 2009. The ORB has been revised as of this date.

1. Indonesia suspended its OPEC Membership on December 31, 2008.

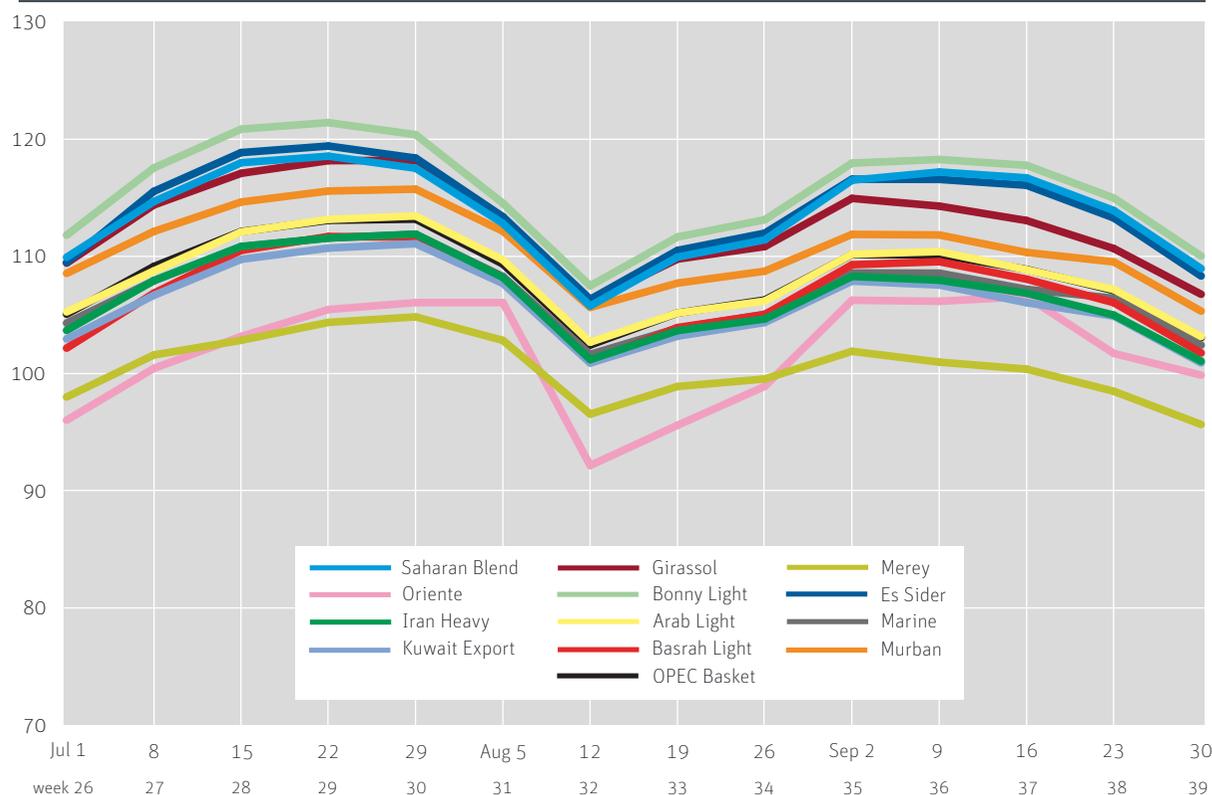
2. Tia Juana Light spot price = (TJL netback/Isthmus netback) x Isthmus spot price.

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; Secretariat's assessments.

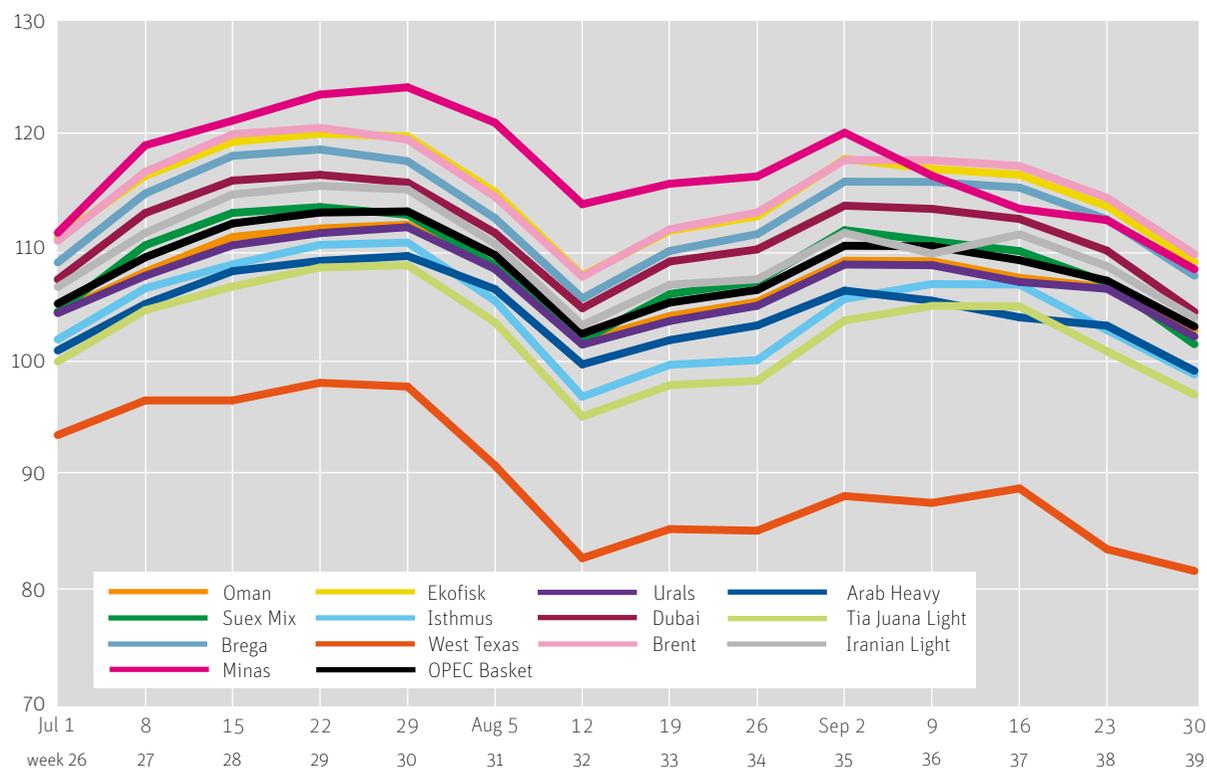
**Graph 1: Evolution of the OPEC Reference Basket crudes, 2011**

\$/b



**Graph 2: Evolution of spot prices for selected non-OPEC crudes, 2011**

\$/b

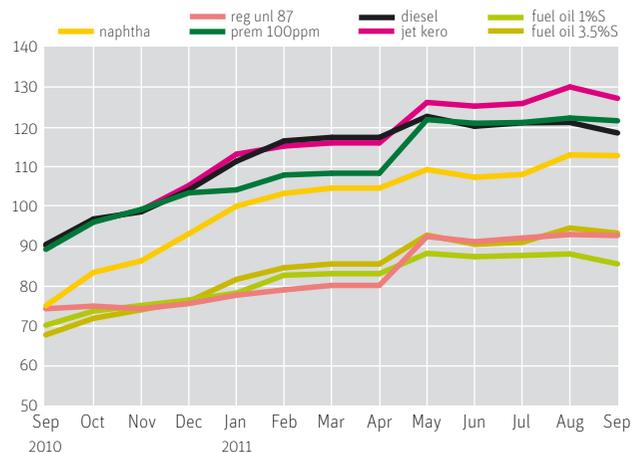


Note: As per the decision of the 109<sup>th</sup> ECB (held in February 2008), the OPEC Reference Basket (ORB) has been recalculated including the Ecuadorian crude Oriente retroactive as of October 19, 2007. As per the decision of the 108<sup>th</sup> ECB, the basket has been recalculated including the Angolan crude Girassol, retroactive January 2007. As of January 2006, monthly averages are based on daily quotations (as approved by the 105<sup>th</sup> Meeting of the Economic Commission Board). As of June 16, 2005 (ie 3W June), the ORB has been calculated according to the new methodology as agreed by the 136<sup>th</sup> (Extraordinary) Meeting of the Conference. As of January 2009, the ORB excludes Minas (Indonesia). Upon the request of Venezuela, and as per the approval of the 111<sup>th</sup> ECB, BCF-17 has been replaced by Merey as of January 2009. The ORB has been revised as of this date.

**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 per centS	fuel oil 3.5 per centS
<b>2010</b>							
September	75.12	73.31	89.26	90.47	90.19	71.28	66.74
October	83.47	73.65	96.08	96.88	96.35	72.50	68.62
November	86.37	74.36	99.26	98.67	99.07	75.18	74.09
December	93.15	75.66	103.44	104.15	105.26	76.54	76.19
<b>2011</b>							
January	100.10	77.75	104.18	111.35	113.13	78.28	81.73
February	103.29	79.10	107.91	116.47	115.17	82.77	84.65
March	104.63	80.22	108.35	117.35	115.96	83.16	85.59
April	108.74	84.22	112.96	121.62	118.96	85.36	87.66
May	109.28	92.48	121.80	122.62	126.12	88.25	92.83
June	107.34	91.18	120.90	120.14	125.19	87.42	90.53
July	108.04	92.10	121.09	121.00	125.85	87.74	91.02
August	112.95	92.98	122.21	121.09	130.02	88.10	94.62
September	112.77	92.73	121.52	118.46	127.15	85.61	93.34

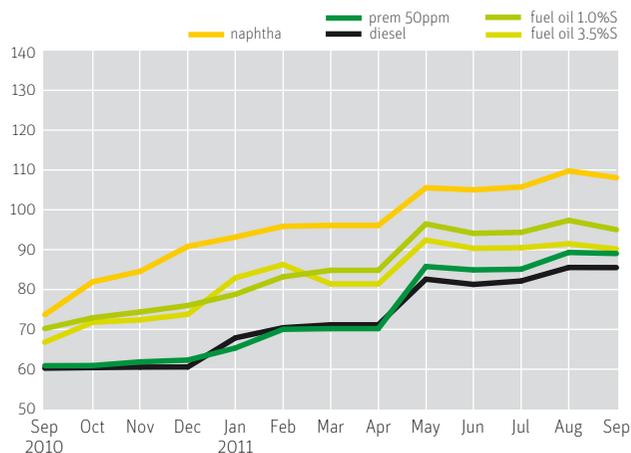


Note: Prices of premium gasoline and diesel from January 1, 2008, are with 10 ppm sulphur content.

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

\$/b

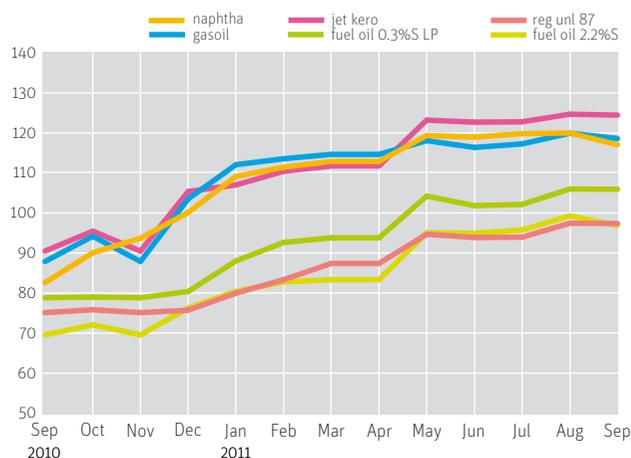
	naphtha	premium gasoline 50ppm	diesel ultra light	fuel oil 1 per centS	fuel oil 3.5 per centS
<b>2010</b>					
September	73.69	60.19	60.26	70.21	66.78
October	81.91	60.22	60.40	72.90	71.76
November	84.55	61.15	60.52	74.36	72.38
December	90.81	61.60	60.55	75.98	73.77
<b>2011</b>					
January	93.16	64.63	67.86	78.79	75.93
February	95.86	69.33	70.41	83.19	80.26
March	96.09	69.49	71.14	84.82	81.40
April	98.85	75.51	75.15	89.81	83.56
May	105.53	85.08	82.59	96.46	92.40
June	105.01	84.23	81.28	94.10	90.34
July	105.72	84.41	82.14	94.35	90.48
August	109.76	88.62	85.53	97.35	91.48
September	108.06	88.35	85.50	95.02	90.17



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

\$/b, duties and fees included

	naphtha	regular gasoline unleaded 87	gasoil	jet kero	fuel oil 0.3 per centS	fuel oil 2.2 per centS
<b>2010</b>						
September	75.19	82.62	83.14	86.31	73.83	67.26
October	76.05	90.07	84.83	88.71	77.47	68.63
November	75.12	93.72	87.90	90.51	78.83	69.56
December	75.74	100.15	103.55	105.38	80.41	76.28
<b>2011</b>						
January	79.97	109.14	112.07	107.02	88.04	80.43
February	83.36	111.45	113.57	110.43	92.65	82.80
March	87.41	112.90	114.66	111.77	93.82	83.35
April	89.00	114.02	116.86	114.98	98.72	86.93
May	94.69	119.37	118.09	123.22	104.25	95.07
June	93.90	118.97	116.39	122.71	101.85	94.95
July	93.96	119.84	117.28	122.80	102.16	95.77
August	97.45	120.00	119.94	124.70	106.00	99.28
September	97.40	117.08	118.63	124.47	105.95	96.94

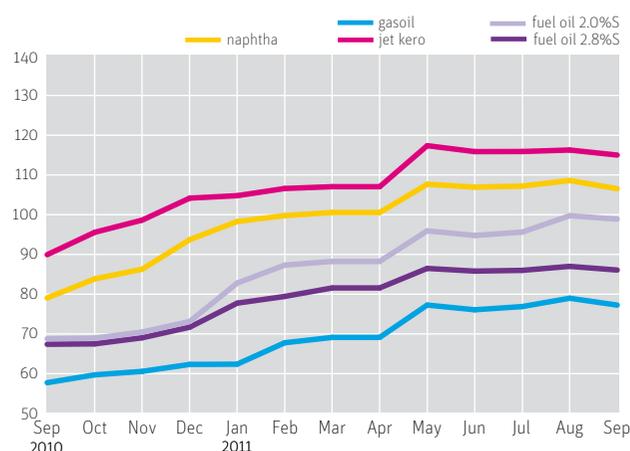


Source: Platts. Prices are average of available days.

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

\$/b

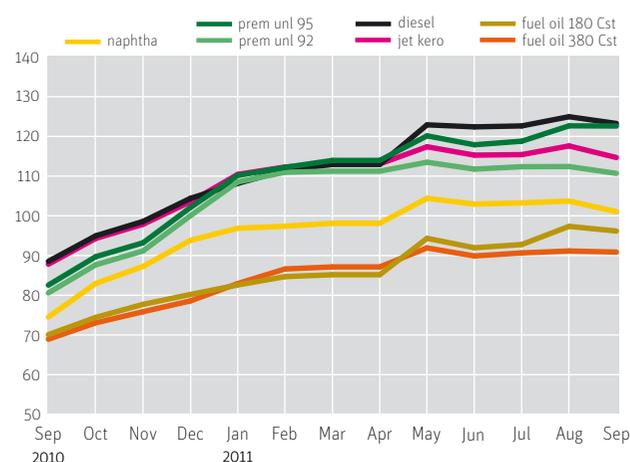
	naphtha	gasoil	jet kero	fuel oil 2 per centS	fuel oil 2.8 per centS
<b>2010</b>					
September	79.04	57.72	89.93	68.79	67.39
October	83.85	59.70	95.56	68.95	67.49
November	86.27	60.57	98.63	70.47	69.02
December	93.71	62.32	104.16	73.13	71.68
<b>2011</b>					
January	98.29	62.38	104.78	82.79	77.74
February	99.77	67.77	106.59	87.31	79.43
March	100.55	69.12	107.04	88.24	81.57
April	104.76	74.09	109.96	90.90	83.48
May	107.65	77.26	117.36	95.93	86.48
June	106.93	76.07	115.87	94.77	85.80
July	107.19	76.88	115.89	95.62	85.99
August	108.60	78.98	116.27	99.74	87.00
September	106.53	77.25	115.00	98.88	86.07



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

\$/b

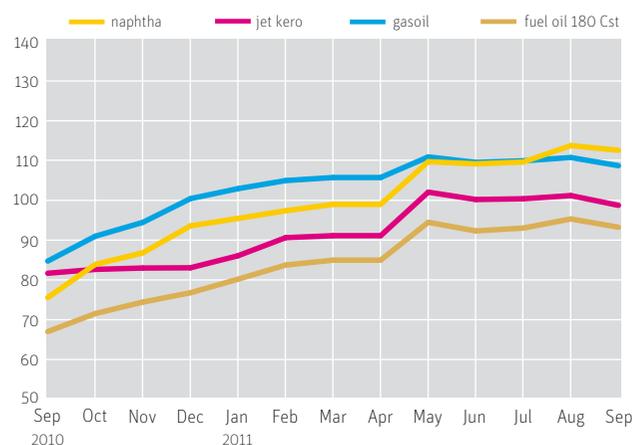
	naphtha	premium gasoline unl 95	premium gasoline unl 92	diesel ultra light	jet kero	fuel oil 180 Cst	fuel oil 380 Cst
<b>2010</b>							
September	74.52	82.55	80.58	88.53	87.81	70.07	68.92
October	82.97	89.71	87.66	94.97	94.30	74.42	73.05
November	87.26	93.21	91.15	98.59	97.87	77.71	75.85
December	93.83	102.09	100.02	104.40	103.53	80.20	78.57
<b>2011</b>							
January	96.87	110.17	108.52	108.17	110.43	82.59	82.95
February	97.39	112.20	110.97	111.46	112.29	84.69	86.62
March	98.13	113.95	111.25	112.94	113.07	85.17	87.14
April	100.83	118.36	113.13	115.79	115.55	87.09	89.71
May	104.41	120.14	113.49	122.91	117.39	94.34	91.92
June	102.96	117.89	111.76	122.40	115.28	91.96	89.89
July	103.25	118.79	112.37	122.64	115.41	92.77	90.66
August	103.72	122.66	112.41	124.96	117.60	97.35	91.15
September	101.06	122.62	110.69	123.26	114.68	96.17	90.87



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

\$/b

	naphtha	gasoil	jet kero	fuel oil 180 Cst
<b>2010</b>				
September	75.56	84.73	81.68	67.01
October	83.91	90.99	82.65	71.55
November	86.82	94.47	82.99	74.43
December	93.59	100.43	83.05	76.78
<b>2011</b>				
January	95.46	102.94	86.08	80.18
February	97.39	104.97	90.62	83.73
March	99.00	105.74	91.12	84.97
April	102.29	110.09	94.49	87.10
May	109.72	110.92	102.06	94.48
June	109.17	109.54	100.21	92.31
July	109.64	109.94	100.40	93.04
August	113.76	110.76	101.20	95.32
September	112.59	108.72	98.75	93.25



Source: Platts. Prices are average of available days.

## Forthcoming events

**12<sup>th</sup> annual World LNG summit, November 14, 2011**, Rome, Italy. Details: CWC Associates Ltd, Regent House, Oyster Wharf, 16–18 Lombard Road, London SW11 3RF, UK. Tel: +44 207 978 000; fax: +44 207 978 0099; e-mail: sshellton@thecwcgroup.com; website: www.thecwcgroup.com.

**Ghana energy summit 2011, November 14–15, 2011**, Accra, Ghana. Details: Oliver Kinross Ltd, 3<sup>rd</sup> Floor, Archway House, 1 Worship Street, London EC2A 2AB, UK. Tel: +44 207 127 45 01; fax: +44 207 127 45 03; website: www.ghanaoilsummit2011.com.

**Smart energy international – India, November 14–15, 2011**, New Delhi, India. Details: Spintelligent, PO Box 321, Steenberg 7947, Spintelligent House, Westlake Business Park, 31 Bell Crescent, Tokai 7975, South Africa. Tel: +27 21 700 35 00; fax: +27 21 700 35 01; e-mail: aditya.jammi@spintelligent.com; website: www.smartenergy-india.com.

**Global refining strategies summit 2011, November 14–16, 2011**, Houston, TX, USA. Details: World Trade Group, 6<sup>th</sup> Floor, 211 Yonge St, Toronto, M5B 1M4 ON, Canada. Tel: +1 416 214 34 00; fax: +1 416 214 34 03; e-mail: info@wtgevent.com; website: www.globalrefiningsummit.com/program.

**Petrochemicals – strategic and investment considerations, November 14–16, 2011**, Saudi Arabia. Details: CWC Associates Ltd, Regent House, Oyster Wharf, 16–18 Lombard Road, London SW11 3RF, UK. Tel: +44 207 978 000; fax: +44 207 978 0099; e-mail: sshellton@thecwcgroup.com; website: www.thecwcgroup.com/training/trainingproduct/index.aspx?ID=130.

**1<sup>st</sup> Oil and gas Africa finance and investment conference, November 15–16, 2011**, Abuja, Nigeria. Details: Africa and Middle East Trade Ltd, Unit 204, Omnibus Business Centre, 39–41 North Rd, London N7 9DP, UK. Tel: +44 207 700 50 44/+44 207 700 71 74; fax: +44 207 681 31 20; e-mail: Ogafic@ametrade.org; website: www.ogafic.com/html/indexEN.html.

**16<sup>th</sup> Turkmenistan international oil and gas conference, November 15–17, 2011**, Ashgabat, Turkmenistan. Details: ITE Group plc, Oil and Gas Division, 105 Salusbury Road, London NW6 6RG, UK. Tel: +44 207 596 5233; fax: +44 207 596 5106; e-mail: oilgas@ite-exhibitions.com; website: www.oilgasturkmenistan.com.

**Powering Africa: the gas option, November 15–17, 2011**, Watamu, Kenya. Details: EnergyNet Ltd, 110 Elm Rd, Kingston Upon Thames, Surrey KT2 6HU, UK. Tel: +44 208 547 06 98; fax: +44 208 541 32 44; e-mail: amy@energynet.co.uk; website: www.energynet.co.uk/pa/pago2010/index.html.

**FLNG Asia Pacific summit 2011, November 16–17, 2011**, Seoul, Korea. Details: IQPC Ltd, Anchor House, 15–19 Britten Street, London SW3 3QL, UK. Tel: +44 207 368 9300; fax: +44 207 368 9301; e-mail: enquire@iqpc.co.uk; website: www.flngkorea.com/Event.aspx?id=544888&MAC=CAC.

**Global floating production systems conference, November 22–23, 2011**, London, UK. Details: IBC Global Conferences, The Bookings Department, Informa UK Ltd, PO Box 406, West Byfleet KT14 6WL, UK. Tel: +44 207 017 55 18; fax: +44 207 017 47 15; e-mail: energycustserv@informa.com; website: www.informaglobalevents.com/event/global-floating-production-systems-conference.

**Risk management in oil and gas, November 22–23, 2011**, Doha, Qatar. Details: Fleming Gulf FZE, Dubai Airport Free Zone, PO Box 54772, Dubai, UAE. Tel: +971 4 60 91 555; fax: +971 4 60 91 589; e-mail: sonika.mendjoge@fleminggulf.com; website: www.fleminggulf.com/oil-and-gas/middle-east/risk-management-in-oil-and-gas.

**Russian power finance and investment, November 22–24, 2011**, Moscow, Russia. Details: Adam Smith Conferences, 29 Bressenden Place, London SW1E 5DR, UK. Tel: +44 207 017 74 36; fax: +44 207 017 74 47; e-mail: irina@adamsmithconferences.com; website: www.adamsmithconferences.com/en/power-finance-investment-russia.

**4<sup>th</sup> International conference on sustainable energy and environment, November 23–25, 2011**, Bangkok, Thailand. Details: SEE 2011 Conference

Secretariat, The Joint Graduate School of Energy and Environment, King Mongkut's University of Technology Thonburi, 126 Prachauthit Road Bangmod Tungkru, Bangkok 10140, Thailand. Tel: +66 028 72 90 145 ext. 4148, 4147, 4130; fax: +66 028 72 69 78; e-mail: see2011@jgsee.kmutt.ac.th; website: www.4th-see.com.

**Offshore heavy oil conference, November 24–25, 2011**, London, UK. Details: Details: IBC Global Conferences, The Bookings Department, Informa UK Ltd, PO Box 406, West Byfleet KT14 6WL, UK. Tel: +44 207 017 55 18; fax: +44 207 017 47 15; e-mail: energycustserv@informa.com; website: www.informaglobalevents.com/event/offshore-heavy-oil-conference.

**Supply chain management in oil and gas, November 28–29, 2011**, London, UK. Details: SMi Group Ltd, Unit 122, Great Guildford Business Square, 30 Great Guildford Street, London SE1 OHS, UK. Tel: +44 207 827 6000; fax: +44 207 827 6001; e-mail: client\_services@smi-online.co.uk; website: www.smi-online.co.uk/2011ogscm13.asp.

**LNG outlook Australasia 2011, November 28–30, 2011**, Perth, Australia. Details: Terrapinn Holdings Ltd, First Floor, Modular Place, Turnberry Office Park, 48 Grosvenor Road, Bryanston 2021, South Africa. Tel: +27 11 516 4000; fax: +27 11 463 6000; e-mail: enquiry.za@terrapinn.com; website: www.terrapinn.com.

**World independent and junior oil and gas congress Asia, November 28–30, 2011**, Hong Kong, PR of China. Details: Terrapinn Holdings Ltd, First Floor, Modular Place, Turnberry Office Park, 48 Grosvenor Road, Bryanston 2021, South Africa. Tel: +27 11 516 4000; fax: +27 11 463 6000; e-mail: enquiry.za@terrapinn.com; website: www.terrapinn.com.

**LNG technology world summit 2011, November 29–30, 2011**, Doha, Qatar. Details: Fleming Gulf FZE, Dubai Airport Free Zone, PO Box 54772, Dubai, UAE. Tel: +971 4 60 91 555; fax: +971 4 60 91 589; e-mail: eva.baskova@fleminggulf.com; website: www.fleminggulf.com/oil-and-gas/middle-east/lng-technology-world-summit-2011.

**Shutdowns, turnarounds and outages Africa 2011, November 29–30, 2011**, Johannesburg, South Africa. Details: IQPC Ltd, Anchor House, 15–19 Britten Street, London SW3 3QL, UK. Tel: +44 207 368 9300; fax: +44 207 368 9301; e-mail: enquire@iqpc.co.uk; website: www.shutdownsafrica.com/Event.aspx?id=561718.

**Oil and gas industry fundamentals, November 28–December 1, 2011**, London, UK. Details: Energy Institute, 61 New Cavendish Street, London W1G 7AR, UK. Tel: +44 207 467 7116; fax: +44 207 580 2230; e-mail: jwarner@energyinst.org.uk; website: www.energyinst.org.uk.

**Talent management summit for the oil and energy sector, November 29–December 1, 2011**, Houston, TX, USA. Details: Talent Management Alliance, 485 7<sup>th</sup> Avenue, Suite 1680, New York, NY 10018, USA. Tel: +1 281 377 58 43; e-mail: info@the-tma.org; website: www.the-tma.org/oilandenergy.

**2<sup>nd</sup> Annual North American LNG exports conference, December 1, 2011**, Houston, TX, USA. Details: Zeus Development Corp, 2424 Wilcrest, Suite 100, Houston, TX 77042, USA. Tel: +1 713 952 95 00; fax: +1 713 952 9526; website: www.zeuslibrary.com/NALNG2011/index.asp.

**Bunker fuel blending technology and economics, December 1–2, 2011**, 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; website: www.cconnection.org.

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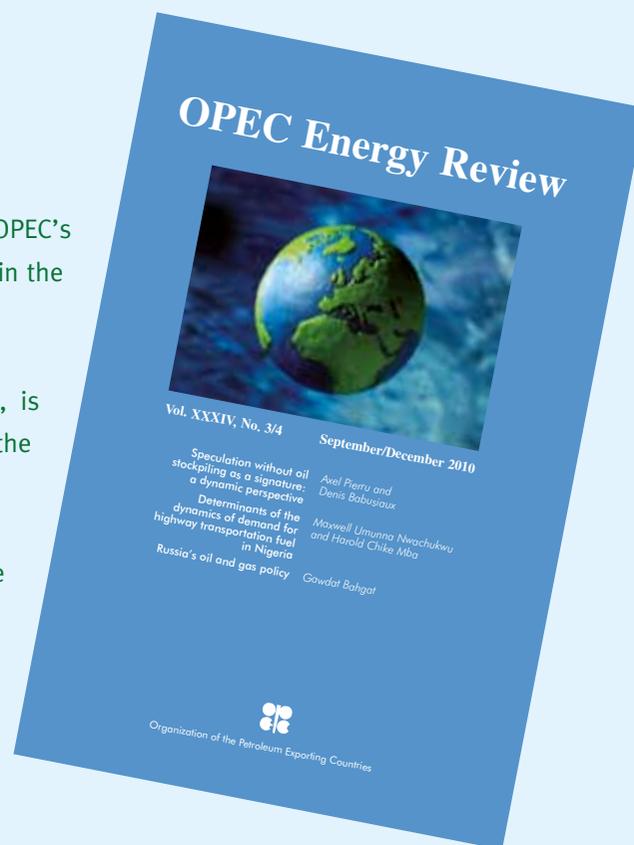
**20<sup>th</sup> World petroleum congress, December 4–8, 2011**, Doha, Qatar. Details: 20<sup>th</sup> WPC Organizing Committee, PO Box 3212, Doha, Qatar. Tel: +974 44 09 55 94; fax: +974 44 29 37 77; e-mail: info@20wpc.com; website: www.20wpc.com.

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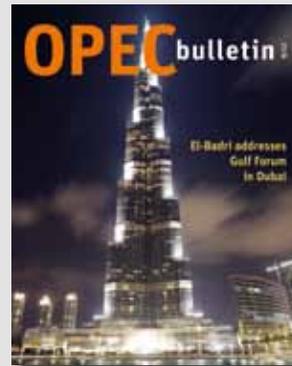
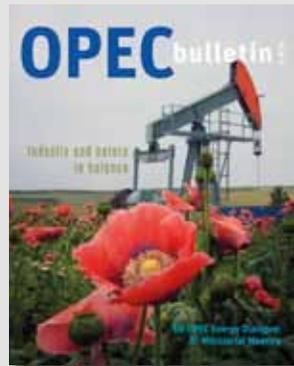
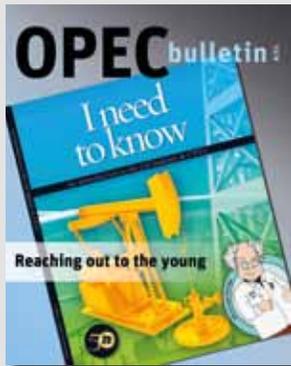
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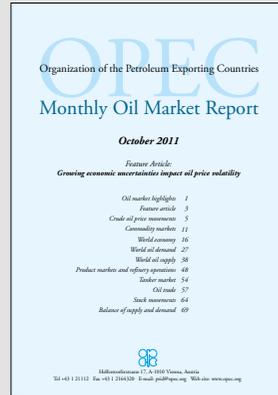
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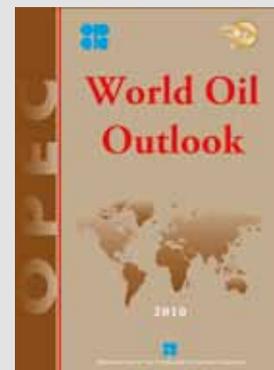
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