

Annual Report 2013



Organization of the Petroleum Exporting Countries

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**Organization of the Petroleum Exporting Countries
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Organization of the Petroleum Exporting Countries
ISSN 0474-6317

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Abdalla Salem El-Badri, Secretary General

Foreword

The year 2013 saw the world economy take tentative steps towards growth, starting weak at the beginning of the year and gaining momentum by the second half of the year, with developments influenced by small improvements in Europe and the US. These slow but steady gains led to a relatively smooth year and firm oil demand, with prices remaining in a satisfying range.

With little to disrupt the overall world market and the market very well supplied, OPEC's ongoing commitment to stability was easy to maintain throughout the year, and both Meetings of the Conference in May and December elected to hold OPEC oil production at 30 mb/d. The Brent crude price remained quite stable throughout the year as well, despite a slight dip below \$100 in mid-April, indicating that the market was well-balanced.

The OPEC Basket saw some fluctuation, but remained between \$115/b and \$96/b, much less volatile than in the previous year. It peaked in the first quarter, dropped to its lowest point in the second quarter, and ranged between \$107 and \$113/b in the second half of the year. The Basket averaged \$105.87/b in 2013, compared with the previous year's average of \$109.45.

Regional issues played a big role in world economic performance for the year, from 'sequestration' and the Fed's tapering of economic stimulus in the US slowing dynamic growth recovery to the end of the Euro-zone's recession, Japan's strong stimulus measures, China's continued economic development, and a slowdown in some major developing economies such as India and Russia.

Two major tendencies stood out as important: fiscal and monetary trends in major OECD economies and a deceleration in emerging economies due to lack of investment and a withdrawal of for-

eign capital in anticipation of tighter US monetary policy. Central bank policy remained a cornerstone of recovery, while a protracted slowdown in value-based world trade — primarily in advanced economies — negatively affected emerging economies.

In total, emerging economies grew by an average 3.6 per cent in 2013, down from 4.1 per cent the previous year. Currency depreciation and a growing risk-averse sentiment among investors also had an impact on figures.

There were encouraging signs of growth from the US, with Fed tapering becoming a reality by year's end, though a particularly harsh winter affected both oil output and productivity. The country's GDP is expected to edge up to reach growth of 2.5 per cent in 2014.

Stimulus efforts initiated by the newly elected government of Japan assisted that country's recovery, while the Euro-zone encountered various issues, from weak peripheral economies to fragility in its banking system. However, after a strong first quarter decline, the region moved out of recession in the second quarter and continued its tentative growth.

A shift in economic activity from emerging economies to industrialized nations may have been behind relatively subdued oil demand growth, despite accelerating activity in the world economy, with world oil demand up by 1 mb/d to 90.0 mb/d. Improvement in macroeconomic indicators in most OECD regions led to upward revisions to oil demand data, while slower economic activity in non-OECD regions dragged it down.

Rising US production led to an obvious increase of tight oil on the market. This was welcomed by OPEC as a healthy development for the market, and helped balance out declines elsewhere in the world over the year. Production from the area is

expected to rise again next year and up to 2018 before declining afterwards. This could have an effect on the call for OPEC, but it is expected to be minimal. Demand for oil is expected to continue to come from the East, where 90 per cent of growth currently stems.

Some Member Countries had a difficult time in 2013, with production down in Iran due to ongoing international sanctions, and Iraq affected by disruptions. Libya faced political turmoil in the second half of the year, shutting in much oil production. Nonetheless, OPEC stayed true to its commitment throughout the year to produce a steady supply of oil to consumers.

Dialogue remained a central part of OPEC's mandate in 2013, as it has since the Organization's inception in 1960. To that end — and with energy high on the global agenda — OPEC sent and received many delegations throughout the year. Two exchanges that stand out from last year are the High-Level Meeting of the OPEC-Russia Energy Dialogue, held in Moscow in October, and the EU-OPEC Ministerial talks, held at the Secretariat in November, both of which are highlighted in this year's Annual Report.

The Energy Dialogue between OPEC and the EU celebrated a mini-milestone in early November with the tenth ministerial meeting of the initiative at a time when the outlook for Europe was beginning to positively evolve. The talks underlined the importance of a stable, predictable oil market that balances the needs of producers and consumers, and, at the same time, supports steady world economic growth.

OPEC also joined Middle Eastern leaders at the Chatham House Conference on Middle East and North African Energy in January. The Secretary General was honoured in Qatar in March of 2013 with the Abdullah Bin Hamad Al-Attiyah International Energy Award for Lifetime Achievement for Contribution to the Advancement of OPEC. In Moscow in July, OPEC attended the 2nd Summit of the Heads of State and Governments of the Gas Exporting Countries Forum, and then headed to Korea for the 5th Asian Ministerial Energy Roundtable in September. The third quarter of 2013 was exceptionally busy with the Kuwait Oil

and Gas Show and Conference, the Gulf Intelligence Oman Energy Forum and the aforementioned Russia Dialogue in October. OPEC also participated in environmental talks at the Warsaw Climate Change Conference in November.

OPEC examines all factors affecting the oil industry, and to this end has been working together with the European Union to discuss manpower shortages in the industry. The European Union met with OPEC at the OPEC-EU Roundtable on Manpower Bottlenecks in the Oil & Gas Industry in June to review an EU-commissioned report on the subject, also highlighted in this report.

In other news, founding Member Country Venezuela mourned the loss of President Hugo Chávez, who was a great proponent of OPEC.

As always, there are a lot of uncertainties facing the oil market, including the economy and politics. Nonetheless, the year 2014 is expected to be a bit better than 2013. Thus, the OPEC *World Oil Outlook (WOO)* raised its long-term reference case projection for oil demand growth at its launch in November. The continued need for investment was also made clear in the *WOO*, a challenge that is being met by Member Countries, which have annual expenditures of \$40–50 billion per year.

With world economic growth projected to be 3.5 per cent in 2014 and an overall improvement in oil demand evident over the past few years, the future looks bright. OPEC will continue to do its part, remaining faithfully ready to supply consumers with enough oil at a reasonable price.



Abdalla Salem El-Badri
Secretary General



The world economy

World economic growth in 2013 hit a low mark at 2.9 per cent, following the 2009 global economic crisis (**table 1**). The first quarter was particularly weak, not only in the OECD, but also in some of the major emerging economies. In the second half of the year recovery became apparent, with the major OECD economies showing some remarkable dynamic, driven by the US, the UK and Germany. This solid performance in advanced economies may lay the base for higher growth in 2014. Some recovery from relatively low growth in the major emerging economies should also feature during the year.

The main issues that shaped economic performance in 2013 on a regional level and in greater detail were:

- In the US, the drag that automatic sequestration and the ongoing fiscal crisis had on the relatively dynamic growth recovery until the end of the year;
- The end of the Euro-zone's recession in the second quarter;
- Japan's bold stimulus measures;
- China's relatively sound economic development, despite challenges stemming from its shadow banking system;
- India's sluggish growth momentum due to a shortfall of investment;
- Brazil's slowing growth amid capacity constraints and insufficient investment;
- Russia's slowdown, caused by declining investment amid significant capital outflow and low foreign investment activity.

While regionally embedded, all these issues caused second-round effects globally.

From these regional issues, two major trends became apparent in 2013. In the major OECD economies, the influence stemming from fiscal and monetary decisions — whether positive or negative — remained significant. Secondly, a slowdown in emerging economy investments — which already started in 2012 — became a considerable burden, triggering a deceleration of these economies, with some exception in China, where investment activity

was also slowing, but in a less accentuated manner. China's economy, however, remained impacted by drag from the shadow banking system.

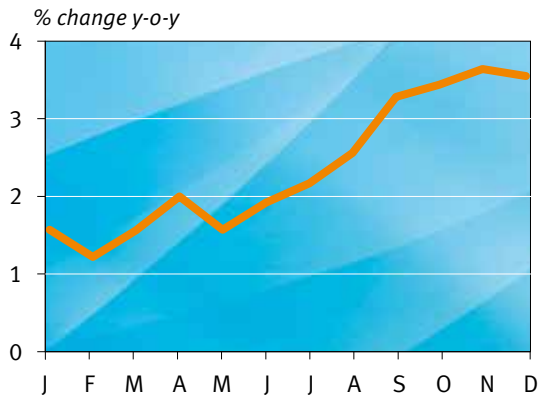
Globally, the most important influence continuing to shape economic development in 2013 was the continuation of central banks' monetary expansion, albeit signs in May that there would be some reduction in monetary supply, mainly by the Fed. However, in general, central bank policy remained a central cornerstone of the recovery. The other important global trend was the protracted slowdown in value-based world trade, which continued declining for most of 2013 as more regionalisation took place, mainly in the advanced economies. Both of these dynamics accentuated the deceleration in emerging economies, which still lack a sufficient domestic market to compensate for negative external effects.

The year 2013 had a relatively slow start. Quarterly global growth for the G7 economies stood at only 1.4 per cent quarter-on-quarter (q-o-q) at the seasonally adjusted and annualised rate (saar) in the first quarter of 2013 (1Q13), while picking up considerably during the remainder of the year, reaching 2.6 per cent in 2Q13, 2.7 per cent in 3Q13 and two per cent in 4Q13. Drag in the G7 in 1Q13 was the main reason growth in the OECD economies stayed at the very low rate of only 1.2 per cent for the year in total. Furthermore, the four major emerging economies — China, India, Brazil and Russia — also saw their slowest growth in 1Q13, with an average of 4.4 per cent q-o-q saar, which appreciated to more than six per cent for the remainder of the year.

This shift in economic activity from emerging economies to the industrialised nations may also be a factor behind relatively muted oil-demand growth, despite accelerating activity in the world economy. Relatively higher energy efficiency in the advanced economies causes a lower demand elasticity compared with the major emerging economies, which have been the main marginal demand factor in the past years.

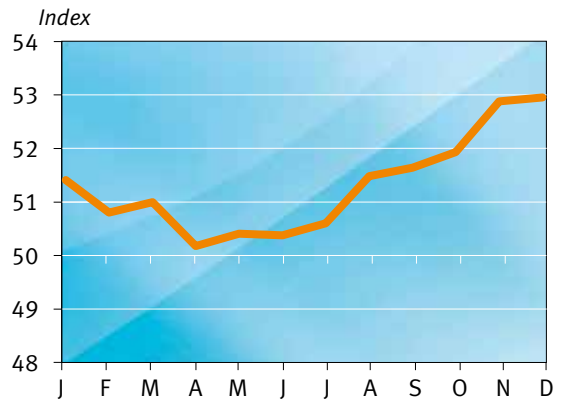
The yearly growth trend was in line with the global Purchasing Managers' Index (PMI), a leading indicator for future monthly production, as provided

Figure 1
Global industrial production



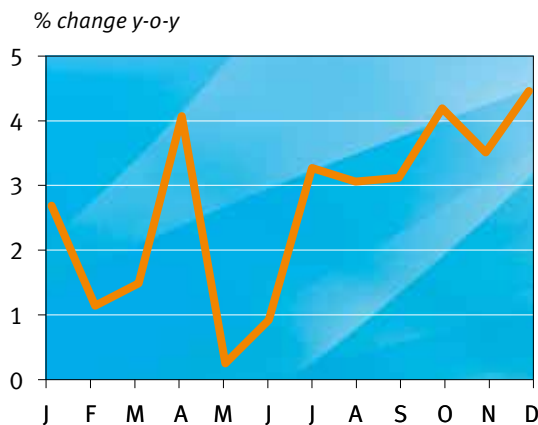
Source
Netherlands Bureau for Economic Policy and Haver Analytics.

Figure 2
Global manufacturing PMI



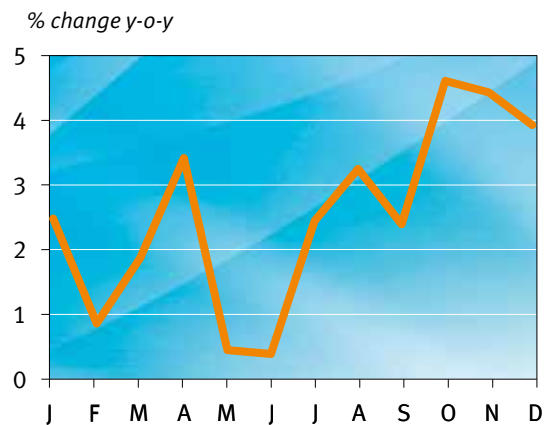
Source
JP Morgan, Markit and Haver Analytics.

Figure 3
World trade



Source
Netherlands Bureau for Economic Policy and Haver Analytics.

Figure 4
World exports



Source
Netherlands Bureau for Economic Policy and Haver Analytics.

by JP Morgan and Markit (**figure 2**). While the PMI for manufacturing started only slightly above 50 index points — the level that points to an expansion in the manufacturing sector — it moved up constantly to reach 53.5 at the end of the year.

Currency markets were also moved by monetary policy. The two main developments to mention here were the continued and strong depreciation of the Japanese yen — fuelled by the expansive monetary policy of the Bank of Japan (BoJ) compared with moderation in expansion of the US dollar — and the decline in emerging market currencies, with the exception of the yuan.

Compared with the major currencies, with the exception of the yen, the US dollar experienced some weakening. On a yearly average it declined *versus* the euro by 4.4 per cent, while *versus* the pound sterling it depreciated by 5.3 per cent and compared with the Swiss franc it fell by three per cent. In relation to the Japanese yen, however, it appreciated by 23.7 per cent.

North America, Japan and the Euro-zone

While in past years on most occasions the three major economic regions of the OECD experienced differing growth patterns, a recovery in 2013 was evident in all of them. The US economy grew by 1.9 per cent, Japan expanded by 1.7 per cent and only the Euro-zone was weak at 0.4 per cent, but this was due to a relatively extreme low 1Q13. It already moved out of its recession by 2Q13. The positive development in these three economies occurred, however, at differing paces and for different reasons.

The US started the year with a very low growth rate, being largely impacted by the ongoing debate about automatic austerity measures — labelled “sequestration” — and the debate in Congress on raising the debt ceiling. Consequently 1Q13 growth stood at a low 1.1 per cent q-o-q saar. By 2Q13, growth had already moved to 2.5 per cent, reaching a high of 4.1 per cent in 3Q13.

In 4Q13, the fiscal debate reached its climax with a multi-day government shutdown when no agreement was found on budget issues in Congress. Despite this drag on confidence, the economy’s underlying momentum was relatively substantial and the quarter finally expanded by 2.6 per cent q-o-q saar. This positive trend in the US economy was also reflected in the labour market. The unemployment rate — an indicator of lag — fell from 7.9 per cent in January to 6.7 per cent in December. This was acknowledged by the Fed’s decision to taper its extraordinary monetary supply mechanism, dubbed QE3, by \$10 billion from \$85 billion to \$75 billion at the end of the year.

Japan’s recovery benefitted greatly from governmental stimulus efforts initiated by the newly elected government. The three main measures were fiscal and monetary stimulus, along with structural improvements in the economy. While 1Q13 was supported by fiscal measures and tentative monetary stimulus, a major monetary stimulus package by the BoJ was announced in April. This aimed to significantly increase monetary supply in order to achieve an inflation rate of two per cent by the end of 2014. A positive side effect for the export-led economy was the achievement of the government’s aim to depreciate the yen. The yen declined by more than 20 per cent compared with the US dollar over the previous year and total inflation stood at 1.6 per cent in December, up from –0.3 per cent in January. Indeed, inflationary momentum picked up significantly in 2H13. GDP growth stood at 4.5 per cent q-o-q saar in 1Q13 and at 4.1 per cent q-o-q saar in 2Q13, while 3Q13 saw a move back to only one per cent q-o-q saar and a further drop to 0.7 per cent q-o-q in 4Q13.

The Euro-zone remained impacted by various issues, ranging from the weak situation in its peripheral economies to the fragility of parts of its banking system. The European Central Bank (ECB) continued its support for the economy and the financial system, but could not keep the economy’s lending trend from deteriorating. Lending to private households continued declining throughout the

year, reaching a low of –3.2 per cent year-on-year (y-o-y) in November. The ECB announced that it would introduce measures to particularly target lending to small and medium-sized enterprises, as these are largely reliant on bank loans in Germany and France, its two largest economies. France’s economic weakness, which became apparent in most of 2H13, was a major factor for the region’s lack of economic improvement to a larger extent. Specifically, Germany and the peripheral economies were improving and supporting the recovery over the year. While in 1Q13 economic growth stood at –0.2 per cent q-o-q, it moved to 0.3 per cent q-o-q in 2Q13 and 0.2 per cent in 2H13. The issues that remained throughout

the year were manifold, but of particular concern were the unemployment rate — which held at more than 12 per cent for most of the year — and inflation, which moved to a low in December of only 0.8 per cent. This led to acknowledgement by the ECB that while it considers very low inflation to be a temporary phenomenon, it requires close monitoring.

Emerging and developing economies

In 2013, the major emerging economies displayed different GDP growth rate trends when compared with figures from 2012. While China’s growth pace remained the same at 7.7 per cent, Brazil’s GDP grew more

Table 1
World economic growth rates, 2012–13 (% change over previous period)

Grouping/country	2012	2013
OECD	1.5	1.3
Other Europe	–0.4	1.4
Developing countries	4.1	3.6
Africa	5.7	3.5
Latin America and Caribbean	2.6	3.1
Asia and Oceania	4.3	3.9
Asia Pacific	4.5	4.2
OPEC	5.4	2.7
China	7.7	7.7
FSU	3.6	1.9
Total world	3.1	2.9

Sources

Secretariat estimates; OECD, *Main Economic Indicators*; OECD, *Economic Outlook*; International Monetary Fund (IMF), *World Economic Outlook*; IMF, *International Financial Statistics*.

quickly by 2.3 per cent in 2013, up from one per cent in 2012. India and Russia, however, showed moderation in their economic growth rates. The Indian economy grew by 4.7 per cent in 2013, down from 5.1 per cent in 2012, while Russia posted a GDP growth of 1.3 per cent, compared with 3.4 per cent in 2012 (**table 2**).

Developing economies grew by an average of 3.6 per cent, after registering 4.1 per cent growth the previous year. Many emerging and developing economies have been impacted by currency depreciation, stemming from tapering speculation in relation to US Federal Reserve monetary stimulus. This has collaborated with a growing risk-averse sentiment among investors, especially in countries with high inflation and a current account deficit. The result was seen in a slower inflow of foreign investment, while at the

same time rising inflationary pressures and economic uncertainty discouraged a healthy increase in household spending. In some African economies, political uncertainty and labour issues continued to cause problems in 2013, limiting actual growth rates notably below their potential.

In 2013, Africa's average GDP growth stood at 3.5 per cent, while it was at 3.1 per cent in Latin America and the Caribbean, 4.2 per cent in the Asia Pacific region, 2.7 per cent for OPEC Member Countries and two per cent for the Middle East and North Africa (MENA) region. Latin America and the Caribbean was the only emerging and developing economic region which posted an acceleration in average GDP growth rates in 2013 compared with 2012, on the back of faster GDP growth in Brazil and Argentina (**table 1**).

Table 2
Summary of macroeconomic performance of the 'BRIC' countries in 2013

	GDP growth rates	Consumer price index	Current account balance	Governmental fiscal balance	Net public debt
		<i>% y-o-y change</i>	<i>US \$ bn</i>	<i>% of GDP</i>	<i>% of GDP</i>
Brazil	2.3	6.2	-81.4	-3.2	56.8
Russia	1.3	6.8	33.3	-0.5	8.1
India	4.7	10.0	-49.2	-5.6	52.0
China	7.7	2.6	188.6	-1.8	16.3

Sources

Source: OPEC Secretariat, Consensus, Economist Intelligence Unit and Financial Times.

Brazil, Russia, India and China

Brazil's economy showed much better performance in 2013 than in 2012. GDP growth rates accelerated in 2013 over 2012, climbing from 0.8 per cent to 1.8 per cent in 1Q13, 0.6 per cent to 3.3 per cent in 2Q13, 0.9 per cent to 2.2 per cent in 3Q13 and 1.8 per cent to 1.9 per cent in 4Q13. The overall rate of economic growth for 2013 was 2.3 per cent, up from one per cent in 2012. A fall in Gross Fixed Capital Formation (GFCF) was a significant trigger for the 2012 slowdown in GDP growth. Likewise, it was a main driver behind the improvement witnessed in 2013. On the other hand, 2013's growth was notably less than foreseen at the onset of the year due to accelerating inflation coupled with deteriorating consumer confidence mid-year and at year end. This clearly limited private consumption, which accounts for about 64 per cent of Brazil's GDP.

In 2013, Brazil's current account deficit increased to \$81 billion from \$54 billion the previous year. Most of the deterioration was caused by a widening trade deficit, which in turn was driven by slowing oil exports, soaring oil-related imports and worsening service and income accounts. This brought the current account deficit in 2013 to 3.7 per cent of GDP, up from 2.4 per cent in 2012. For the first time since 2000, Brazil had to use foreign exchange reserves to cover some of its deficit — approximately \$6 billion. The good news is that Brazil still has around \$370 billion in foreign exchange reserves, an amount that exceeds the total external debt.

In mid-2013, the central bank started a tightening policy by raising the Selic rate. This came on the back of soaring inflation, which was close to or breached the seven per cent y-o-y mark in March, April, May and June of 2013. Increasing the benchmark interest rate was meant to support the currency after first official talks in May about the US tapering of its quantitative easing programme. Inflation reacted accordingly by falling to as low as 5.3 per cent in the last month of the year.

In 2013, the Russian economy grew at its slowest pace since the recession of 2009. The GDP posted growth of 1.3 per cent. This was mainly supported by:

financial activities at 11.5 per cent y-o-y growth, fishing at 3.7 per cent and agriculture at three per cent. Real estate activities increased by two per cent and hotels and restaurants expanded by 1.9 per cent. Conversely, the construction sector shrank by 2.4 per cent, production of electricity, gas and water fell by 2.3 per cent and mining output rose by 0.9 per cent. The manufacturing sector showed a downward trend in 2013, with the manufacturing PMI in contraction territory for most of the second half of the year. Unemployment fell from around six per cent at the beginning of the year to 5.6 per cent in December. Inflation, on the other hand, was lower in the second half of 2013, fluctuating at sub-7.0 per cent rates of growth. However, it was still higher than the central bank's target. The central bank left interest rates unchanged in 2013 — despite disappointing economic activity — in order to curb above-target inflation and lend some support to the currency against exogenous depreciation factors. Retail sales spent all of 2013 growing at sluggish rates of less than five per cent y-o-y, which is notably lower than for most of 2012. Russia's capital outflows were still significant in 2013 at an estimated amount of \$62 billion, following an estimated net capital outflow of \$55 billion in 2012.

National accounts show that India's economy grew by just 4.7 per cent y-o-y in 4Q13, a slight slowdown from 3Q13. It was the seventh consecutive quarter that the GDP grew by less than five per cent, and compares poorly with the near eight per cent average of the previous ten years. Activity has been held back by weak consumption and investment. Net exports made a positive contribution, but this was largely due to a sharp fall in imports. Overall, GDP growth of 4.7 per cent in 2013 was in line with expectations, and a very gradual pick-up is expected over the next couple of years once general elections are out of the way. Foreign direct investment (FDI) in India stood at \$22.4 billion in the 2012 fiscal year, considerably less than the \$35.1 billion of the previous year. The share of fixed investment to GDP fell to 29 per cent in the 2012 fiscal year, down from a peak of 33 per cent in the 2007 fiscal year, with almost half of this loss coming from

Table 3
Comparison: OPEC and non-OPEC developing countries

	2012		2013*	
	OPEC	Non-OPEC	OPEC	Non-OPEC
Real GDP growth rate (%)	5.4	4.1	2.7	3.6
Petroleum export value (US \$ bn)	1,261.2	398.7	1,188.0	394.0
Value of non-petroleum exports (US \$ bn)	427.0	3,073.0	423.3	3,190.2
Oil exports as percentage of total exports (%)	74.7	11.5	73.7	11.0
Value of imports (US \$ bn)	807.0	3,918.7	858.2	4,048.3
Current account balance (US \$ bn)	503.2	-170.4	370.6	-169.4
Average Reference Basket price (US \$ bn)	109.5	-	105.9	-
Crude oil production (mb/d)	31.1	10.0	30.2	9.9
Reserves, excluding gold (US \$ bn)	1,308.0	2,769.0	1,408.4	2,800.3

*2012 data are preliminary estimates.

Note

Figures are partly estimated. Non-OPEC DCs do not include China, the FSU and Russia, in line with the ECB country groupings.

Sources

IMF, International Financial Statistics; IMF, World Economic Outlook; EIU, country reports; World Bank Development Indicators; OPEC Annual Statistical Bulletin; OPEC database; OPEC Secretariat estimates.

Table 4
OPEC Member Countries' real GDP growth rates, 2012–13 (% change over previous period)

Member Country	2012	2013
Algeria	3.3	3.2
Angola	6.8	6.5
Ecuador	5.1	4.0
IR Iran	-1.9	-0.9
Iraq	8.4	6.6
Kuwait	8.3	4.0
Libya	92.1	-2.0
Nigeria	6.5	6.0
Qatar	6.2	5.0
Saudi Arabia	5.8	3.8
United Arab Emirates	4.4	3.5
Venezuela	5.6	1.5
Average OPEC	5.4	2.7

Sources

IMF, International Financial Statistics; IMF, World Economic Outlook; Economist Intelligence Unit (EIU), country reports; official OPEC Member Countries' statistics; Secretariat's estimates.

a less productive household sector, though it seems FDI is normalising in sectors such as retail, telecom and aviation. FDI limits increased in several sectors in 2013 and restrictions in the banking sector eased.

India is one of many emerging market economies which suffered from the withdrawal of foreign capital in anticipation of tighter US monetary policy in 3Q13. The initial calculation of fund investors was that dollar-denominated assets would become relatively more attractive as US interest rates began to rise from historic lows.

It seems that the slide in the Indian rupee is likely to dampen growth in the short term due to a high inflation rate, tighter credit conditions and a loss of monetary policy support. Falling sentiment related to recent weakness in financial markets has created a deep sense of gloom about India's economic prospects, impacting business and consumer confidence.

The slowdown in India's growth in 2013 was driven by two main factors; higher interest rates caused by the need to counter inflationary pressures and a steep decline in private investment.

China's National Bureau of Statistics issued economic data for 2013 showing that the Chinese economy achieved growth of 7.7 per cent y-o-y during 4Q13, down marginally from 7.8 per cent in 3Q13. Slowing exports and investments led to softer-than-expected industrial output, which dipped below the ten per cent range after an extended spell in that territory during the first half of 2013.

Points of resilience have been steady retail sales — which registered growth of 13.6 per cent — and improved real estate investment, which accelerated to

grow by 19.8 per cent y-o-y. China's rapid growth and urbanisation over the past three decades has created growing environmental challenges with regard to air pollution, energy intensity and carbon emissions, as well as water scarcity and water pollution. Managing such challenges properly is vital if China is to maintain its long-term growth potential and a good quality of life for its citizens. Rapid urbanisation has placed a particular strain on resources around cities, as the incidence of smog and regular food quality scandals illustrate.

Domestic risk to growth projections also stems from monetary and financial developments, including rising local government debt. Some warning signs include growth in shadow banking, sharply falling property prices and local governments which are further in arrears. External risks stem from the US Federal Reserve tapering of quantitative easing, which could dry up capital inflows, heightening risk aversion and undermining business confidence.

The benign economic outlook provides favourable conditions for structural reforms.

The third plenary session of the 18th Communist Party of China (CPC) Central Committee, which concluded on 12 November 2013, outlined an ambitious reform plan for the next five to ten years, laying out 60 reform tasks addressing a variety of areas. On the economic front, priorities include administrative reform, financial reform, fiscal reform, land reform and resource pricing reform. The report highlighted that the market should play a "decisive" role in resource allocation, in contrast to the previous language used of having a "basic" role.



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Oil market developments

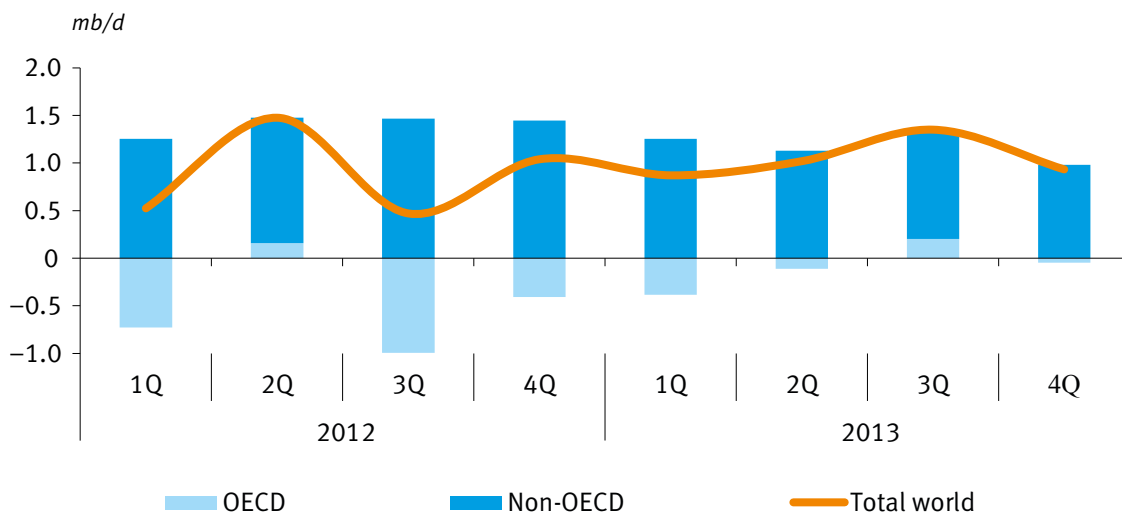
World oil demand

The 2013, world oil demand grew by 1.05 mb/d, 0.23 mb/d higher than the level initially forecast back in July 2012 (figure 5). This was due to considerable and necessary adjustments in OECD and non-OECD regions to account for expected and unexpected economic developments, which subsequently altered oil demand pictures in those regions. Improvement in the macroeconomic indicators of most OECD regions encouraged upward revisions to oil demand data in 2H13. Conversely, slower economic activity in non-OECD areas made downward revisions eminent, especially in 2H13. Data illustrates a demand decline of around 0.07 mb/d in OECD regions, while oil demand in non-OECD areas rose by around 1.12 mb/d, leading to total world oil demand of around 90.01 mb/d in 2013. OECD oil demand continued on its declining path for the seventh successive year, excluding 2010. OECD

Americas was the only region with positive growth at 0.32 mb/d, while OECD Europe and Asia Pacific declined by 0.17 mb/d and 0.23 mb/d, respectively. Non-OECD region demand, on the other hand, grew by 1.12 mb/d in 2013, with China accounting for the majority of growth, rising by 0.33 mb/d. Next came the Middle East, Latin America and Other Asia, with growth of 0.28 mb/d, 0.22 mb/d and 0.20 mb/d, respectively.

Better-than-expected demand growth in the OECD regions, predominantly in 2H13, highlighted significant development in those areas. Positive economic activity supported oil demand in OECD America and Europe. Overall optimism in industrial and manufacturing activities, rather high consumer confidence and encouraging vehicle sales statistics have all supported oil demand growth. In comparison, OECD Asia Pacific was vastly impacted by the switch from fossil fuels to coal and LNG to energize power generation plants in

Figure 5
World oil demand by main region, y-o-y growth, 2012–13



Japan. In Other Asia, oil consumption was flat to falling, mainly as a result of a waning economy impacted by depreciation of currencies in India, Indonesia, Malaysia and others, in addition to subsidy cuts, implemented in an effort to control high energy costs.

OECD demand

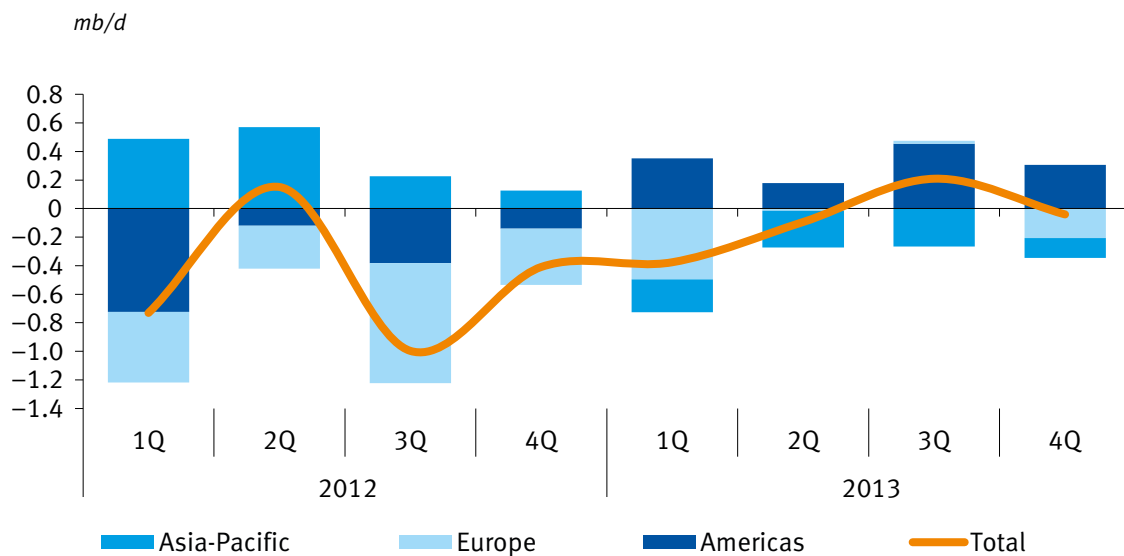
OECD Americas

In OECD Americas — particularly in the US — oil demand grew in every quarter in 2013 for the first time since 2010 (**figure 6**). However, oil demand volumes were at their lowest since 2009. The general declining trend for US oil demand since 2007 marks a major development in world oil demand patterns, as the US is the number one oil consumer worldwide and was one of the major engines of world oil demand growth until 2007. Most importantly, gasoline demand also seems to have peaked in 2007 and has been drop-

ping since, due to declining mileage, improving vehicle efficiencies and shrinking vehicle size.

In 2013, US main product category requirements — with the exception of residual fuel oil — increased compared with one year earlier, with the bulk of this increase coming from industrial fuels, especially propane/propylene and naphtha. These positive developments have their origin partly in improving industrial production and economic activity, mainly heading into 4Q13, as well as to an extremely low historical baseline, while shrinkage in residual oil demand was expected due to substitution by natural gas. Canadian oil demand during 2013 was characterized by modest growth. While transportation fuels — gasoline, jet/kerosene and diesel oil — recorded positive gains, products such as fuel oil and others were in decline. Nevertheless, growth in overall Canadian oil requirements remained slightly positive during 2013, increasing by around 0.9 per cent.

Figure 6
OECD oil consumption by quarter and region, y-o-y growth, 2012–13



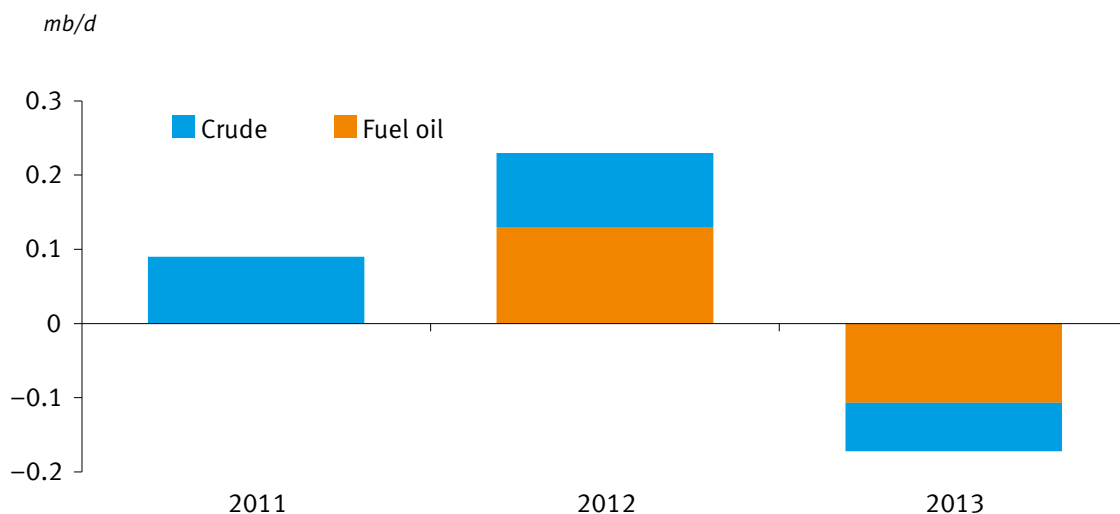
OECD Europe

OECD Europe has been the region with the sharpest decline in oil demand during the last years. Oil usage is being influenced not only by unsolved debt issues in a number of countries in the region, but additionally by stringent taxation on oil usage, mostly in relation to road transportation. Taxation policies against oil usage are continuously increasing to cover other sectors as well, such as air transportation, residential requirements and some industrial uses. There was no exception to these developments in 2013 and the year once again marked falling oil usage in Europe, with declines being significantly sharper in south European countries. Moreover, transportation fuels – mostly gasoline – is the product category shrinking the most. Despite these negative developments, the effects of a low baseline and improvement in some countries' economies led to less oil demand contraction in the region during 2013 than in previous years. The region declined by 0.17 mb/d compared with 2012.

OECD Asia

In Japan, oil demand was determined by falling requirements for the direct use of fuel and crude oil for electricity generation as a result of the high baseline in 2012 and increasing substitution with natural gas and most recently coal (**figure 7**). The consumption of coal surged in 2013 as a substitution programme was in full force. Around 30 per cent of Japan's electricity used to be provided by nuclear power, a source essentially lost since March 2011, when an earthquake and tsunami struck the country. Alternative sources of fuel have been used for power generation since then. Declining oil usage for electricity generation was, however, partly offset by higher naphtha demand to fuel the country's growing petrochemical industry. Japanese oil demand contracted for the whole of 2013 following a strong 2012. South Korean oil demand slightly declined for 2013 as gains in jet/kerosene and gasoline were largely offset by declines in LPG and fuel oil requirements.

Figure 7
Japanese direct crude and residual fuel burning, y-o-y growth, 2011–13



Non-OECD demand

China

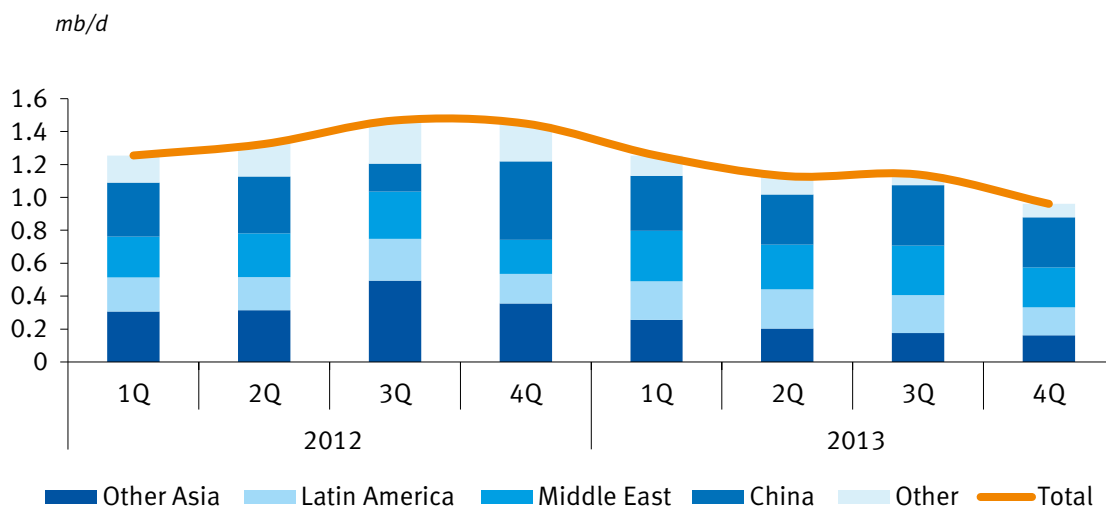
In China, 2013 oil demand growth was very much in line with that of 2012, with growth of about 0.33 mb/d in both years (**figure 8**). In absolute figures, total oil demand for the country stood at 10.07 mb/d on average for the whole year. Product performance, on the other hand, has been on the rise on a y-o-y basis, with all products recording positive growth — LPG, jet/kerosene and gasoline grew the most. The PMI level switched between contraction and expansion during the course of the year, falling mainly into contraction in 2Q13. However, PMI data was somewhat stronger than over the same period one year earlier, indicating improved consumption of industrial fuels such as fuel oil and diesel oil. Car sales continued to grow significantly — rising by around 13 per cent compared with the same period in 2012 — providing support to gasoline consumption.

Yet growth in car sales in the coming years may be limited, as a number of measures embracing higher quality transportation fuels have been announced, with the aim of lowering air pollution in major cities.

Middle East

In the Middle East, oil demand rose by 0.28 mb/d from one year ago. With a rise of 0.15 mb/d, Saudi Arabia represents more than half of the region's growth in 2013. The country's cumulative oil consumption growth rate is around five per cent y-o-y. Increasing requirements for industrial and transportation fuels, as well as fuels for electricity generation supported the higher demand figures. Other macro-economic indicators for Saudi Arabia support oil consumption data, with the PMI index above 57 points on average for 2013, indicating robust industrial activity. Steady GDP growth and rising car sales are also supporting factors.

Figure 8
Non-OECD oil consumption by region and quarter, y-o-y growth, 2012–13



Latin America

Total oil consumption in Latin America reached 6.49 mb/d in 2013, rising by around 0.22 mb/d from one year ago. This has occurred in spite of unstable overall economic sentiment in the largest consuming country in the region — Brazil. The country's overall oil consumption was positive on a cumulative basis. Data for 2013 is more than five per cent higher than

last year, translating into 0.11 mb/d of growth. All products rose compared with the previous year, with the exception of jet/kerosene, which dipped slightly. Demand for the most consumed product — diesel oil — remained firm, mainly driven by construction activities in the country. Gasoline and fuel oil also grew in line with high car sales in 2013 and additional power generation demand.

Table 5
OPEC crude oil production based on secondary sources, 2009–13 (1,000 b/d)

	2009	2010	2011	2012	1Q13	2Q13	3Q13	4Q13	2013	Average change 2013/12
Algeria	1,268	1,250	1,240	1,210	1,169	1,168	1,155	1,144	1,159	-51
Angola	1,783	1,786	1,667	1,738	1,757	1,758	1,720	1,714	1,737	-1
Ecuador	477	475	490	499	502	511	520	527	515	17
IR Iran	3,725	3,706	3,628	2,973	2,709	2,678	2,678	2,705	2,693	-281
Iraq	2,422	2,401	2,665	2,979	3,031	3,101	2,998	3,019	3,037	58
Kuwait	2,263	2,297	2,538	2,793	2,784	2,839	2,842	2,821	2,822	28
Libya	1,557	1,559	462	1,393	1,399	1,342	653	332	928	-465
Nigeria	1,812	2,061	2,111	2,073	1,983	1,889	1,906	1,870	1,912	-161
Qatar	770	791	794	753	736	729	731	731	732	-21
Saudi Arabia	8,054	8,254	9,296	9,737	9,099	9,480	10,024	9,721	9,584	-153
UAE	2,256	2,304	2,516	2,624	2,703	2,737	2,780	2,743	2,741	117
Venezuela	2,394	2,338	2,380	2,359	2,349	2,355	2,361	2,359	2,356	-3
Total OPEC	28,780	29,222	29,788	31,132	30,220	30,587	30,368	29,687	30,214	-917

Note

Totals may not add up due to independent rounding.

Source

OPEC Secretariat assessment of selected secondary sources.

Other Asia

Oil demand in India continued to decline. Oil demand-related economic indicators pointed south, especially in the second half of the year, when rupee values hit a record low, impacting the country's overall macroeconomic indicators and limiting oil demand growth potential. Most notably affected were car sales and industrial production numbers, as well as the manufacturing index and general GDP percentage growth of the country. These were all on a downward trend from the start of 2H13, though some indicators show this tendency began even earlier. However, oil demand growth is slightly above the average from one year earlier. Figures for 2013 show a moderate gain in oil consumption, while total demand for oil products grew by around 50 tb/d or one per cent compared with 2012. The average of total products consumed stands at 3.70 mb/d. There was an overall increase in the product mix, with the exception of jet/kerosene, which fell marginally, and fuel oil, as a result of an ongoing switch from fuel oil to natural gas in agriculture and industry.

In Indonesia, Malaysia, Thailand and Taiwan, demand in 2013 was modest to robust. While transportation fuel consumption fell due to subsidy cuts, overall demand growth was supported by steady improvements in industrial and manufacturing fuel use.

World oil supply

The world oil market's liquids supply was up in 2013, reaching an average of 90.2 mb/d, largely due to a further increase in tight oil production (**table 6**). However, total world growth was only 0.7 mb/d, compared with nearly 2 mb/d in 2012. Non-OPEC oil supply increased by 1.34 mb/d to 54.2 mb/d in 2013, while OPEC crude production averaged 30.21 mb/d. OPEC natural gas liquids (NGLs) rose by 0.2 mb/d to total 5.6 mb/d overall in 2013. Thus, OPEC's total liquids production share stood at around 39.9 per cent compared with 41 per cent one year earlier.

Non-OPEC supply

Non-OPEC supply averaged 54.2 mb/d in 2013, an increase of 1.34 mb/d over the previous year. Growth was driven by an increase from OECD Americas, with the main contributor being the US, followed by Canada. In other regions, growth came from Russia, China, Kazakhstan, Colombia and Brazil. Declines from Syria, Norway, the UK, Australia, Indonesia, Yemen, Azerbaijan, Mexico and Denmark partially offset growth.

On a regional basis, the OECD's oil supply increased by 1.1 mb/d in 2013 over 2012 to average 22.1 mb/d. Much of the OECD's growth in supply came from OECD Americas, which experienced the biggest growth among all non-OPEC regions in 2013 at 1.34 mb/d, while OECD Asia Pacific declined by 0.1 mb/d and OECD Europe by 0.2 mb/d, reflecting a relatively heavy overall decline in 2013 over 2012. The US experienced the highest growth in oil supply among all non-OPEC countries in 2013, up by 1.14 mb/d, supported by further growth in tight oil production from shale development areas. Additionally, Canada's oil supply saw strong growth in 2013, while Mexico encountered a minor decline compared with the previous year. Maintenance and unplanned shutdowns, as well as a natural decline at mature producing areas heavily impacted the UK's oil supply in 2013. The same factors influenced Norway's oil supply, leading to a sharp drop of 80 tb/d over 2012 to average 1.84 mb/d. Australia's oil supply experienced a decrease in 2013 by 80 tb/d to average 0.4 mb/d.

Oil production from developing countries (DCs) remained unchanged in 2013, averaging 12.1 mb/d, the same as one year earlier. The Other Asia and Middle Eastern regions experienced supply declines in 2013, while Africa and Latin America registered growth in production. Growth from Colombia and Brazil in Latin America impacted total DC growth in 2013 more than predicted in initial forecasts. South Sudan's oil production in 2013 increased by 0.11 mb/d to average 0.23 mb/d in spite of serious fighting at the end of the year. Moreover, South Sudan

Table 6
World supply and demand balance, 2010–13

	2010	2011	2012	1Q13	2Q13	3Q13	4Q13	2013
World demand (mb/d)								
OECD	47.0	46.5	46.0	45.9	45.4	46.1	46.2	45.9
OECD Americas	24.1	24.0	23.6	23.7	23.8	24.2	24.1	23.9
OECD Europe	14.7	14.3	13.8	13.2	13.8	13.9	13.5	13.6
OECD Asia Pacific	8.2	8.2	8.6	8.9	7.8	8.1	8.7	8.4
DCs	26.5	27.3	28.2	28.4	28.8	29.4	29.0	28.9
FSU	4.2	4.3	4.4	4.3	4.2	4.6	4.8	4.5
Other Europe	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6
China	9.0	9.4	9.7	9.8	10.2	9.9	10.4	10.1
(a) Total world demand	87.3	88.1	89.0	89.1	89.2	90.6	91.1	90.0
Non-OPEC supply (mb/d)								
OECD	20.0	20.2	21.1	21.7	21.7	22.3	22.9	22.1
OECD Americas	15.0	15.5	16.7	17.6	17.6	18.3	18.8	18.1
OECD Europe	4.4	4.1	3.8	3.6	3.6	3.5	3.6	3.6
OECD Asia Pacific	0.7	0.6	0.6	0.4	0.5	0.5	0.5	0.5
DCs	12.7	12.6	12.1	12.1	12.1	12.1	12.2	12.1
FSU	13.2	13.2	13.3	13.4	13.3	13.3	13.5	13.4
Other Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	4.1	4.1	4.2	4.2	4.3	4.1	4.3	4.2
Processing gains	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2
Total non-OPEC supply	52.3	52.4	52.8	53.7	53.6	54.1	55.2	54.2
OPEC NGLs + NCOs	5.0	5.4	5.6	5.8	5.8	5.8	5.9	5.8
(b) Total non-OPEC supply and OPEC NGLs + NCOs (mb/d)	57.3	57.8	58.4	59.5	59.4	59.9	61.1	60.0
OPEC crude oil production¹	29.2	29.8	31.1	30.2	30.6	30.4	29.7	30.2
Total supply (mb/d)	86.5	87.6	89.5	89.7	90.0	90.3	90.8	90.2
Balance (stock change and misc.)	-0.7	-0.5	0.6	0.6	0.8	-0.3	-0.3	0.2
OECD closing stock level (outside FCPEs) (mb)								
Commercial	2,679	2,606	2,664	2,685	2,680	2,718	2,584	2,584
SPR	1,565	1,536	1,547	1,562	1,558	1,564	1,565	1,565
Total	4,244	4,142	4,212	4,247	4,238	4,282	4,149	4,149
Oil-on-water	871	825	879	895	871	878	909	909
Days of forward consumption in OECD								
Commercial onland stocks	58	57	58	59	58	59	56	56
SPR	34	33	34	34	34	34	34	34
Total	91	90	92	94	92	93	90	91
Memo items (mb/d)								
FSU net exports	9.1	8.9	8.8	9.1	9.2	8.8	8.7	8.9
Difference (a – b)	30.0	30.3	30.5	29.6	29.8	30.7	30.0	30.0

Note

Totals may not add up due to independent rounding.

Figure 9
Year-on-year percentage change in OPEC production, 2009–13

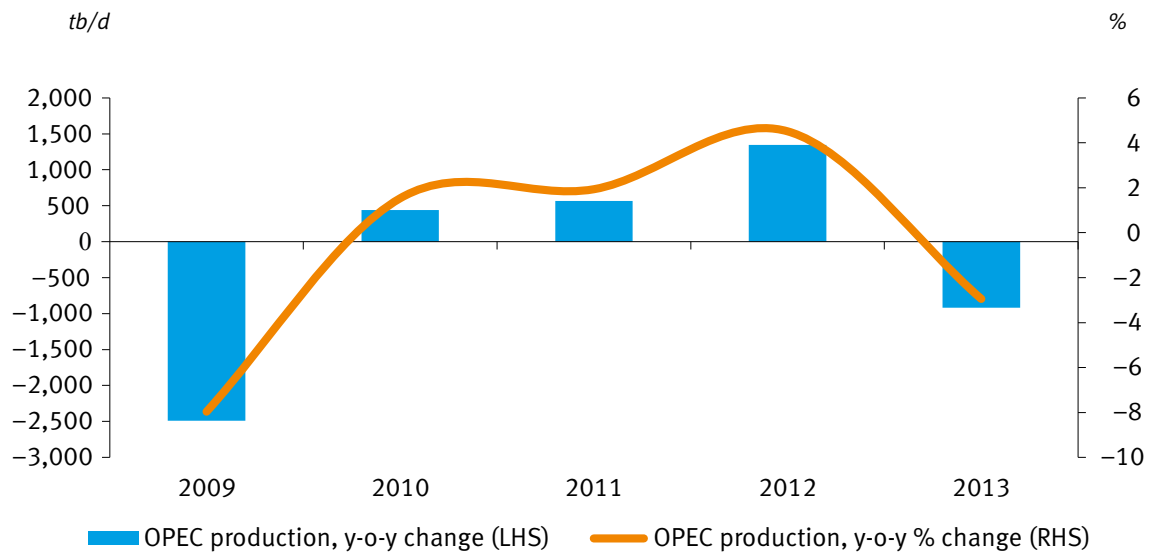
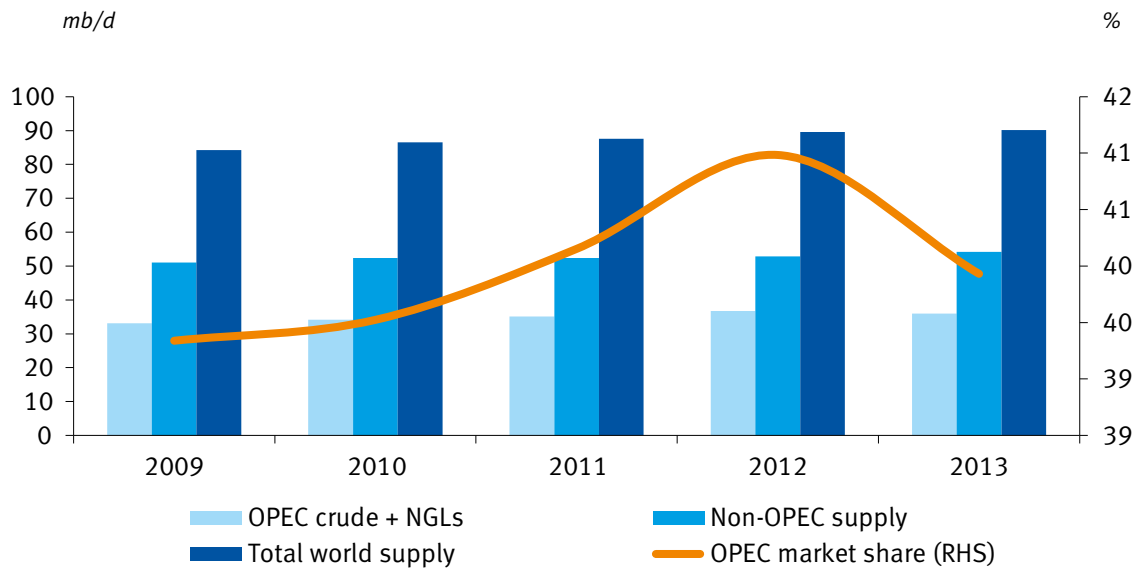


Figure 10
OPEC¹, non-OPEC² and total world supply, as well as OPEC market share, 2009–13



Notes

1. Including OPEC NGLs + non-conventional oils.
2. Including processing gains.

and Sudan experienced the largest supply increase among all African countries. However, growth was approximately equal to the declines experienced in other countries such as Syria and Yemen in the Middle East, Indonesia, Brunei, India and Malaysia in Other Asia and Argentina in Latin America, along with minor declines in Congo, Gabon and South Africa on the Africa continent.

The former Soviet Union's (FSU) oil supply showed growth of 0.15 mb/d in 2013, averaging 13.4 mb/d, supported by Russia and Kazakhstan. Russia's oil supply experienced an increase of 130 tb/d in 2013 to 10.51 mb/d, based on continued ramp-ups of new projects. This growth was offset by a decrease in new developments in Azerbaijan and FSU Others.

Chinese oil production increased by 90 tb/d in 2013 to average 4.24 mb/d. The gain came mainly in the second and fourth quarters of the year in the form of returns from offshore production.

OPEC crude oil production

According to secondary sources, OPEC crude oil production averaged 30.21 mb/d in 2013, a decrease of 0.92 mb/d over the previous year. OPEC crude oil production during the first half of 2013 was higher than in the second half. OPEC's crude oil share of the global liquids supply in 2013 dropped to 33.5 per cent from 34.7 per cent the previous year. The main reductions came from Algeria, Iran, Libya, Nigeria and Saudi Arabia, according to secondary sources.

Transportation

Tanker market sentiment experienced a further drop in 2013, compared with the previous year. Market performance was weak among various tanker sectors. On an annual average, spot freight rates on almost all reported routes showed a drop from one year ago. Dirty tanker spot freight rates experienced the largest decline, dropping by 11.5 per cent from one year earlier. Clean tanker spot freight rates also declined, but by only six per cent from 2012. In 2013, the

tanker market remained largely under the influence of the same factors negatively affecting freight rates in previous years. Tonnage oversupply, low tonnage demand and a continuous expansion in pipeline networks in different regions of the world were the main elements depressing freight rates in 2013. Moreover, new tanker deliveries to fleets, added higher capacity and scrapping activities did not balance out the tanker market. In general, freight rates fluctuated during the course of the year, registering gains and losses due to a number of different elements. The main exception was seen in December, when freight rates increased dramatically among all vessels in clean and dirty segments and on all reported routes. This exceptional increase came on the back of stronger market activity, tighter position lists and weather delays at the Turkish straits.

Prevailing low freight rates constantly put owner margins under pressure, however in 2013, lower bunker prices counterbalanced owners' losses to a certain extent, as operational costs dropped correspondingly. On average, bunker fuel prices were down by seven per cent from one year ago.

Broadly, dirty vessels VLCC, Suezmax and Aframax spot freight rates declined by 16 per cent, 14.5 per cent and nine per cent, respectively, from a year earlier.

VLCC average spot freight rates weakened by 16 per cent in 2013 compared with the previous year, and a decrease in rates was experienced on all reported routes, despite some marginal gains seen occasionally during the year. Spot freight rates for VLCCs on the Middle East-to-East, Middle East-to-West and the West Africa-to-East routes declined by 14 per cent, 20 per cent and 16 per cent, respectively, in 2013, compared with one year earlier. Limited market activity and deliveries of new VLCCs, as well as lower tonnage demand from the West, were mainly behind the VLCC freight rate drop.

Suezmax and Aframax spot freight rates followed the same trend as VLCC rates in 2013. In an annual average, Suezmax and Aframax spot freight rates decreased by 14 per cent and nine per cent, respectively

in 2013, compared with the previous year. Overall, slow activity in most months of the year, less loadings in the Mediterranean and enhanced weather conditions kept freight rates under pressure, despite some improvements as a result of delays, prompt replacements and increased lighterage activities.

Clean tanker spot freight rates were no exception in 2013, suffering often from high idle capacity. Reflecting the situation for dirty tanker rates, clean tanker freight rates also dropped in the year. On an annual basis, average reported freight rates for clean tankers declined by six per cent from last year's levels, with both the East and West of Suez exhibiting an drop in freight rates by seven per cent and six per cent, respectively.

Refinery industry

Product markets displayed mixed performance in 2013, showing recovery during 1Q13 and reversing the declining trend seen during 4Q12. However, weaker demand amid increasing supplies — despite spring maintenance in some regions — caused margins to start falling again worldwide in March.

Bullish sentiment was fuelled in the Atlantic Basin during the driving season by signs of recovery in US gasoline demand amid better economic news in the US and Europe. However, refiners in the US kept runs on the rise, leading to gasoline inventories above typical average levels and causing margins to drop.

On the other hand, middle distillates were stable amid a temporarily tight environment ahead of the maintenance season in Europe and Russia, while fuel oil continued weakening worldwide due to lower demand and limited arbitrage to Asia.

The US refining industry's performance continued to be healthy in 2013, benefitting from relatively cheaper feedstock, although the economic advantage was reduced due to a stronger WTI price *versus* other benchmark crudes during the year, leading to a downward correction in WTI refinery margins.

Product market sentiment fluctuated in the US, with the gasoline market turning bullish over the

summer on the back of signs of recovery in US gasoline demand, which reached 9 mb/d during the peak driving season.

However, despite the recovery in domestic demand, pressure came from the supply side, with refiners in the US keeping runs on the rise, along with higher inflows from Europe, causing inventories to remain above typical average levels, which led to margins dropping across the Atlantic by the end of the driving season.

Margins for WTI suffered a sharp drop of more than \$12 to average around \$15/b during 2013, pushed down by the relative strength in WTI price, while the margin for Light Louisiana Sweet (LLS) crude on the US Gulf Coast slightly fell by \$2/b during the year to stand at around \$12/b.

US refiners continued to have higher runs, supported by a recovery in domestic demand amid increasing export opportunities, mainly to Latin America. Refinery runs reached 92.2 per cent of capacity during the peak driving season to average 88 per cent of capacity during the year, one percentage point (ppt) lower than in 2012. This was due to runs declining to an average of 83 per cent in 1Q13, with some refineries still affected by adverse weather in 4Q12, as well as reduced margins in 4Q12. Product inventories stood above the five-year average, adding pressure.

Despite some temporary strengthening during the driving season on the back of transatlantic export opportunities, export markets weakened by the end of the peak season in the Atlantic Basin, causing margins to continue to fall in Europe, which led to cuts in runs and a utilization rate of 75 per cent in 4Q13, the lowest seen in several years.

On the other hand, middle distillates were stable amid a tight environment ahead of the maintenance season in Europe and Russia. However, the uptick in gasoil cracks remained limited by poor domestic demand amid expectations of increasing supplies, while fuel oil continued weakening worldwide due to lower demand and limited arbitrage to Asia.

The refinery margin for Brent crude in Northwestern Europe has shown a sharp drop of \$3 since the start of the year, falling from an average of \$4/b in 1Q13 to an average of \$1/b during 4Q13, the lowest level seen in recent years.

Asian refining margins saw a robust recovery in 1Q13, showing a sharp gain of \$2 *versus* 4Q12 to reach almost \$5/b. This came mainly on the back of firm seasonal demand and expectations of tighter supplies lifting light distillates, as well as strong Northeast Asian winter demand supporting middle distillates.

Starting in March, the Asian market came under pressure due to increasing supplies within the region, mainly from India, South Korea and China, and heavy losses were recorded across all parts of the barrel. These developments caused refinery margins in Singapore to show a sharp loss of more than \$2 in 2Q13, with the downward trend continuing on the back of weaker fundamentals, as demand remained lacklustre amid a rise in supply. Meanwhile, the middle of the barrel was relatively healthy and stable in a balanced market, though the sharp loss at the top and bottom of the barrel caused refinery margins in Singapore to continue weakening, falling to 77¢ in 4Q13, thus averaging around \$2.3/b for 2013, a loss of \$1 *versus* the previous year.

Supply side pressure came not only from new capacity coming online in Asian countries, but also due to increasing inflows into the region.

In Asia, Chinese and Indian refinery runs continued rising to average around 90 per cent during 2013.

In Singapore and Japan, refinery runs increased 3 ppt during 2013 to reach an average throughput of 94 per cent and 79 per cent of capacity in 2013, respectively.

Stock movements

Total OECD inventories — including commercial and government stocks — saw a drop of 63 mb, or 0.2 mb/d, at the end of 2013 from the previous year. During the year they reached their highest level in Sep-

tember, rising to 4,282 mb before declining to 4,119 mb at the end of December. This drop was attributed mainly to a decline in commercial inventories of 80 mb — they ended the year at 2,584 mb — while the Strategic Petroleum Reserve (SPR) rose by 17.0 mb to 1,564 mb (**table 6**).

On a regional basis, the bulk of the drop in OECD inventories came from the Americas and Asia Pacific, as they declined by 50 mb and 12 mb, respectively, while European stocks remained almost unchanged. On a quarterly basis, total OECD inventories experienced a contra-seasonal stock build of 35 mb in the first quarter, followed by a drop of 9 mb in the second quarter. The third quarter saw a seasonal build of 44 mb, while the fourth quarter fell strongly by 133 mb.

The first three quarters of 2013 saw a build in total commercial stocks of 54 mb, before declining seasonally by 134 mb in the fourth quarter. This led to a stock draw of 80 mb for the whole year over 2012. The decline in OECD commercial stocks mainly reflected better-than-expected demand in OECD countries and higher product exports in the US. Supply outage, as well as declining inventories in Cushing, Oklahoma also weighed on OECD commercial crude stocks.

OECD commercial stocks finished the year 78 mb below the five-year average. However, the picture within the OECD region was mixed. Indeed, Europe and Asia Pacific saw a deficit of 68 mb and 12 mb, respectively, while commercial stocks in America stood 2 mb above the latest five-year average. It should be noted that the huge deficit observed in Europe reflected weak supply, as well as backwardation in the Brent benchmark, both of which discouraged any build in crude oil stocks.

The fall in total OECD commercial inventories during 2013 was divided between crude and products, which declined by 25 mb and 56 mb, respectively. Within the components of OECD commercial inventories, crude stood at 6 mb below the five-year average, while product stocks indicated a large deficit of 72 mb below the seasonal norm. Middle distillates accounted for the bulk of the deficit at 38 mb below the seasonal norm, while gasoline stocks started to

improve, showing a slight surplus of 2.0 mb with the five-year average.

In terms of days of forward cover, OECD commercial stocks stood at 56.4 days at the end of 2013, 1.6 days lower than was observed 12 months before and 0.6 days lower than the latest five-year average. OECD Americas was 0.3 days below the historical average with 55 days at the end of 2013 and OECD Europe stood 0.3 days above the seasonal average to finish the year at 67.7 days. Meanwhile, OECD Asia Pacific indicated a deficit of 1.6 days, averaging 43.3 days.

The total SPR in the OECD at the end of 2013 rose by 17 mb from the previous year to stand at 1,565 mb. This build was concentrated in OECD Europe, while the Americas and Asia Pacific remained almost at the same level. OECD Americas' SPR stood at 697 mb, followed by OECD Europe with 450 mb, while OECD Asia Pacific finished 2013 at 417 mb.

Estimated total non-OECD stocks, including commercial and SPR, stood at 1,911 mb at the end of 2013, up by 114 mb from the end of 2012. This build was attributed to both crude and products, which increased by around 66 mb and 48 mb, respectively.

Balance of supply and demand

Over the course of 2013, improvement in most OECD countries' macroeconomic indicators resulted in better-than-expected oil demand growth, occurring primarily because of high winter season demand. As a result, the initial projection for world oil demand growth in 2013 was revised up by 0.2 mb/d to stand at around 1.0 mb/d, leading to an absolute level of 90.0 mb/d. This took place despite lower incremental oil demand in non-OECD countries due mainly to slowing economic growth in some emerging economies. On the supply side, the initial forecast for non-OPEC supply growth in 2013 has experienced upward revisions to currently stand at 1.3 mb/d. This has been largely because of continued growth in US tight oil output, the ramp-up of Canadian oil production, and the return of South Sudanese supply, resulting in higher-than-expected growth in these countries.

Other contributions to 2013 growth came from Russia and China, while output disruptions in Syria, along with a decline in North Sea production, partially offset this growth. The latest estimation puts non-OPEC supply at 54.2 mb/d. The growth of OPEC NGLs and non-conventional oils remains almost unchanged from the initial forecast, indicating growth of 0.2 mb/d to stand at 5.8 mb/d.

Based on these revisions, the forecast demand for OPEC crude in 2013 has been revised up from the initial forecast by 0.4 mb/d to stand at 30.0 mb/d. Compared with the previous year, the expected reduction in demand for OPEC crude has widened from an initial contraction of 0.3 mb/d to negative growth of 0.5 mb/d. This upward revision mainly reflected strong performance of non-OPEC supply. On a quarterly basis, required OPEC crude stood at 29.6 mb/d and 29.8 mb/d in the first and second quarters, respectively, while the second half of the year is estimated much higher, averaging 30.7 mb/d in the third quarter and 30.0 mb/d in the fourth quarter.

In comparison, OPEC production in the first half of 2013 averaged 30.2 mb/d in the first quarter and 30.6 mb/d in the second quarter, outpacing demand for OPEC crude and indicating an implied stock build of 0.6 mb/d and 0.8 mb/d, respectively. In the third quarter, OPEC production stood at 30.4 mb/d, 0.3 mb/d lower than the demand for OPEC crude, while in the fourth quarter, OPEC crude production was 29.7 mb/d, 0.3 mb/d lower than the demand for OPEC crude. For the whole year, OPEC crude oil production averaged 30.2 mb/d, indicating an implied stock build of 0.2 mb/d.

Crude oil price movements

In 2013, the OPEC Reference Basket (ORB) slipped \$3.58 y-o-y, or 3.27 per cent below the previous all-time high year of 2012 (**figure 11**). The Basket averaged \$105.87/b, compared with the previous year's average of \$109.45/b. Nevertheless, prices remained supported, despite increased shale oil production and the financial crises that overtook several

countries in the Euro-zone, the world's second largest oil consumer after the United States. In 2013, prices were sustained by a variety of factors, including growth in world oil demand, positive economic data from the US and China, political tensions in several MENA region countries, and prolonged maintenance in the North Sea. In 2013, the overall pattern of the Basket value consisted of quarterly waves, with high prices early on, which turned down in March before bottoming out in 2Q13. Prices picked up again in 3Q13, but fell back again in 4Q13 before rallying in December. The upward movement of the Basket in December was driven by ongoing supply shortages from Libya, weather-related shipping delays, year-end inventory drawdowns and better refined product margins that supported the demand for crude, particularly in Asia.

The ORB started 2013 with an upbeat momentum that pushed the value of the Basket to near \$115. Positive sentiment in the market in 1Q13 was supported by restored optimism about the state of the world's economy, which boosted the outlook for oil demand and lifted global oil prices. Financial buoyancy coupled with concerns that turmoil in the MENA region could disrupt energy exports spurred a large wave of speculative buying in the oil futures market, helping accelerate the price upward. Oil prices were further supported by rising world equity markets, a weaker US dollar, a healthy refined product market and enthusiasm about the increased flow of US mid-continent crude to the US Gulf Coast. However, optimistic sentiment faded by the end 1Q13, pulling down the value of the Basket by almost \$15 to a little below \$100.

Although it managed to stay above \$100 in 2Q13, the Basket dipped by more than eight per cent, reflecting bearish international crude oil market sentiments that weakened outright prices by record levels. The key factors pressuring crude oil prices were weak economic data from the world's two largest oil consumers, United States and China, which necessitated a cut in oil demand forecasts for 2013. Euro-zone economic turmoil and record levels of crude oil

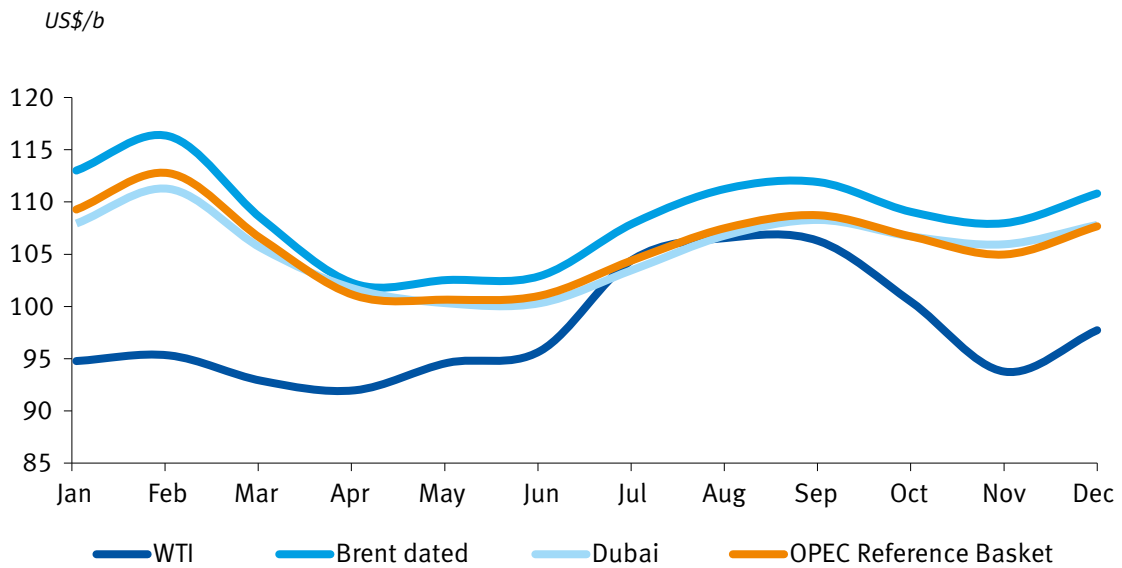
inventories, particularly in the US, contributed greatly to the downturn in crude oil prices.

The ORB's value rebounded by almost six per cent to end closer to \$107 in 3Q13. Expansion in the value of Brent-related North African and Middle Eastern crudes lent the utmost support to the ORB over this period. Crude oil prices soared on concerns surrounding a possible US-led strike against Syria. Fear of a supply disruption hit a market already facing supply issues amid improving demand. Lower supplies because of unrest in North Africa and signs of global economic growth added upward momentum. Unrest cut output in Libya to less than ten per cent of capacity. Production also fell in Iraq, Nigeria and elsewhere.

The ORB fell back again early in 4Q13, before rallying in December. The key factors behind weakness in the crude oil price early in 4Q13 were reduced refinery crude intake due to scheduled turn-arounds and reduced runs due to a poor refining margin. In the US Gulf Coast, offline capacity gave rise to significant builds in crude stocks. European maintenance had a similar effect, albeit one that was extended and exacerbated by the exceptionally poor state of regional refining margins. Asian refining margins were not much better than those in Europe, effecting prompt demand. In the last month of 2013, prices picked up, supported by supply shortages from Libya, weather-related shipping delays, year-end inventory drawdowns and better refined product margins that supported the demand for crude, particularly in Asia.

All Basket component values declined in 2013, but by varying amounts (**table 7**). The value of Middle Eastern ORB crude components Qatar Marine and Murban decreased by \$3.75/b or 3.4 per cent over the year to an average of \$106.77/b. The average value of multi-destination grades Arab Light, Basrah Light, Iran Heavy and Kuwait Export weakened by around \$3.82 or 3.5 per cent to \$105.23/b. On average, the prices of Brent-related components of the Basket from North and West Africa — Bonny Light, Es Sider, Girassol and Saharan Blend — slipped

Figure 11
Monthly oil price movements, 2013

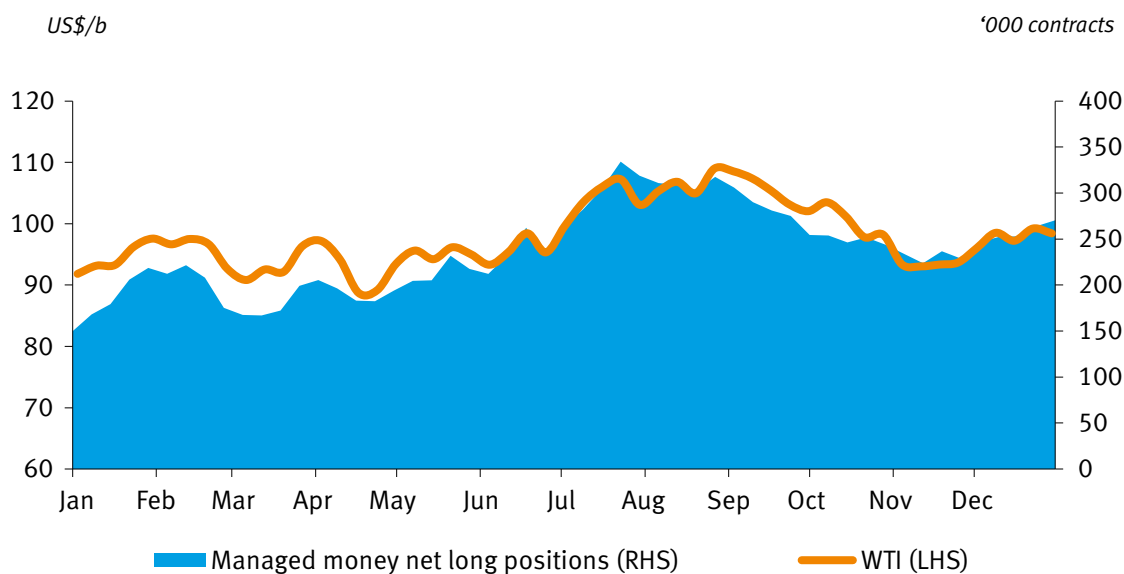


the least, to \$109.60 down from a hefty \$112.31 in 2012. They lost about \$2.71 or 2.4 per cent of their value over the year. Latin American crude components — namely Venezuelan Merey and Ecuadorean Oriente — dropped the most, falling to below \$100 in 2013 to \$97.20 from \$101.41 in 2012, losing \$4.21 or 4.2 per cent of their values.

In 2013, the two main crude oil futures markets — Nymex WTI and ICE Brent — ended another smooth year in different directions (**figure 11**). US WTI futures gained nearly \$4 in 2013 to average near \$98, as more pipeline connections to US Gulf Coast (USGC) refineries began to drain inland crude supply. North Sea Brent futures averaged around \$109 in 2013, less than \$3 lower than 2012 to register their first year-on-year loss in three years. Meanwhile, prices remained remarkably

stable for a second year. There was little volatility in crude oil markets throughout 2013. The Chicago Board Options Exchange (CBOE)'s Crude Oil Volatility Index, which measures the market's expectation of 30-day volatility, repeatedly touched its lowest historical point over several weeks, and was well below the average of the last two years throughout 2013. While various supply outages and missed expectations in 2013 argued for volatile crude markets, the increase in production elsewhere, particularly in the US, capped volatility, somewhat softening the impact of disruptions in other parts of the world. Moreover, strong trading activity by shale oil producers (sellers) and banks (buyers) at the back-end of the curve acted as an anchor on front-end crude prices, effectively limiting volatility on the upside. Compared with the previous year, the front-

Figure 12
Nymex WTI price versus speculative activity, 2013



month WTI average was up in 2013 by almost four per cent at \$97.96/b, while ICE Brent was down by 2.6 per cent or \$2.95 at \$108.76/b.

The transatlantic (Brent–WTI) spread collapsed from \$17.50/b in 2012 to an average of \$10.80/b in 2013. This was mainly due to the substantial infrastructure built to drain storage in Cushing, Oklahoma, which moved and redirected inland crudes to refining centers on the USGC and the US East Coast.

As for speculative activities in 2013, year-end data from the US Commodity Futures Trading Commission (CFTC) showed money managed or hedge funds and other large investors' net long positions in US crude oil futures and options positions on the New York Mercantile Exchange at 270,386 contracts. Meanwhile, WTI prices held steady near \$100/b. On the other hand, ICE Brent managed money net long

positions reached 136,611 contracts. At the same time, Brent prices held relatively steady near \$110/b, indicating that traders remained slightly bullish. Total open interest volume in the two markets was 3.85 million contracts.

Meanwhile in 2013, the average daily trading volumes of ICE Brent were constantly above those of Nymex WTI and in the January–December period the daily average of ICE Brent trades was 29,611 lots or five per cent above Nymex WTI. For the second year, ICE Brent trading volumes overtook those of Nymex WTI by more than 11.2 million contracts. In 2013, Nymex WTI total traded volume was 149 million contracts, compared with 141 million contracts in 2012, 5.3 per cent higher y-o-y. ICE Brent traded volume was 160 million lots *versus* 148 million in 2012, an eight per cent increase y-o-y.

Table 7

Average quarterly and yearly spot prices for selected crudes, 2012–13

	2012	1Q13	2Q13	3Q13	4Q13	2013	% Change 2013/12
OPEC Reference Basket	109.45	109.48	100.90	106.84	106.43	105.87	-3.3
OPEC Basket crudes							
Arab Light	110.22	110.73	101.44	107.46	106.67	106.53	-3.3
Basrah Light	107.96	107.39	98.45	105.26	103.46	103.60	-4.0
Bonny Light	113.66	114.91	105.69	112.64	112.33	111.36	-2.0
Es Sider	111.86	112.57	102.63	110.13	108.88	108.51	-3.0
Girassol	112.21	112.64	103.91	110.09	110.10	109.14	-2.7
Iran Heavy	109.06	108.73	99.99	106.54	107.82	105.73	-3.1
Kuwait Export	108.93	108.42	100.03	105.83	106.04	105.04	-3.6
Marine	109.26	108.05	100.66	105.98	106.72	105.32	-3.6
Merey	100.06	99.09	94.38	97.16	96.09	96.66	-3.4
Murban	111.76	110.90	103.32	108.55	110.22	108.21	-3.2
Oriente	102.76	101.87	96.00	99.39	93.81	97.74	-4.9
Saharan Blend	111.49	113.38	102.64	110.71	110.97	109.38	-1.9
Other OPEC crudes							
Arab Heavy	108.32	106.61	99.02	104.53	105.54	103.89	-4.1
Dubai	109.07	108.24	100.77	106.13	106.80	105.45	-3.3
Dukhan	110.34	109.72	102.11	107.38	109.13	107.05	-3.0
Forcados	114.21	115.72	106.41	113.15	112.44	111.95	-2.0
Iran Light	109.79	111.17	101.32	108.31	107.89	107.19	-2.4
Tia Juana Light*	104.60	107.47	103.38	106.06	n.a	105.61	1.0
Zueitina	112.55	113.37	103.28	110.68	109.43	109.15	-3.0
Other Non-OPEC crudes							
Brent Dated	111.62	112.57	102.53	110.31	109.24	108.62	-2.7
Isthmus	106.55	109.82	105.05	108.39	97.42	105.16	-1.3
Minas	116.60	115.39	101.09	107.60	105.91	107.41	-7.9
Oman	109.35	108.24	100.85	106.27	106.84	105.51	-3.5
Suez Mix	107.62	108.23	99.71	107.22	106.11	105.35	-2.1
Tapis	116.98	118.30	108.16	116.03	115.23	114.39	-2.2
Urals	110.49	111.06	102.43	109.87	108.77	108.00	-2.3
W T Intermediate	94.10	94.33	94.06	105.75	97.39	97.96	4.1
W Texas Sour	88.60	87.96	94.00	105.46	93.20	95.29	7.6
Differentials							
B. Light – A. Heavy	5.34	8.30	6.67	8.11	6.79	7.47	
B. Light – S. Blend	2.17	1.53	3.05	1.93	1.36	1.98	
Brent – WTI	17.52	18.24	8.47	4.56	11.85	10.66	
Brent – Dubai	2.55	4.33	1.76	4.18	2.44	3.17	

Notes

Quarterly and yearly averages based on daily quotations.

*Annual average of Tia Juana Light incorporates daily quotations from January to September 2013.

Source

Platts and direct communication, OPEC Secretariat assessments.

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**Energy dialogues
move relations forward**

“Communication works for those who work at it,” said famous British composer John Powell, and OPEC has indeed been working at it.

The organization has — since its inception in 1960 — placed great emphasis on promoting dialogue with all parties in the energy sector in the name of stability.

No more has this been more apparent than in the ongoing dialogues OPEC has with various interest groups. Two that stand out from last year are the High-Level Meeting of the OPEC-Russia Energy Dialogue, held in Moscow, and the EU–OPEC Ministerial talks, held at the Secretariat.

In fact, the Energy Dialogue between OPEC and the European Union (EU) celebrated a mini-milestone in early November when the two sides convened the tenth ministerial meeting of the initiative.

The talks underlined the importance of a stable, predictable oil market that balances the needs

of producers and consumers, and, at the same time, supports steady world economic growth, said Dr Abdel Bari Ali Al-Arousi, Alternate President of the OPEC Conference, and former Minister of Oil and Gas of Libya at the OPEC–EU dialogue.

“This is a challenge facing the world community as a whole. It is a challenge that OPEC remains committed to addressing. And the Energy Dialogue that we are privileged to share with the EU provides valuable support for this commitment,” added Al-Arousi, who was deputizing at the talks for (then) OPEC Conference President, Mustafa Jassim Mohammad Al-Shamali, former Deputy Prime Minister and Minister of Oil for the State of Kuwait.

A joint communique from the one-day meeting lauded that: “shared experiences and new insights have enhanced understanding between the two parties, with direct practical implications for their energy sectors.”

OPEC Secretary General, Abdalla Salem El-Badri (r) with EU Energy Commissioner, Guenther Oettinger (l).



Besides covering the oil industry and the energy sector generally, the dialogue studied associated areas, such as sustainable development and environmental matters, according to the communique.

“We should also remember to keep in mind some of the acute challenges facing mankind,” emphasized Al-Arousi, adding combating poverty has been a feature of the Energy Dialogue since 2006. Energy technology and closer collaboration are essential for tackling this issue, he said.

Kuwaiti Governor for OPEC Nawal Al-Fezaia added that there have been close trading links among some of the countries dating back centuries, or even millennia, particularly for countries grouped around the Mediterranean and the Middle East.

“Moreover, this historic trade cut across modern political borders. It is very important to remember this,” she affirmed, adding that embedded within such a long trading heritage were the ideas of cooperation, dialogue, mutual dependence, enterprise, a sense of community and a collective vision.

“These are the same qualities that help drive our present Energy Dialogue,” she added.

Market stability has been a central objective of OPEC since its establishment, and that is why the Organization has been so eager to foster dialogue with other key players in the world community, she continued. “And we intend to build on this success in the future.”

EU Energy Commissioner Guenther Oettinger stated that the Dialogue with OPEC had been one of the key priorities of the EU’s international energy relations. It has allowed both parties to share expertise and knowledge, produce joint studies and cooperate in difficult times when confronted with supply disruptions.

He added that all of today’s changes and challenges have global implications and repercussions. “We need, therefore, to address them in a global perspective. That is why our cooperation and our Energy Dialogue are so important.

“We have set the path to continue learning from each other. In the near future, we have planned to

work together on a number of joint initiatives, such as a study on energy efficiency and a study on the petrochemical industry outlook and challenges,” he stated.

The Dialogue underscored two significant developments, according to President of the EU Energy Council Jaroslav Neverovič. It institutionalized cooperation between the two organizations and it strengthened interdependence between the EU and OPEC.

“The stable relations achieved via this Dialogue have allowed both parties to remain focused, particularly in challenging times, on constructive exchanges to foster market stability in the interest of both producers and consumers,” said Neverovič.

He stressed that the EU is a major energy consumer, importer and technology provider and thus has an interest in the energy policy developments of all its partners around the world.

The incoming Deputy President of the EU Energy Council confirmed this statement, adding that the EU is the largest importer of oil and refined products globally. Oil made up 36 per cent of the EU’s energy consumption in 2006–2010 and 20 member states import 95 per cent or more of their oil, said Assimakis Papageorgiou. This high level of dependence means many EU countries are vulnerable to energy price shocks, and thus good cooperation with energy producers is vital.

Data quality is important in meeting this goal, thus the EU strongly supports initiatives for improving data quality, such as the International Energy Forum (IEF) and the Joint Organizations Data Initiative (JODI).

Through annual meetings, including ministerial meetings, round tables and workshops on important issues, as well as the commissioning of various reports and studies, the two organizations continue to deepen their understanding of each other, finding common ground and addressing the main issues involved.

OPEC’s Secretary General Abdalla Salem El-Badri’s insistence on the importance of promoting energy dialogue among all stakeholders was underlined with a delegation from the OPEC Secretariat led by

El-Badri travelled to Moscow to take part in the second high-level meeting of the OPEC–Russia Energy Dialogue at the end of October.

“It is clear that fossil fuels will continue to play the dominant role in meeting demand, although their overall share will fall from 82 to 80 per cent. Throughout most of this period, oil will remain the energy source with the largest share...”

— Abdalla Salem El-Badri

El-Badri started by saying that OPEC’s 2013 World Oil Outlook states that world energy demand is set to rise by 52 per cent over the period 2010 to 2035. Based on this, all energy sources will be needed and all stakeholders should look to work together to develop a sustainable energy future, he maintained.

“It is clear that fossil fuels will continue to play the dominant role in meeting demand, although their overall share will fall from 82 to 80 per cent. Throughout most of this period, oil will remain the energy source with the largest share...”

He stated that: “The industry is capable of meeting the big demand increases, through its huge resource base...,” adding that tight oil developments in North America are welcome.

“It adds depth to global supply, aids market stability and provides further proof that the world is not running out of oil,” he said, adding that “questions remain over how sustainable this will be in the long term.”

The market outlook is favorable for oil, said El-Badri, but the market needs to meet rising demand levels with rising investments in order to maintain

stability. “This means a clear vision of the way ahead, together with a cooperative and harmonious approach from all the leading players.”

He stressed the importance of having a clear idea where the market is heading, in order to make solid investments which in turn support market stability. He added that OPEC Member Countries are undertaking or planning around 120 development projects between 2013 and 2017.

Collaboration is essential for dealing with future uncertainties inherent to the industry such as economic growth, ongoing United Nations climate change negotiations, discriminatory energy policies, geopolitics, technological advances and rising industry costs, he said.

Experts also discussed the status and recent developments of shale gas and tight oil, including their contribution to the global energy mix, investment costs, decline rates for wells and their long-term sustainability, regulations in various countries and the environmental impact of extraction.

The two parties agreed to continue their collaborative efforts and plan to meet again in Vienna in the second half of 2014, to further their dialogue and collaboration.



Addressing the issue of manpower shortage

The manpower shortage facing the oil industry has taken on great significance among industry professionals, Member Countries and other stakeholders and continues to attract discussion and debate.

Without enough properly trained workforce to manage the growing demand for oil in the coming decades, the industry could be facing a bottleneck, with costly delays and supply issues which could have a negative impact on the oil and gas upstream sector's future development.

In response to this serious issue, OPEC met with the European Union in Brussels in June 2013 to discuss an EU-commissioned report on the topic at the OPEC-EU Roundtable on Manpower Bottlenecks in the Oil & Gas Industry.

Along with six staff from the OPEC Secretariat, nine participants attended from OPEC Member Countries Algeria, Kuwait, Qatar, The United Arab Emirates and Saudi Arabia, as well as the EU Commissioner for Energy, two members of the EU Directorate-General for Energy, the Director of EU Affairs for the International Association of Oil and Gas Producers and the President of the International Association of Drilling Contractors.

A draft report was presented and included a detailed description of the approach and methodology used by the consultants, focusing on the fundamental question of whether human resources challenges exist in the industry and where they exist. The project started in January 2013 and ended in June 2013, concluding with the roundtable.

The OPEC-EU report states that: "The results of this study show that manpower bottlenecks are indeed a key concern for the oil and gas upstream sector and that it became a global challenge to tackle them."

It adds that according to the International Labour Organization, a worldwide shortage of skilled workers is one of the most important concerns in the oil and gas industry.

"In 2012, almost 80 per cent of oil and gas companies at a global level reported that technical skills are a key shortage area."

According to recruiting experts in oil and gas Hays' global survey, skill shortages are currently the number one concern, followed by economic instability concerns.

It further adds that industry is taking measures to alleviate these challenges in order to minimize impacts, "which could have an effect on the exploration & production (E&P) sector and its future development."

The study says that current global trends in oil and gas, including increased expansion of E&P into deeper offshore regions; the rise in E&P of unconventional oil and gas; and talent pool competition with other sectors of the energy sector (and the overall economy) including offshore renewables, are all changing employment. In addition, the lack of skilled labour, ageing workers and attrition of experienced staff has led to a skills gap. The resulting rise in competition for experienced human resources has put pressure on wages.

The greatest shortfall exists in the areas of geology and geophysics (G&G) and petroleum engineering.

"Together, these two groups of workers form the backbone of the upstream sector and hence dictate the speed of growth for new developments," states the Hays report.

However, the bottleneck is not limited to technical professionals, but also includes financial and accounting, business, construction, IT and project management professionals with expertise in the oil and gas industry.

The lack of petro-technical professionals (PTPs) is already having an impact, according to the report. "Besides an unsustainable increase in wages, manpower shortages can cause project delays and affect production activities and investments."

It adds that PTP jobs will be the most challenging to source over the next five to ten years, especially for companies based in North America, Asia and Australia, without significant efforts to boost the pipeline of talent into the sector and to retain talent as it enters the highly valued mid-career stage.

According to the report, in the future, companies could face delays in daily operations, ultimately affecting project deliverability; project cost overruns;

HSE failures; missed opportunities; increased risk; salary inflation; labour instability and mobility; retention issues; disruptions in productivity and investment; and increases in scope and responsibility of service companies and contractors.

Some demographic trends that the study identified include the underrepresentation of women in the industry: women still represent less than ten per cent of the industry's workforce, as well as the ongoing trend of employee ageing, mostly in the 'traditional' oil and gas regions, where the 'Big Crew Change' is taking place. This refers to the large amount of workers retiring due to the age distribution resulting from the 1970s and 1980s oil crises.

"There is a large number of ageing employees and a gap in mid-career employees," according to the report.

Company demographics are very different depending on the region of operation and company type, "with some regions and companies managing to successfully shift their workforce demographic into a more balanced situation — although that appears to be the exception rather than the rule."

Reducing the time required to bring new staff up to autonomy is one of the major challenges facing the industry, given the loss of senior skills and experience through ageing and retirement, it said. "Nearly 52 per cent of employees in the global industry have less than 10 years of experience."

The drivers behind the current human resources bottleneck include increasing demand for oil and gas; energy demand is expected to go up by 54 per cent by 2035, says the report. In addition, the rise of unconventional oil and gas puts pressure on available manpower. The increasing technological needs for E&P require more and more specific and high-tech skills; continual technological innovation requires new skills and new regions of operation with insufficient skilled labour create an additional demand.

On the supply side, not enough skilled graduates are entering the industry due to limited availability of relevant, high-quality programmes, it says, and not enough students are enrolling in industry-specific

courses. At the same time, some graduates do not have the specific skills needed by oil and gas companies or they move into other sectors which require similar skill sets.

The report adds that some entrenched attitudes and culture in the industry act as a deterrent to securing human capital. These include traditional views, male-oriented attitudes and reluctance to tap skills from non-traditional pools of resources, such as women, overseas graduates and other sectors.

In addition to these problems, there is a limited transfer of knowledge taking place within the industry from retiring employees to new staff, leading to a loss of experience and knowledge.



Industry attractiveness is a complex issue and challenges include sometimes undesired relocation to remote areas or harsh conditions, company policies and attitudes (male oriented); the perception of the oil industry as outdated, polluting, profit-oriented and resource depleting. However, existing employees tend to find the industry attractive to work in because of its competitive salary and benefit packages, challenging jobs and career potential, states the report.

The geographical and sectoral mobility of the oil and gas workforce is rising, with new regions offering attractive alternatives, it states. This is helping to alleviate some of the current bottlenecks, but also creating a challenge to the regions from which the manpower is emigrating, the report says.

The industry needs to rethink how to manage the manpower shortage: “current salary inflation and talent poaching are not long-term solutions,” according to the report.

The industry has to make clear that oil and gas remain essential to the global economy and will remain critical for the next 30 to 50 years or longer, it says.

“The combination of rebranding of the sector to project a more positive, dynamic image of innovation and interesting work, combined with stronger messages to younger people and women will help.”

This includes relationship building by sector professionals in schools and colleges, and more innovative approaches to attracting talent, such as female-friendly employment policies, more interaction between the sectors and universities, more company sponsoring of students, including graduate apprenticeship schemes, and the investing of professional societies in outreach and education programmes.

Other improvements would be refining talent and offering more diverse career pathways to create a committed workforce and increasing local labour market employment to reduce the mass migration that currently exists across the industry.

At the OPEC-EU roundtable OPEC’s Dr Omar Abdul-Hamid, Director of the Research Division, stated that national oil companies in many OPEC Member Countries are working actively to educate and train

young people. They are finding solutions to tackle employment gap problems, including the establishment of technical institutes and specialized training centres, sponsoring mentoring programmes and arranging scholarship programmes and internships. He suggested that perhaps insights could be gained from these experiences.

Roland Festor, Director of EU Affairs for the International Association of Oil and Gas Producers, stated that there is no problem in recruiting young people to the industry – the problem lies in the skills gap. This is a consequence of not having invested in human resources 20 years ago, when the price of crude oil dropped, he said, adding the challenge of recruiting has more to do with attracting suitably qualified applicants than making the industry more attractive to young people.

Abdul-Hamid suggested it would be useful to re-examine the assumption that new recruits need to have extensive experience to perform on the job, when they could obtain experience quickly through access to company-captured knowledge after being hired. He stated there should be no conflict or contradiction between “fresh knowledge” and “old knowledge”, but rather a complement.

He stated that all companies in the oil and gas industry are experiencing challenges finding quality recruits and that some are also experiencing challenges finding a sufficient quantity of recruits as well.

OPEC’s Mr. Oswaldo Tapia, Head of the Energy Studies Department, pointed out that the approach of every company is different, particularly among national oil companies, international oil companies and service companies and that there is no “one size fits all” solution.

Stakeholders could consider the creation of communities which could together capture and share knowledge, suggested Abdul-Hamid, adding the manpower topic could be referred to the ongoing consumer-producer dialogue under the auspices of the International Energy Forum, where it might generate worthwhile discussion and possible approaches to long-term solutions.



Activities of the Secretariat

Office of the Secretary General

The year 2013 — the seventh under the leadership of Secretary General HE Abdalla S. El-Badri — was another busy one. The Secretariat was occupied with activities ranging from its ongoing cooperation with the International Energy Agency, the International Energy Forum and the European Union to the coordination of Member Country positions *vis-à-vis* global climate change negotiations.

The year was also the seventh year of publication for OPEC's *World Oil Outlook*, a flagship publication which has become a "go to" reference for researchers around the world. With market supply and prices at comfortable levels throughout the year, the Secretariat continued to ensure that OPEC's governing bodies were kept abreast of short-term developments and made aware of what the medium- to long-term might bring.

Over the course of the year, activities related to the Office of the Secretary General focussed — as is customary — on satisfying the requirements of the Chief Executive in the execution of his duties. Considerable time, energy and resources were thus expended in preparing documentation for and servicing Meetings of the Conference and the Board of Governors (BoG), as well as a variety of other high-level meetings.

In addition to coordinating the preparation of reports and documentation for submission to the various ministerial and gubernatorial gatherings over the year, the staff of the Office of the Secretary General were occupied with minuting these meetings, writing *précis* of discussions that took place and preparing summaries of decisions taken, as well as preparing formal, edited minutes of the deliberations for distribution to Ministers, Governors and Management, as appropriate.

The Office of the Secretary General also coordinated the Secretariat's protocol, as well as organizing the many missions conducted by the Secretary General during the course of the year.

The Legal Office

The Legal Office (LO) is entrusted with the responsibility of providing legal advice to the Secretary General and supervising the Secretariat's legal and contractual affairs, whereby it evaluated legal issues of concern to the Organization, reporting its findings to the Secretary General, and contributed to the promotion of the rule of law within the Organization and in its relations with governments, organizations, enterprises and individuals.

It monitored, reported, maintained and defended the legal claims and interests of the Organization in international and internal legal matters.

On the international level, the LO monitored and — with the assistance of outside counsel, and in close liaison with the Secretariat's Legal Defence Team — defended two court cases filed against the Organization in the USA, keeping the BoG and OPEC Conference abreast of case proceedings.

Internally, the LO provided legal opinions to the Secretariat's governing bodies through the Secretary General on issues relating to and arising from the OPEC Conference and the BoG. This was done through the provision of ad-hoc reports to the Secretary General and governing bodies as and when required.

The LO also analyzed, advised on, recorded and followed up legal aspects of documents prepared for, and decisions taken by, the governing bodies relating to the Organization's rules and procedures. It proffered advice and expertise to the Secretary General and the Management on issues which included:

- Provision of legal support and proposition of amendments with respect to the Organization's organs, statute and programmes, as well as financial and staff regulations;
- Provision of interpretation for the host agreement between OPEC and the Republic of Austria regarding privileges and immunities afforded and contained therein;
- Monitoring of developments in the legal aspects of the energy sector in international fora and at a national level;

- Monitoring of relevant international legal issues, which are reverted to the governing bodies through the Secretary General, thus protecting and advancing the interests of the Organization and its Member Countries in international fora;
- Drafting and reviewing of contracts and agreements with external entities and individuals;
- Drafting and reviewing of internal guidelines, manuals and procedures.

The LO also undertook missions and training on international legal and industry-related issues of significance to OPEC. The LO staff also attended events when appointed by and on behalf of the Secretary General. Reports were normally prepared for the Secretary General about the implications of such issues and their impact on the Organization and its Member Countries. These missions/training events included:

- The Anatomy of the (Invisible) EU Model BIT;
- Vienna Forum on Energy Law, Energy Community Secretariat;
- Model Contracts Workshop;
- World Fiscal Systems for Oil & Gas;
- Oxford Energy Seminar;
- International Joint Ventures and Strategic Alliances in the Oil & Gas Industry;
- Libyan Petroleum Regulations.

In addition, the LO participated in the 13th Multi-Disciplinary Training Course, organized by the Secretariat, and delivered a presentation to law students from the University of Vienna.

Furthermore, the LO contributed to the general work of the Secretariat through its membership in important committees and task forces which include:

- Contracts Committee;
- Academic Committee and Chair of the MDTC Task Force;
- Personnel Committee;
- Missions Committee;
- Website Publication Task Force.

Research Division

The Research Division (RD), which is comprised of the **Petroleum Studies Department**, the **Energy Studies Department**, the **Data Services Department** (including the Information Centre) and the **Environmental Matters Unit**, performed its 2013 activities in accordance with the Secretariat's Medium-Term Programme (MTPIII).

In line with this programme, activities included the monitoring of key energy developments and prospects, particularly related to oil markets, emphasizing data systems and documentation and playing a key role in multilateral fora and dialogue. The second Long-Term Strategy (LTS) was one of the key references for research priorities and areas of focus in 2013.

Core activities

In 2013, the RD carried out its regular activities as follows:

- Preparing up-to-date and reliable information and analysis provided through the Secretary General to the Ministerial Conference, the Board of Governors (BoG), the Economic Commission Board (ECB) and similar bodies as a basis for energy policy-related decision-making (including identification of the key driving forces behind global, regional and national oil and energy markets);
- Gathering, compiling and dispensing of pertinent, up-to-date statistical data and information as a reliable basis for the analysis of relevant energy developments, as well as the development of corresponding information technology (IT) applications;
- Conducting comprehensive short-term petroleum market analysis and forecasts of demand and supply in the oil market outlook, with emphasis on the medium-term and development of long-term oil market scenarios, as well as updating the models required to perform such analysis;

- Monitoring of energy policies, important technological developments and dynamic structures in the international petroleum industry;
- Following relevant debates and policy developments in international fora, multilateral discussions and multidisciplinary taskforces in order to assist Member Countries in formulating their positions on important issues.

In this context, the MTPIII, covering the years 2013–2017, provided clear guidance and a solid framework for the Secretariat's services to the Organization, by offering optimal and continuous support for the decision-making processes of Member Countries in key oil-related matters.

The Secretariat reflected upon the decisions of the Governing Bodies of the Organization in responding to current and emerging developments on the energy scene and associated challenges.

The RD continued to expand its analysis of medium-term oil market fundamentals and tight oil prospects, adding further granularity to supply scenarios. In support of these research activities, the RD started to review currently applied modelling applications with the aim of further enhancing modelling capabilities within the Secretariat.

The RD continued to pursue its close cooperation with the International Energy Forum (IEF) and the Joint Organizations Data Initiative (JODI), and collaborated on several joint G-20 assignments, such as price reporting agencies (PRAs), market transparency, fossil fuel price volatility. Additionally, the Secretariat was directly involved with other international organizations as a task group member.

Within the framework of cross-organizational cooperation and dialogue, the 3rd IEA–IEF–OPEC Workshop on the Interactions between Physical and Financial Energy Markets was held in Vienna on 21 March 2013. This high-level technical event brought together a broad range of experts from industry, governments, and the financial and regulatory sectors of the developed and emerging economies to discuss interactions between physical and financial energy

markets. The jointly presented report highlighting the important role of derivatives and physical transactions in oil price discovery indicates that commodity investment strategies have changed considerably in the last ten years. As markets have become accessible, barriers to entry have dropped, and price information has become available.

Furthermore, the RD was present at the regular spring and autumn meetings of the International Monetary Fund (IMF)/World Bank in Washington, DC. OPEC representatives submitted a statement on oil market developments and near-term prospects at both meetings. The Organization's ongoing commitment to oil market stability was reiterated at these meetings, which provide a valuable opportunity for direct interaction via an influential platform.

The third IEA/IEF/OPEC Symposium on Energy Outlooks, which took place once again at the IEF Headquarters in Riyadh (January 2013) covered — in addition to short- medium- and long-term outlooks — more specific issues such as non-OECD stock data and tight oil. The Symposium underlined that need for more focus on non-OECD stock data and analysis. JODI non-OECD crude and product stock data have a major role to play in providing timely and complete data for oil market research. Emphasis was placed on the considerable constraints and uncertainties that underlie the position and importance of tight oil in future supply. Favourable conditions for shale plays in the US may not be easily replicable in the rest of the world.

Continuing its active participation in the Vienna Energy Club, which is an informal platform for information exchange among the nine Vienna-based international organizations, the Secretariat hosted the Club's spring meeting during its six-month chairmanship and representatives from RD participated in the Club's autumn meeting.

A number of high-level visits were made to the Secretariat under the policy of promoting technical exchange and dialogue. These included delegations from the IMF, Deutsche Bundesbank, the Institute of Energy Economics Japan, the Russian Petroleum Busi-

ness Institute, Siemens, the Oil And Natural Gas Corporation of India, Texas Tech University and a senior delegation of Australian business representatives.

In 2013, the oil market was influenced by a variety of diverse factors, including growth in world oil demand and positive economic data from the US and China, but also political tensions in several MENA region countries, and prolonged maintenance in the North Sea. While various supply outages and missed expectations would have suggested increased market volatility, the surge in North American production had a stabilizing effect, somewhat softening the impact of disruptions in other parts of the world.

Over the year, the OPEC Reference Basket slipped 3.3 per cent below the previous year. In the futures markets, crude oil prices remained remarkably stable for a second year.

The world economy witnessed moderate growth of only 2.9 per cent in 2013. The first quarter was particularly weak, not only in the OECD, but also in some of the major emerging economies. In the second half of the year, the recovery became apparent, particularly in major OECD economies such as the US, the UK and Germany. Although economic activities in OECD regions improved in 2013, OECD oil demand growth remained negative. Overall, world oil demand grew more than initially expected, increasing by 1.0 mb/d for the year, compared with an initial forecast of 0.8 mb/d in July 2012. Conversely, OECD Asia Pacific was impacted by a switch from crude and petroleum products to coal and LNG for fuel in Japanese power generation plants.

Short-term market analysis in the Division is reflected in regular reporting of current events affecting oil markets. The *Daily Oil Market Report* provides timely data and analysis of oil price movements and key market drivers in the world economy, financial markets, speculative activity in crude futures markets, commercial oil inventories and oil market forecasts of major institutions. Complementing this, the *Weekly Oil Market Report*, besides providing an overview of price and market developments over the course of the weekly period, includes a regular *Weekly Focus Fea-*

ture on a topical issue — such as analysis of the latest Purchasing Managers' Indexes (PMIs) — to provide an early indication of momentum in the global economy, the factors driving fluctuations in Brent–WTI price spreads and the impact of potential shifts in fiscal stimulus on the oil market, as well as other issues.

The *OPEC Monthly Oil Market Report*, one of the flagship publications of the Organization, offers not only in-depth coverage of developments affecting the various sectors of the oil industry, but also focuses on timely issues, as reflected in feature articles. Some topics covered in 2013 included: fiscal uncertainties; tanker market prospects; the outlook for non-OPEC supply; seasonal oil product market developments; an assessment of the global economy; oil market challenges for the second half of 2013; the oil market outlook for 2014; developments in crude oil price spreads; the use of global oil inventories as an indicator of oil market conditions and a review of the oil market in 2013.

In the semi-annual world oil market reports to the Economic Commission Board, the RD provides pertinent and reliable information and analysis in support of decision-making. Topics of special interest elaborated upon in 2013, among others, included the Mediterranean sweet crude market; a background to the G-20 and the G-20 Energy Initiative; recovery in the Eurozone; the causes and impacts of the decline in India's rupee; the impact of US monetary policy on select emerging and developing economies; the effects of fuel subsidies in non-OECD Asia on transportation fuel consumption; developments in US oil production; the challenge of slowing demand in the refining industry; the growing use of rail transportation for US crude; and non-OECD stock developments and their impact on global inventories.

Ongoing research into energy studies, modelling efforts and market-oriented studies continued in 2013. Projects further focused on developing medium- and long-term analyses pertaining to supply and demand, with emphasis placed on demand in the transportation, upstream and refining sectors, as well as technological developments.

The seventh edition of the *World Oil Outlook (WOO)* was developed throughout the course of the year and released at a November 2013 press conference at the OPEC Secretariat. The *WOO* benefits from studies that have been prepared at the Secretariat, as well as consultancy projects.

As with all previous editions of the *WOO*, its core comes from in-house reports based upon the OPEC Secretariat's two models, OWEM and WORLD. *WOO 2013* considered, in detail, the prospects for medium-term and long-term oil demand and supply, with projection horizons to 2018 and 2035, respectively. Scenarios explored alternative paths for the future energy scene, relating to alternative economic growth assumptions and the possibility of a higher liquids supply than represented in the Reference Case, thereby emphasizing the uncertainties over the future call on OPEC oil. The *WOO* called for continuous monitoring of future developments in the energy scene and the need to remain alert to various possible outcomes.

As indicated in *WOO 2013*, fossil fuels' share of the global primary energy mix according to the Reference Case Scenario is expected to remain at 80 per cent of the global total in 2035. However, the scenario also assumes that oil's share will gradually decrease to 26.3 per cent due to a rising share of gas in the global primary energy mix by 2035.

Reference case oil demand for the medium-term period of 2012–2018 is projected to increase by an average of 0.9 mb/d annually, reaching 94.4 mb/d by 2018. Over this period, demand in OECD America should remain stable, but is thought to fall in other OECD regions, so that OECD aggregate demand falls gradually, having peaked in 2005. Demand in Russia and other Eurasia will increase very slowly. As in previous *WOO* projections, the main increases in demand are to be found in developing countries, with an annual rise of 1.1 mb/d. It is still expected that, by the second half of 2014, non-OECD oil demand will be greater than OECD oil demand for the first time.

Long-term oil demand growth has changed slightly from the 2012 *WOO*, due to, *inter alia*: new regulations issued by the International Maritime Organiza-

tion (IMO) on efficiency for new and existing ships; a slight increase in the rate of economic growth, adding another 3.5 per cent per annum to global GDP by 2035 and a reassessment of car ownership prospects in China, where infrastructure is keeping pace with stronger growth in vehicle stock better than previously assumed. Long-term oil demand in the Reference Case increases by close to 20 mb/d over the period 2012–2035, reaching 108.5 mb/d by 2035, up from 107.3 mb/d in the 2012 *WOO*. It is significant that this long-term projection is experiencing its first upward revision since the *WOO* has been produced. Of this increase, developing Asia accounts for 88 per cent (while demand in China, India and other developing Asia reaches 94 per cent of OECD demand by 2035).

On the supply side, the primary driver of recent non-OPEC output growth has been the US and Canada: growth in 2012 of 1.2 mb/d in this region is the highest on record. The most recent increases have been in the US (with a 1.0 mb/d increase in 2012) and are attributed mainly to the surge in tight oil supply. This is expected to dominate medium-term non-OPEC supply volume increases. The current expectation is that the increase of 2.5 mb/d from 2010–2013 will be followed by a further rise of 1.6 mb/d by 2018. However, the rate of increase is already tapering off: future production of tight oil is likely to face inherent constraints and challenges, such as steep decline rates, a transition away from 'sweet spots', environmental concerns, availability of equipment and skilled labour and the likelihood of rising costs. On the other hand, progress will continue in improving drilling efficiencies, optimizing fracking and completion operations and reducing unit costs. New plays are likely to emerge in the US, but no tight oil supply outside North America is assumed in the Reference Case.

Non-OPEC supply is seen to increase steadily over the medium-term, from 2012–2018, rising by 5.7 mb/d over this period. While the key sources of supply growth are projected to be tight oil and Canadian oil sands, other regions are expected to register increases — primarily crude oil from Latin America (mainly Brazil and Columbia), the Middle East and

Africa, the Caspian (Kazakhstan's Kashagan oil field should add to robust growth) and Russia, together with some increases in biofuels supply, mainly from Brazil and Europe. These increases compensate for expected declines of oil supply in OECD Europe (North Sea) and Mexico. OPEC's supply of NGLs is also expected to continue increasing over the medium-term, having risen from under 3 mb/d in 2000 to 5.5 mb/d in 2012. A further rise is anticipated, to 6.4 mb/d by 2018. Combined projections for demand, non-OPEC supply and OPEC NGLs indicate that the amount of OPEC crude required in the Reference Case will fall from 30.3 mb/d in 2013 to around 29 mb/d in 2015–2017, and will only start to rise again in 2018.

The main long-term increases in liquids supply are expected to come from Latin America and the Caspian. Total supply from the US and Canada is projected to continue to rise, because, although crude oil and NGL supplies gradually fall in line with resource constraints and a fall in supply from tight oil is expected, a rise in extraction from oil sands and, to a lesser extent, an increase in biofuels compensates this, creating a slight overall increase. Declines are expected in mature regions. Russia, although in possession of plentiful resources, is assumed to aim for a production plateau of close to 11 mb/d. Although non-OPEC crude supply is projected to decline over the period 2020–2035, an increase in the liquids supply more than compensates for declines elsewhere, so that total non-OPEC supply is seen to rise from 53 mb/d in 2012, approaching 62 mb/d by 2035.

Scenarios have also been developed that give rise to alternative patterns of the future call on OPEC crude oil. The scenario on Lower Economic Growth (LEG) looks at the impact of lower economic growth, both in the medium term and in the longer term. The Higher Economic Growth (HEG) scenario acknowledges that there is indeed upside potential for economic growth and explores what this could imply for OPEC crude. Meanwhile, the third scenario, Upside Supply (UPS), estimates the possible impact upon OPEC crude if the supply of non-OPEC tight oil and some sources of crude — in particular from Brazil and Russia, along with

biofuels — results in a non-OPEC liquids supply higher than estimated in the Reference Case. The change in expectations relative to the Reference Case is startling in all three scenarios. All raise the question of sustainability of such strong deviations from the Reference Case and point to alternative possible oil price paths from those portrayed in the Reference Case.

The publication also looked closely at expected developments in the downstream sector over both the medium and long term. The refining industry is now suffering from a demand collapse and emerging surplus capacity, especially in the OECD regions. On top of this, it is estimated that more than 7 mb/d of new crude distillation capacity will likely be added to the global refining system in the period to 2015, supported by additional secondary processes. This new capacity will outpace required additions in crude runs and will result in an increase of the cumulative capacity surplus by more than 4 mb/d by 2015, compared with pre-crisis levels. Thus, the medium-term outlook projects an extended period of low utilization rates and depressed profitability in refining, with increasing potential for refinery closures, especially in the OECD. The refining industry in the US is likely to be the most adversely affected in this scenario.

In the long-term, however, some capacity additions will be required because of both regional developments and an expected increase in global crude runs that will be driven by a further shift towards middle distillates and light products. To meet future demand, more than 16 mb/d of additional global distillation capacity will be required by 2030. Almost 11 mb/d of conversion capacity and 20 mb/d from desulphurization units will be necessary over the same period. From a regional perspective, this new capacity will primarily be needed in developing countries, particularly in the Asia Pacific region and in the Middle East. Recent projections point to an emerging contrast between the Atlantic and Pacific Basins. Dominated by Europe and the US, the Atlantic Basin is the centre of a refining surplus. Conversely, the Asia Pacific is the hub of capacity growth. Therefore, the emerging regional shift points to a substantial reshaping and

reordering of refining capacity and refinery ownership over the next few years.

During 2013, the RD also produced reports and studies with a focus on specific subjects, such as *“the US tight oil production”* forecast, which concluded that tight oil production in North America has been increasing rapidly, resulting in overall crude oil production in the United States reaching over 6.3 mb/d in 2012. However, despite the rapid increase in production, there are questions concerning how much tight oil production levels can grow, as well as the long-term viability of this resource. The study looked at these issues in the three largest tight oil plays, Bakken/Three Forks in the states of North Dakota and Montana, Eagle Ford in Texas and the multiple tight and shale formations in the Permian Basin of Texas and New Mexico.

“How will future upstream costs evolve” was the title of another study, with the objective of providing the latest developments on upstream costs and how they might evolve over time. Increases in upstream costs over the past several years have had a significant impact on liquids supply in several key producing regions. Therefore, a better understanding of likely cost developments in the future is crucial for an adequate assessment of both regional supply capabilities and the changing structure of future supply. Overall, the study examined the key parameters of the future outlook for upstream costs. It offered valuable insights into the factors influencing future trends in costs, relating them to economic, technological and political drivers.

“Oil refining capacity developments in Latin America” and *“Oil refining capacity developments in the CIS region”* examined these two important regions’ developments in the refining sector. As Asia and the Middle East are leading the world in attracting most new oil refinery projects, Latin America is also witnessing some expansion of its oil refining system, with Brazil and Venezuela taking the lead. Several other Latin American countries are planning to build new refineries both to satisfy the domestic demand for oil products and to benefit from such projects in supporting exports, employment and regional development.

Moreover, the Commonwealth of Independent States (CIS) is one of the world’s active regions in oil refining. The region has 7.8 mb/d of refining capacity at 46 major refineries in seven countries. Sixty-nine per cent of the region’s refining capacity is in Russia and 11 per cent is in the Ukraine. Most of these refineries were built in the Soviet era and are generally less complex, with limited conversion and treatment capabilities. The region is dominated by Russia, being the biggest and most powerful country with huge energy and other resources. Other CIS countries with refining capacity examined in this report include Belarus, Azerbaijan, Kazakhstan, Turkmenistan and Uzbekistan.

The study on *“US energy policies and implications for the oil industry”* emphasized the present priorities of the US energy policy in light of the tight oil and shale gas boom. The surge in shale gas production has also opened debate about changing US export policies. The study provided an overview of the ongoing debate, as well as analysing developments in US renewable energy policies.

“Outlook for the road transportation sector: drivers and projections” examined the road transportation sector as the largest oil consumer and the source of largest incremental demand growth. Technology, changes in consumer behaviour, government policies, fuel prices, economic growth and demographic changes are the key drivers that will shape the future of this sector.

In constructing the road transport model, a wide range of assumptions were made covering economic, demographic, energy and road transportation structure. Oil consumption is considered to be a function of vehicle stock, fuel economy and vehicle miles travelled (VMT). Vehicle stock is estimated in a bottom-up approach in order to distinguish between different vehicle technologies. It is based on an estimation of vehicle sales, scrap rates and used vehicle imports. Total vehicle sales — including all types of technologies — are considered regionally in relation to quantitative and qualitative factors. Quantitative factors separately include real GDP, population, average vehicle price, and gasoline and diesel price.

The model also covers in detail recent trends and projections for alternative vehicles (those that use non-oil products) such as natural gas, hybrid electric, plug-in hybrid electric, fuel cell, battery electric and propane auto gas vehicles. Moreover, estimates differentiate between light duty and medium/heavy duty vehicles considering per capita light duty VMT as a function of GDP and the urbanization index. Fuel economy standards are enacted in most OECD countries.

The RD also investigated technological opportunities for the future of the oil industry in the areas of power generation, fuels, transportation and petrochemicals. It was concluded that technology will further reduce or slow-down the use of oil in many well-established areas, but on the other hand, it will offer tremendous opportunities to expand and increase demand in new and innovative applications and markets. New and emerging technologies — such as fuel cells, solar and wind energy — could reduce demand for fossil fuels, but conversely create opportunities and new markets for oil-based applications and products.

Due to technology improvements, engine downsizing, dieselization, blending of biofuels and hybridization, the demand for gasoline will be subdued and will shift towards higher-quality blends. Future technology will play an important role in more efficient and mindful utilization of the planet's resources, including wood, minerals and fossil fuels.

The current status of modelling tools applied within the RD of the OPEC Secretariat was analyzed. A report evaluated each of the existing models and enumerated the challenges faced by the user departments, while also highlighting opportunities and providing recommendations for the way forward.

Monitoring domestic energy demand is of great interest to Member Countries. Climate change concerns and increasing awareness of the need to make better use of resources are behind the need for policymakers to analyze and forecast consumption patterns in order to move towards a more sustainable energy future. A study entitled *“Energy demand in OPEC Member Countries”* addressed all these factors and provided detailed information to aid in understanding why energy demand

in OPEC Member Countries has increased significantly in the past decades. Different scenarios analyze the implications that further efficiency improvement could have on net oil export revenues for OPEC and individual Member Countries. Member Countries could seize the opportunity to put additional efforts into the application of more ambitious policies and programmes. Moreover, these policies and programmes could aim for more efficiency in the use of energy resources, send adequate price signals, and create incentives to control growing energy demand.

Energy Dialogue

The RD continued its contribution to the ongoing energy dialogue between producers and consumers. In this regard, it contributed to organizing the 10th Ministerial Meeting of the EU–OPEC Energy Dialogue, which was held on 11 November in Vienna. Market outlook and developments from the short-term up to 2035 were examined, together with a review of energy and climate policies. OPEC emphasized that the oil market continued to be well supplied, with sufficient crude production from OPEC Member Countries and a robust increase in non-OPEC supply, mainly from North America.

During a workshop, held on 27 June 2013 in Brussels, the results of a joint OPEC–EU study on manpower bottlenecks in the oil industry were presented.

OPEC representatives also regularly participate in the OPEC–Russia Energy Dialogue, including a high-level meeting which took place in Moscow on 28–29 October. During the latest meeting it was agreed to further discuss the subjects of tight oil and shale gas, as well as global refinery developments at a technical experts meeting.

Another important part of the dialogue with consuming countries is the Secretariat's participation in the International Energy Agency Greenhouse Gas R&D (IEAGHG) Programme. This collaborative programme was established under an IEA Implementing Agreement in 1991. Its key mission is to be an objective source of information on technologies capable of making strong reductions in greenhouse gas emissions. Since its inception, the programme has

focused mainly on carbon capture and storage (CCS). Its primary role with respect to CCS is to review and report on technologies being developed by others, facilitate technology R&D and look for gaps in R&D efforts. In 2013, OPEC participated in two meetings of the Executive Committee (ExCo) of the Programme, the 43rd Meeting held in Regina, Saskatchewan, Canada, on 8–9 May and the 44th Meeting held in Stockholm, Sweden, 1–3 October. Since the 43rd Meeting, five studies have been published and three other studies were reported to the 44th ExCo meeting; nine were still underway. Furthermore, five studies were out to tender, and another seven were awaiting commencement. A number of reports and studies produced by the Programme within the year were distributed to OPEC Member Countries.

Together with the IEAGHG Programme, a joint Workshop on Carbon Dioxide Capture and Storage (CCS) and the Clean Development Mechanism (CDM) was organized at the Secretariat Headquarters in Vienna on 29–30 October. Eight lecturers from the IEAGHG Programme and other relevant institutions, 12 participants from OPEC Member Countries and eight participants from the OPEC Secretariat attended the event. The workshop included not only the latest information on CCS technology, but also discussed its recent inclusion in the Clean Development Mechanism of the United Nations Framework Convention on Climate Change (UNFCCC). Procedures for proposing CCS projects under the CDM were explained to participants.

Following guidance provided by the BoG, the OPEC R&D Collaboration initiative has been transformed into a regular R&D Forum which took place at the OPEC Secretariat on 7–8 May. The Forum comprised eight technical sessions, with presentations by keynote speakers and participants from Member Countries, as well as an open discussion with a panel of technology experts, followed by a brainstorming session with the participation of Member Country delegations and the Secretariat. The importance of innovation, technology and the people that manage it are central to the oil industry. This was duly reflected

in the broad range of topics on the Forum's agenda. In addition to presentations from OPEC Member Countries and international experts, the Forum was designed to provide opportunities for cooperation and collaboration among all participants.

Environmental debate

Understanding the energy challenges posed by multilateral governance in sustainable development in general, and climate change in particular, are the core of environment-related activities in the RD work programme for 2013. Seven reports/studies covering a wide range of issues were prepared in 2013. Apart from the reports and studies, two coordination meetings for Member Countries were held. In addition, the Secretariat organized daily coordination meetings for Member Country negotiators during the entire course of major UNFCCC negotiation sessions in 2013.

A research project was commissioned to NERA (Economic Consulting) to investigate how OPEC Member Countries could be affected by future developments in climate policies. The results of this study were reported to Member Countries at the first coordination meeting in Vienna held on 16–17 May. An updated overview of issues regarding negotiations on climate change finance and a progress report on the implementation of Rio+20 decisions were provided in two reports. Another report was produced focusing on mitigation and analyzing emissions reduction in the periods before and after 2020.

In October 2013, a second Member Countries' coordination meeting was held and a report entitled *The Run-up to COP19/CMP9 – Negotiation issues in Warsaw* was delivered to Member Countries. The report provided a short analysis of the major issues of importance to the collective interest of OPEC Member Countries and examined five important subjects: mitigation, adaptation, the 2013–2015 review, response measures and means of implementation.

To strengthen networking with Member Countries, Research Fellows from Member Countries visited the Secretariat for six months and jointly carried out research.

Database and communications

Data services (such as expanding, updating and validating statistical databases) and application systems development and maintenance were also ongoing activities during 2013. Such activities aimed at accommodating the needs of both the Secretariat and Member Countries. Emphasis was put on system administration and support to facilitate the access of Member Country users to the Intranet. This was expedited through improving navigation and the introduction of a global search utility, download facility and user support features.

Quality and timeliness of data received from Member Countries in 2013 was further enhanced through improved communication and the ongoing development of an electronic platform for the submission of regular oil data and energy statistics. This has led to more complete statistical data, which has enhanced the Secretariat's reports and analyses.

The delivery of key and up-to-date information to end-users was facilitated through regular dissemination of electronic reports, as well as publications such as the *Annual Statistical Bulletin (ASB)*, the *Annual Report (AR)* and the *Activities of the Secretariat*. *Activities* increased to expand data exchange directly through electronic means and sources. Data provided for the online statistical reports on the OPEC Intranet (e.g. Energy Balances, Macroeconomics, Crude Oil Prices, and Supply/Demand/Stocks) were continuously improved to better address end-user requirements. These improvements serve as the input required for achievement of the Secretariat's short- and long-term strategies.

Data quality was assured through careful validation, consistency checking and analysis. Report cards have been regularly distributed to statisticians from Member Countries to monitor the performance of data submitted to the Secretariat. The 12th OPEC Annual Statistical Meeting was held at the OPEC Secretariat on 4–5 June, with the aim to further improve the flow of regular oil and energy statistics from Member Countries, and exchange their experiences with

energy databank management and the utilization of OPEC's statistical databases.

The Secretariat continued its active stance in promoting data transparency through JODI by significantly contributing to the activities of both JODI-Oil and JODI-Gas. The Secretariat organized a JODI Inter-Secretariat Meeting in Vienna, and attended another in Luxemburg during 2013. The Secretariat successfully organized the first technical meeting with OPEC Member Countries focused on reviewing all technical issues related to JODI-Oil and JODI-Gas submissions, especially on data collection issues. The Secretariat also contributed substantially to the drafting and finalization of the JODI-Gas manual, which was a joint effort between all JODI partner organizations.

All software systems developed in-house were maintained and upgraded as needed. New software modules have been added to accommodate the needs of the Secretariat and Member Countries. For example, a download tool was implemented on the OPEC Intranet, allowing lawyers in Member Countries to acquire legal documents via the Intranet. Moreover, the Intranet has been expanded, with new pages covering the R&D Forum and the Summer Fellowship Programme.

In 2013, the Data Services Department initiated and developed a complete set of technical documentation and manuals for all its existing projects, systems and activities to enhance knowledge management and quality assurance.

As part of the upgrade, new reports were added to Finance's Internal Booking System (IBS) and Human Resource's eLeave system. The new electronic payment system was successfully adapted to the new SEPA regulations.

A prototype application for direct communication between the OPEC Secretariat and Member Countries on statistical questionnaire data has been created and its feasibility was analyzed.

The Data Services Department's development team continued with the maintenance of existing statistical database systems and included new data sources to further support the statistics team and OWEM.

The OPEC Information Center continued in 2013 to extend its services through the increased subscription of electronic and non-electronic publications and newspapers, as well as the purchase of books and reports. The centre's Helpdesk continued to assist all users with their queries and research on a timely basis, using all available resources, including print, electronic and online sources. Visitors from Member Countries, researchers from academic institutions and international organizations, as well as students continued to use the Information Center's resources and facilities.

As in previous years, research analysts in the Division took active part in the *OPEC Energy Review (OER)* peer review process.

The Academic Committee, under the Director, Research Division, places high importance not only on knowledge infusion into the Secretariat, but also on consolidation of all its academic-related activities. This is supported in action, through the provision of training opportunities to young professionals from Member Countries. Responsibility for the Multi-Disciplinary Training Course (MDTC) and Summer Fellowship Programme (SFP) was placed under the Academic Committee.

These programmes provided ongoing support for human capacity building in Member Countries.

Training and knowledge transfer

The 13th MDTC was held on 15–18 April 2013 at the Secretariat, with 24 participants from seven Member Countries attending the course. Participants learned about the latest developments in many areas essential to the oil industry, including the short-term petroleum market and energy modelling, as well as long-term and multilateral issues related to the oil market.

The Summer Fellowship and Internship Programme accommodated 15 participants in 2013. Research topics included, *inter alia*, the relation between natural gas and crude oil prices in the US market; modelling and forecasting the penetration rate of alternative energies in the road transportation sector; analyzing the policies of the EU Energy Roadmap —

2050 and their impact on oil demand; quantitative analysis of production decline rates in oil fields; identifying the dynamics of refining over the last years; refining capacity *versus* product demand; performing an analysis of seasonal change in quarterly oil demand; investigating emission reduction measures in the second commitment period of the Kyoto Protocol; and analyzing energy efficiency and energy demand.

PR and Information Department

In 2013, the Public Relations and Information Department (PRID)'s priorities and specific areas of focus and output were reflected in manifold activities related to the enhancement of OPEC's image.

Improving and enriching the image of the Organization is one of the key challenges identified in the Long-Term Strategy. It has thus been the focus of PRID in carrying out the section's many different tasks — from public relations, outreach programmes, editorial and speechwriting, to the design and production of materials and publications. In all key activities, PRID ensured that the Organization was presented to the public in a positive and desirable manner.

In the course of working towards the achievement of its priorities, in the pursuit of specific areas of focus and in handling the ongoing task of generating high-quality output, PRID contributed to the development and fine-tuning of the Secretariat's message. It has done this by helping to ensure that in its documents and publications, in the presentations made to visitors and other groups, and in the speeches, statements and interventions delivered by the Secretary General and others, the themes of 'openness' and 'transparency', 'dialogue' and cooperation', and 'stability' and 'security' are included. These various but interrelated themes, which make up a great part of the Secretariat's overall message, were widely disseminated through different media and formats throughout 2013.

The work of PRID requires close cooperation with other departments and offices, which benefitted from the department's editorial, audio-visual and design and production expertise in 2013.

Publications

There is especially close cooperation between PRID and RD in the areas of publications. PRID was primarily responsible for editing, designing, producing, printing and distributing disseminated material, with content input varying greatly, depending on the publication type.

Following its earlier publication, the children's book *I need to know; an introduction to the oil industry and OPEC* was translated into German, Spanish and Arabic. Printing of the Arabic version is being handled on behalf of some of the Arabic speaking Member Countries by the Secretariat; 108,000 books are being printed for Algeria, Iraq, Kuwait and Saudi Arabia. The annual *OPEC Diary* has become a regular feature of the PRID Annual Work programme. The editorial content for this item is generated, edited and approved by the Secretariat. Publication of the *OPEC World Oil Outlook (WOO)* commenced in 2007, and from its inception, PRID has been responsible for the editing, typesetting, designing and producing/printing of the publication. With time, PRID has become more involved with drafting some of the contents of the *WOO*, in addition to the regular editing of the publication. The *World Oil Outlook 2013* was repackaged with a new design template. The *Annual Statistical Bulletin (ASB)* once again provided accurate, reliable and timely historical data on various aspects of the global oil and gas industry. The publication — which includes a CD version — has become a useful reference tool for people in the industry. The *Annual Report* chronicled the activities of the Secretariat in the previous year. The tradition continued in 2013, with contributions from all departments and offices. PRID edited, designed and printed both the *ASB* and the *Annual Report*. The *OPEC Energy Review (OER)* could be said to have had its best year in 2013. For the first time since the re-launch in 2008, the *OER* had more than ten papers approved and ready for publication in its bank; printing also commended on time. There was also no delay in printing schedule. This improvement impacted positively on the marketing and revenue base of the publication. This success was the result of team work among PRID, Research Division

and Willey-Blackwell, the Oxford-based publishers. The *OPEC Bulletin* continues to highlight activities of the Secretariat and Member Countries, including interesting articles on topical issues, as well as engaging analytical features.

Speeches and statements

In 2013, the Secretary General attended numerous major events and delivered speeches, statements and interventions at, *inter alia*, the 3rd IEF/OPEC/IEA Symposium on Energy Outlooks (Riyadh), Chatham House Conference on Middle East and North Africa Energy 2013 (London), 14th International Oil Summit (Paris), 2nd Summit of the Heads of State and Government of the GECF Member Countries (Moscow), 5th Asian Ministerial Energy Roundtable (Seoul), Oil and Money Conference 2013 (London), Executive Plenary Session of the Kuwait International Oil and Gas Show and Conference (Kuwait), The Gulf Intelligence Oman Energy Forum (Muscat), 8th International Energy Week (Moscow), United Nations Climate Change Conference (Warsaw) and the 10th Jubilee Vienna Economic Forum (Vienna). These speeches, statements and interventions were well received by participants and the media, given how often they were reported, analysed and quoted. The subsequent publication of many of these on the OPEC website continues to be very useful in attracting traffic and in disseminating the Secretariat's message.

PRID also worked together extensively with RD to produce speeches for various conferences, seminars, workshops and meetings, often on tight deadlines. These messages were delivered by senior OPEC officials to top-level participants from Member Countries, all sectors of the energy industry, government, academia and media.

Media relations and monitoring

It must be noted that another tool used to help improve and enhance the image of the Organization is greater coordination of media coverage of speeches and statements, press conferences and the Ministerial Conferences, as well as pro-active seeking

to further network among media outlets and energy journalists. The use of this more involved approach to media attention and coverage has helped to ensure that journalists have better and more timely information about — as well as a fuller understanding of — the Organization’s activities, which has served to improve overall coverage of OPEC.

The Organization’s media exposure continues to increase globally through the Secretary General’s appearances and interventions at major events and conferences, as well as through the Secretariat’s ongoing research and public relations activities.

In order to keep abreast of what is happening in the industry and other energy-related fields, and to stay informed about news and commentary relating to Member Countries and the Organization, PRID continued throughout 2013 to produce the Daily News Summary (DNS) and What the Papers Say (WTPS), as well as maintaining subscriptions to various industry-related publications.

Audio-visual/multimedia

PRID’s audio-visual (AV) service was in demand in 2013, and all requests were met. This included the production of films about the Secretariat, the year-in-review, staff awards, as well as the updating of the film “Instrument of Change”. At the beginning of 2013, PRID began work on production of a short documentary highlighting information from the pamphlet *Who Gets What from Imported Oil?* The document addresses the issue of how much income is gained by producers through sale of their oil *versus* how much consumer countries earn through taxation.

There was also coverage of the 1st Gulf Cooperation Council (GCC) Petroleum Media Forum, in Kuwait City, Kuwait and the Kuwait Oil and Gas Show and Conference (KOGS) in Kuwait, including the production of on-demand interviews for the OPEC website. OPEC was present with an exhibition stand at both meetings. Coverage at these included live streaming, live broadcasting and production as well as coverage of the WOO–ASB press conference. The Department also covered the 10th EU–OPEC Energy Dialogue in Vienna.

Photo and video coverage was undertaken for archival purposes of all official visitors to the Secretary General, student visits, Board of Governors (BoG) and Economic Commission Board (ECB) Meetings, the Multi-Disciplinary Training Course (MDTC), workshops and roundtables, while the department distributed photographs to international media for publication purposes. It also assisted in, and provided video and photo coverage for, the outreach programme.

Special audio-visual projects

PRID continued to update the Who is Who standalone information consoles and completed the recovery of old videos for the OPEC server as well finalizing the Cumulus Photo Archive and website Photo Gallery projects — daily updates are continuous, including AV inventory. The Cumulus photo archive provides a method of digitally storing, tracking, finding and using digital photos. The project began in 2006 and was completed in 2013. Many technical upgrades and maintenance were performed throughout the year, including the installation of a new recording system and two compatible editing systems in the TV studio.

Website

It is important to note that PRID also managed to leverage the website to great effect, increasingly using it as a means to deliver the Organization’s message to a broader and more international audience. In addition to the posting of speeches as noted above, the website has been used in a regular and increasingly useful manner to highlight the launching of OPEC’s flagship publications: on an annual basis, the *Annual Statistical Bulletin* and *World Oil Outlook*, and on a monthly basis, the *Monthly Oil Market Report*. Making these available online in an easily downloadable format has proven to be a useful way to disseminate these publications further and more rapidly.

Updating of archive videos covering key OPEC events for uploading to the OPEC server continued. Finally, other features have been used to populate the website and make it more attractive to users, including but not limited to a frequently updated ‘flash

news' ticker, colourful and eye-catching graphs and the daily OPEC Reference Basket Price, as well as the ongoing use of specific on-line features like the introduction of the 'flip-book' application for major publications. These efforts have all proven to be successful and have resulted in additional visitors to the website. In 2013 the total number of views to all pages of the website was around 4 million, up from 3.8 million in 2012.

Videos-on-demand

In addition, the production and posting of videos-on-demand after major events — such as the 163rd and 164th Meetings of the OPEC Conference in May and December, respectively, and the launch of the *WOO* — as well as the distribution of audio and video materials on the OPEC website continue to be an effective mechanism for quick and accurate information dissemination by PRID on behalf of the Secretariat. The Conferences were preceded by a now-regular roundtable (Oil Market Insight), which brought analysts and journalists together to critically examine the state of the oil market prior to the Conferences. These were filmed and videos-on-demand were produced for the OPEC website.

PRID's arrangements facilitated the effective coverage by the media of these events. The Meetings were followed by press conferences addressed by the President of the Conference and the Secretary General, which were transmitted live via the OPEC website, and also broadcast live by some major international media networks.

The live-streaming of major events like press conferences and interviews after the Ministerial Conferences, for example, as well as the formal launch of the *ASB* and *WOO*, have ensured a wider audience and have been used on occasion to elicit questions from journalists and analysts who have not been able to travel to Vienna for such events.

Video sequences on in-house screens for Meetings of the Conference and other events were part of preproduction. Coverage also included live satellite/internet programme feeds and postproduction

activities. In addition, DVDs and CDs of documentaries and photos were produced and distributed to Governors and Member Country embassies requesting coverage of their activities. A special day was organized by the Kuwaiti Governor for OPEC to do a photo shoot at the Kuwait Petroleum Corporation (KPC) headquarters and of historical locations in Kuwait City.

Overall, there were 50 exclusive live interviews with OPEC officials and other international figures, while further interviews with analysts and journalists were conducted during live-streaming and published in the website's multimedia section.

Workshops, seminars and exhibitions

Other activities included various workshops and seminars. After a successful inaugural workshop for OPEC Member Country public relations managers/officers working at national oil companies and Ministries of Petroleum in 2012, the 2013 edition was postponed until 2014 due to the Secretariat's already crowded schedule during 2013. However, the response to the first edition of the Workshop was overwhelmingly positive, with various suggestions for future themes and future venues put forward by enthusiastic delegates. Looking ahead, PRID is continuing to work on the preparations and planning for the 6th OPEC International Seminar, to be held 3–4 June 2015. In addition, the Secretariat had a booth organized and manned by PRID staff at the GCC Petroleum Media Forum 2013 in March, and at the Kuwait Oil and Gas Show in October, both held in Kuwait. These events were attended by high-level delegations and an elite group of petroleum leaders.

Briefings and presentations

PRID was heavily involved in the making and delivering of briefings and presentations to students and professional groups visiting the Secretariat. Approximately 2,000 visitors were received in the Secretariat during 2013. This activity is of great importance to PRID and to the Secretariat as a whole, as it enables staff to engage with visitors — whether they

be students, professionals, policy-makers, or other dignitaries — and helps further understanding of the Organization and its activities, thus improving its positive image.

In addition, the enhanced and expanded 'Outreach Programme', which was originally introduced in 2011, continues to be effectively used in the dissemination of information about the history and mission of the Organization, the structure and activities of the Secretariat, and the basic challenges facing the oil market. Outreach-related activities include both visits to schools and visits to other interested groups, with formal presentations delivered by staff from PRID. Another ongoing activity constitutes carrying out a comprehensive review of the 'Outreach Programme' in order to gauge its impact and effectiveness.

Internships

As part of PRID's outreach, a special internship arrangement allows it to host students of the Vienna Campus of Webster University twice yearly for a one-month unpaid internship. As of April 2013, two students of the University participated in the internship programme. PRID and Human Resources also attended the special job fair of the school and delivered briefings to students.

Distribution

Finally, distribution of printed materials plays a very important role in disseminating information about the Organization's activities. To this end, PRID continued to review and update mailing lists and distribution networks for key publications, with additional input and more rigorous review recommended in order to expand and strengthen these even more. Mailing lists included the media, press analysts, news agencies, banks, investment companies, universities, government institutions and more. Along with the timely dispatch of publications, email alerts were sent out.

Other areas

PRID staff undertook many missions and training programmes throughout the year, accordingly

producing reports on these activities, which were either published in the OPEC Bulletin or submitted to the Missions Committee. The Secretariat continued in 2013 to receive numerous guests who came on courtesy visits or to attend workshops, conferences or regular briefings; efforts were made to ensure that every visitor received a corporate gift item. PRID is responsible for selecting these items and ensuring their tasteful production with the OPEC logo. PRID also provided other important services in the area of design/production, including creating backgrounds, posters, badges, nameplates, notepads, logos, programmes, etc., as well as arranging for AV facilities and accreditation for meetings, workshops, conferences, training courses and seminars.

Administration and IT Services Department

The routine activities of the Administration Section consist of providing office, travel and transportation services, upkeep of the premises and residence, effecting arrangements for all meetings and entertainment functions in Vienna and implementing the Headquarters Agreement.

The year 2013 marked the first year in the new premises after the end of the warranty period and all installations were working smoothly. Minor adaptations were carried out during the year, such as setting up a meeting room for the Research Division on the 5th floor.

Emphasis was placed on security and safety. To this end, the automatic alarm routing function to the police was installed and tested. Meetings were held with police authorities to evaluate security measures for both the premises and heads of delegations during meetings. The first fire drill/complete evacuation of the building was organized. Fire agents and departmental fire wardens received special training prior to the evacuation. All staff partook in a presentation on fire safety and escape procedures in case of a fire.

After receiving permission from City of Vienna authorities, several trees were felled in the garden

of the Secretary General's residence and defective equipment was replaced and disposed of in line with procedure.

Developments related to hotels and travel were closely followed; new hotels in Vienna were visited and special rates negotiated with some, such as the Hansen Kempinsky. Reservations at the Hofburg were made for the 2015 OPEC Seminar, thereby kicking off preparations for this important event.

The **IT Services Section** is responsible for providing the Secretariat with secure and reliable IT services. It constantly explores new technological developments in order to provide OPEC with the most effective and up-to-date IT infrastructure.

The IT Services Section is also responsible for printing/reproduction, telecommunications and mail/courier services in the Secretariat.

Apart from its routine activities, it carried out the following projects in 2013:

- Implementation of a new firewall system;
- Implementation of a new internet connection with increased capacity and an backup internet connection;
- Completed refurbishment of the IP telephone infrastructure;
- Implementation of measures to increase IT security at the Secretariat;
- Implementation of a web conferencing system (WebEX).

Finance and Human Resources Department

In addition to its day-to-day activities to provide services related to managing the human and financial resources of the Organization, Staff Regulations, Financial Regulations and Financial Rules and Procedures were finalized by the Finance and Human Resources Department in 2013, as envisaged in the Work Programme.

The Finance Office continued to provide regular financial services to the Secretariat, as well as preparing and presenting the 2012 Financial Report,

the 2013 Provisional Financial Statement and the 2014 Draft Budget to the 141st Meeting of the Board of Governors (BoG). The Office further continued with the streamlining of business processes in conjunction with the external auditors to ensure greater operational efficiency.

The Human Resources Section provided personnel-related services to the Secretariat and continued to monitor the entire HR process, with a view to improving efficiency and the quality of its services, as well as the accuracy of data provided by the section, by applying modern technology wherever possible. Further, the section continued its project to review salaries and allowances as stipulated under Article 5.14 of the Staff Regulations. This project, which commenced in 2012, saw a further development — engagement of an outside consultant to examine and support the Secretariat's study results. The Secretariat's proposals were submitted to the 140th BoG meeting in May 2013, while the consultant's project proposals were submitted to the 141st BoG meeting in November 2013, where increases were approved for salaries, housing and family allowance entitlements.

At the same time, an end-of-service grant — to be applied to all Category II staff members — was approved. These measures were implemented 1 January 2014.

Furthermore, having recognized the difficulties encountered by the Secretariat in filling Category I vacancies — mirroring human resource shortages seen in the industry as a whole — and with unanimous concurrence on the importance of maintaining high-quality personnel at the Secretariat, the 139th Meeting of the BoG in November 2012 requested that the Secretariat submit a report reviewing Category I job requirements and related issues. Having considered the Secretariat's submission, the 140th Board of Governors Meeting further requested that an outside consultant be engaged to work on the job requirements. All the changes proposed by the consultant were reported to and approved by the 141st Board.

Heads of Delegation

ALGERIA



HE Dr Youcef Yousfi

ANGOLA



HE Eng José Maria Botelho de Vasconcelos

ECUADOR



HE Eng Pedro Merizalde-Pavón

IR IRAN



HE Eng Bijan Namdar Zangeneh

IRAQ



HE Abdul-Kareem Luaibi Bahedh

KUWAIT



HE Mustafa Al-Shamali

LIBYA



HE Dr Abdel Bari Ali Al-Arousi

NIGERIA



HE Mrs Diezani Alison-Madueke

QATAR



HE Dr Mohammed Bin Saleh Al-Sada

SAUDI ARABIA



HE Ali I Naimi

UAE



HE Suhail Mohamed Al Mazrouei

VENEZUELA



HE Rafael Ramirez

Outgoing Heads of Delegation by country

ECUADOR



*HE Wilson Pástor-Morris
to April 2013*

IR IRAN



*HE Eng Rostam Ghasemi
to August 2013*

KUWAIT



*HE Hani Abdulaziz Hussain
to May 2013*

UAE



*HE Mohamed Bin Dhaen Al Hamli
to March 2013*

Board of Governors

Algeria

Ahmed Messili

Angola

Felix Manuel Ferreira

ECUADOR

Wilson Pástor-Morris

Diego Armijos-Hidalgo *(to June)*

Dr César Molina Novillo *(to August)*

IR Iran

Hossein Kazempour Ardebili

Seyed M A Khatibi Tabatabai *(to August)*

Iraq

Dr Falah J Alamri

Kuwait

Ms Nawal Al-Fezaia

Miss Siham Razzouqi *(to September)*

Libya

Samir Salem Kamal

Nigeria

Danladi Kifasi

Amb Abdulkadir A Musa, mni *(to June)*

Qatar

Issa Shahim Al Ghanim

Saudi Arabia

Dr Mohammed Madi

Yasser M Mufti, Chairman of the Board *(to December)*

United Arab Emirates

Dr Ali Al-Yabhouni

Venezuela

Dr Bernard Mommer

Economic Commission Board

Algeria

Mrs Yamnia Hamdi

Angola

Luis Correa Neves

Ecuador

Dr Andres Miño

Wilson Pástor-Morris *(to September)*

Dr César Molina Novillo *(to August)*

Eng Diego Armijos-Hidalgo *(to June)*

IR Iran

Dr Saeid Serajmir

Safar Ali Keramati *(to October)*

Iraq

Ali Nazar Faeq Al-Shatari

Kuwait

Mohammad K Al-Shatti

Ms Nawal Al-Fezaia *(to September)*

Libya

Imad A Ben Rajab

Nigeria

Suleman Ademola Raji *(to June)*

Qatar

Sultan K Al-Binali

Saudi Arabia

Dr Nasser A Al-Dossary

United Arab Emirates

Salem H Al Mehairi

Hamdan Mubarak Al Akbari *(to November)*

Venezuela

Ms Nelida Izarra

Fadi Kabboul *(to August)*

Officials of the Secretariat

Secretary General

Abdalla Salem El-Badri

Research Division

Dr Omar S. Abdul-Hamid *(joined in May)*

Dr Hasan M. Qabazard *(completed service in March)*

Data Services Department

Dr Adedapo Odulaja *(joined in February)*

Nabeel Almojil *(completed service in May)*

Ramadan Janan *(completed service in June)*

Energy Studies Department

Oswaldo Tapia Solis

Benny Lubiantara *(completed service in February)*

Dr Taher M Najah

Julio Arboleda Larrea

Amal Alawami

Mehrzad Zamani

Dr Jorge Leon Arellano *(joined in January)*

Shayma Amin *(joined in August)*

Petroleum Studies Department

Dr Hojatollah Ghanimi Fard

Dr Odalis Lopez Gonzalez *(completed service in March)*

Esam Al-Khalifa *(completed service in January)*

Haidar Khadadeh *(completed service in October)*

Elio Rodriguez Medina

Eissa Alzerma

Anisah Almadhayyan

Afshin Javan *(joined in January)*

Imad Alam Al-Deen *(joined in April)*

Hassan Balfakeih *(joined in June)*

Mohammad Ali Danesh *(joined in October)*

Environmental Matters Unit

Dr Mohammad Taeb

Office of the Secretary General

Abdullah Al-Shameri *(completed service in April)*

Legal Office

Asma Muttawa

Ali Nasir *(completed service in December)*

Finance & Human Resources Department

Alejandro Rodriguez Rivas *(completed service in July)*

Kamal Al-Dihan *(joined in March)*

Abiodun Ayeni

Administration & IT Services Department

Badreddine Benzida

Public Relations & Information Department

Angela Ulunma Agoawike *(completed service in September)*

Zoreli Figueroa

Secretary General's diary

22 January 3rd IEF/OPEC/IEA Symposium on Energy Outlooks, Riyadh, Kingdom of Saudi Arabia

28–29 January Chatham House Conference on Middle East and North Africa Energy 2013, London, UK

5 March Abdullah Bin Hamad Al-Attiyah International Energy Awards Ceremony, Doha, Qatar

4 April 14th International Oil Summit, Paris, France

11–13 April Lech Energy Forum 2013, Lech, Austria

17–21 April 2013 Spring Meetings of the World Bank Group and IMF, Washington DC, USA

1–2 July 2nd Summit of the Heads of State and Government of the Gas Exporting Countries Forum (GECF), Moscow, Russia



Energy Award winner Abdalla Salem El-Badri (l), OPEC Secretary General, pictured during the presentation with Abdullah Bin Hamad Al-Attiyah.

Gulf Intelligence

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- 12 September** 5th Asian Ministerial Energy Roundtable, Seoul, Korea
- 1–2 October** Oil & Money Conference 2013, London, UK
- 4 October** Strategic Management Course of the Austrian Academy of National Defence, Vienna, Austria
- 8–10 October** Kuwait International Oil & Gas Show and Conference, Kuwait City, Kuwait
- 21 October** Gulf Intelligence Oman Energy Forum, Muscat, Oman
- 28–29 October** 8th International Energy Week, Moscow, Russia
- 20–22 November** High-Level Segment of COP-19/CMP-9, Warsaw, Poland
- 25 November** 10th Jubilee Vienna Economic Forum, Vienna, Austria



Mustafa Jassim Al-Shamali (c), Deputy Prime Minister and Minister of Oil for the State of Kuwait, inaugurating the Kuwait International Oil & Gas Show.

Calendar 2013

- 22 January** 3rd IEF/OPEC/IEA Symposium on Energy Outlooks, Riyadh, Kingdom of Saudi Arabia
- 26 February** 8th Meeting of Vienna Energy Club, HQ Vienna, Austria
- 21 March** IEA/IEF/OPEC Workshop on the Inter-Linkages between the Physical and the Financial Energy Markets, HQ Vienna, Austria
- 26–27 March** Joint Organisations Data Initiative Technical & Inter-Secretariat Meetings, HQ Vienna, Austria
- 15–18 April** 13th Multi-Disciplinary Training Course, HQ Vienna, Austria
- 4 May** Meeting of Experts from Member Countries (MCs) on Criteria for Selection of the Secretary General (SG), HQ Vienna, Austria
- 6–7 May** 140th Meeting of the Board of Governors (BoG), HQ Vienna, Austria
- 7–8 May** OPEC R&D Forum, HQ Vienna, Austria
- 16–17 May** OPEC MCs Coordination Meeting on Climate Change, HQ Vienna, Austria
- 28–29 May** 119th Meeting of the Economic Commission Board (ECB), HQ Vienna, Austria
- 31 May** 163rd Meeting of the Conference, HQ Vienna, Austria
- 4–5 June** 12th Annual Statistical Meeting, HQ Vienna, Austria
- 27 June** OPEC/EU Roundtable on Manpower Bottlenecks in the Oil & Gas Industry, Brussels, Belgium
- 24–26 September** 13th Special Meeting of the ECB, HQ Vienna, Austria

- 26 September** 2nd Meeting of the Committee of Experts on Criteria for the Selection of the SG, HQ Vienna, Austria
- 28 October** Meeting of Technical Experts in preparation for 2nd Ministerial Meeting of the OPEC-Russia Energy Roundtable, Moscow, Russia
- 28 October** OPEC MCs' Coordination Meeting in the run-up to COP19/CMP9, HQ Vienna, Austria
- 29 October** 2nd Ministerial Meeting of the OPEC–Russia Energy Roundtable, Moscow, Russia
- 29–30 October** Joint Workshop with IEAGHG on CCS CDM, HQ Vienna, Austria
- 5–6 November** 141st Meeting of the BoG, HQ Vienna, Austria
- 7 November** Press conference on the launch of the 2013 WOO and 2013 ASB, HQ Vienna, Austria
- 11 November** 10th EU-OPEC Ministerial Meeting, HQ Vienna, Austria, Austria
- 13–14 November** JODI Technical Meeting, HQ Vienna, Austria
- 11–22 November** *COP-19, Warsaw, Poland**
- 2 December** 120th Meeting of the ECB, HQ Vienna, Austria
- 4 December** 164th Meeting of the Conference, HQ Vienna, Austria
- 9 December** Meeting of EU–OPEC Experts on the Evolution of Energy Prices, Brussels, Belgium

**participation by OPEC*



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