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Organization of the Petroleum Exporting Countries

Organization of the Petroleum Exporting Countries
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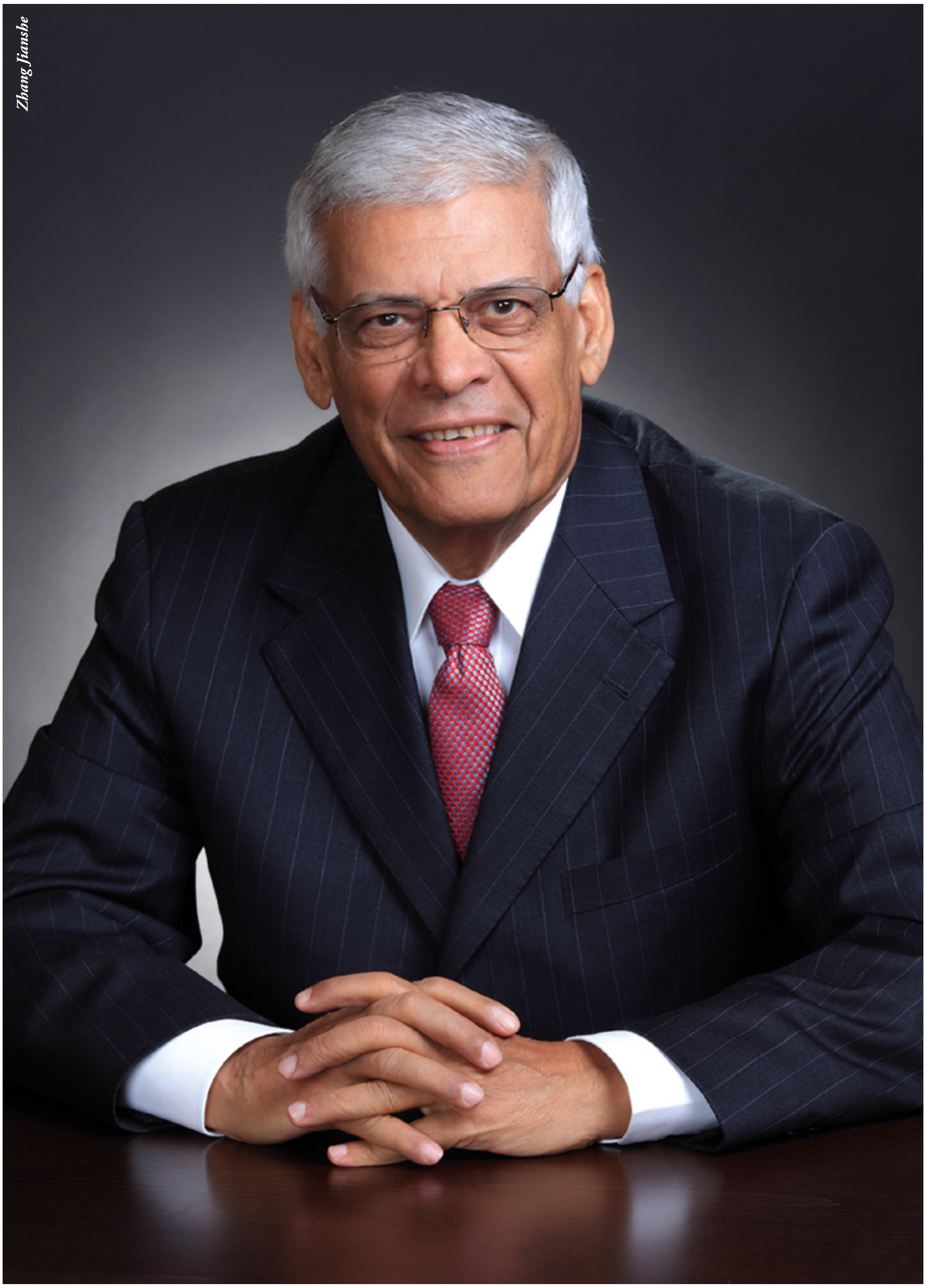


Abdalla Salem El-Badri
Acting Secretary General

Foreword

The year 2015 was a challenging time for the oil industry — a period of readjustment for all producers and investors, who have had to face the reality of a shifting global oil industry. At times it felt as though the industry was in a constant state of flux.

Over the year, crude prices fell by around 50%, with the OPEC Reference Basket averaging just under $50 per barrel in 2015. Many investments were also deferred and some cancelled, with exploration and production spending falling by around 20% compared with 2014. It was a year when supply was greater than demand and stock levels continued to rise, as the market searched for balance.

In terms of numbers, global economic growth in 2015 was at 2.9%, below the 3.3% of 2014. However, expectations are for it to rise again above the 3.0% level in 2016.

The OECD grew by 2.0% in 2015, edging above the 2014 figure of 1.9%. The US fared quite well throughout the year, growing by 2.4% — the same level as the previous year, and the Euro-zone continued its cyclical recovery, with full-year growth at 1.5%, held back from stronger growth by a high unemployment rate, low inflation and a still-weak banking sector. Despite monetary stimulus, Japan's economy did not expand as much as initially envisaged, with growth at 0.6% for the year.

Among emerging economies, India grew significantly by 7.3%, driven primarily by falling oil and commodity prices, while China's GDP slowed slightly to 6.9%, though its contribution to global demand remained high at one-third of total global GDP growth for the year. The other two BRICs countries, Russia and Brazil, moved into recession due to a number of reasons, including declining commodity prices. Brazil's GDP shrank by 3.8% year-on-year for 2015, while Russia's declined by 3.7%.

Despite lower annual global economic growth, when compared with 2014, global oil demand growth of over 1.54 mb/d was actually higher than a year earlier. Both the non-OECD and OECD regions saw significant growth across the year.

On the supply side, non-OPEC supply was again the main source of extra oil on the market. Non-OPEC countries produced just over 57 mb/d of liquids on average, indicating growth of close to 1.5 mb/d in 2015. OPEC crude production in 2015 is estimated at around 31.8 mb/d, an increase of just over 1 mb/d from 2014. OPEC has remained an efficient, reliable and economic supplier of oil and this will continue in the years ahead.

The US experienced the highest growth in oil supply among all non-OPEC countries in 2015, up by just over 1 mb/d supported by continuing tight oil production, albeit at a slower pace than the year previous. The declining trend will continue in 2016, and at a greater pace, with non-OPEC supply anticipated to witness a significant contraction.

The extra barrels on the market led to burgeoning storage, with the five-year average for OECD commercial stocks moving from a surplus of 87 million barrels to one of around 350 million barrels over the year.

Despite the difficulties facing the market, many OPEC countries continued to stand by their investment plans, and not only in the upstream. Plans include significant developments by some countries in the refining and petrochemicals industry, both at home and overseas, in order to create more added value and source refineries in regions where demand is on the rise.

Given the challenges facing the oil market in 2015, the OPEC Secretariat recognized the need to further dialogue and cooperation. To this end, it organized two technical meetings of OPEC and non-OPEC representatives in Vienna during the year. These proved informative, with participants exchanging ideas and viewpoints as to how to best bring balance back to the market. Throughout the year, the Organization stressed that as all producers want a stable market, all producers must be willing to help deliver the stability.

The Secretariat actively pursued talks with other stakeholders too. Joint dialogues were undertaken with the International Energy Agency and International Energy Forum, as well as with Russia and India. OPEC also participated in Middle East and Asian dialogues to which it was invited.

The Organization also held the 6th OPEC Seminar at the historical Hofburg Palace in Vienna on 3–4 June under the title 'Petroleum: An engine for global development' to help further dialogue in what has become one of the world's most important and influential global energy gatherings. The event attracted over 800 attendees, with energy ministers from both OPEC and non-OPEC countries, heads of major oil companies, international organizations and energy institutions, as well as many other industry stakeholders present.

The Seminar was followed by the first 2015 Meeting of the Conference on 5 June, with a further Meeting held on 4 December, with Ministers discussing and debating global oil market developments. At the December meeting, Indonesia returned as a member of the Organization. Indonesia became a Member of the Organization in 1962, before suspending its Membership with effect from 1 January 2009. It has contributed much to OPEC's history and is warmly welcomed back.

December also saw the conclusion of the 'Paris Agreement' that outlined the world's collective response to tackle climate change. OPEC welcomes the historic Agreement, which comes after many years of negotiations and is a testament to an enduring multi-lateral collaborative effort to address this pressing issue.

OPEC is committed to the development of renewables, and to using energy more efficiently. At the same time, we also believe that fossil fuels will continue to play the major role in our energy mix for the foreseeable future. It means that we need to look for solutions in technology that can help reduce emissions from fossil fuels, and ultimately eliminate them.

The Organization also wants to ensure that the major challenge of energy poverty is not ignored in this ongoing process. Billions of people still rely on biomass for their basic needs and more than a billion have no access to electricity. We need to be practical, realistic and equitable about our energy future.

Throughout 2015, the search for market stability and more balanced fundamentals was a challenge for all industry stakeholders. This will continue in 2016, and it is expected that the market will see greater stability and balance in the second half of the year. These are key tenets of a strong oil market, and vital to helping deliver a sustainable energy future; for all producers and for all consumers too.

Abdalla Salem El-Badri
Acting Secretary General

The world economy

After a slight pick-up in 2014, world economic growth softened once more in 2015, reaching a growth level of 2.9%. Since 2012, global GDP growth has stood at around the 3% level, with growth potential slightly higher at around 3.5%, down in the past years from higher levels. It is important to highlight that over the past 30 years growth on average has stood at around 3.2%, thus numbers for the recent past seem to be reasonable. However, it must be acknowledged that while on average global growth seems healthy, it became increasingly uneven; the growth differentials among various economies are large. Second, there are still considerable quantities of unused resources in terms of labour, with high unemployment rates in some of the advanced as well as some emerging and developing economies (EMDCs). In addition, quarterly growth patterns were relatively uneven, with weak growth in the US in the first quarter, but at the same time stronger output elsewhere. The fourth quarter saw the weakest output on a global basis.

Some important developments impacted economic development and consequently commodity markets in 2015. First, the major underlying support for economic growth came from the services sector. Many commodity demand sensitive industrial sectors, including the energy sector, were weak in 2015. Second, growth rebalancing in China also affected global economic activity via trade channels, consequently impacting commodity prices. Third, a large decline in commodity prices had a negative impact on global growth numbers via various channels. Growth in major producer economies fell significantly, as most of those economies rely on commodity income to a significant extent. But also in advanced economies, particularly in the US and Canada, the net effect of lower oil prices seemed to be negative, as lower output prices and a considerable decline in capital expenditures negatively affected GDP. This was in contrast to rising oil demand, particularly in the US, where consumption of oil-related products was stimulated by lower prices and savings from oil-related expenditures were spent in other consumer areas. On a net basis, though, this failed to greatly stimulate the economy as a whole or to compensate for the shortfall of revenues from the energy sector.

Another important factor to be considered regarding 2015 economic growth is increasingly divergent monetary policy over the year, particularly from the Federal Reserve Board (Fed) and the other two large central banks, namely the European Central Bank (ECB) and the Bank of Japan (BoJ). While the Fed prepared markets for a tightening of its monetary policy and a rise in interest rates, the ECB and the BoJ became even further engaged in unprecedented monetary stimulus measures. Due to the global reserve status of the US dollar, this led to a considerable increase in the dollar over the course of the year, impacting commodity prices negatively, and leading to capital outflows from emerging economies as yields became increasingly unattractive. Hence, the US dollar appreciated not only compared to the euro, but also *versus* the Chinese yuan, after a surprise devaluation of China's currency starting in August. Moreover, it gained strength *versus* other emerging market currencies, particularly the Brazilian real and the Russian rouble.

The above briefly described developments led to relatively solid but diverse performance in the OECD, which grew by 2.0% in 2015, above 1.9% growth figures for 2014. The US seems to have better weathered the economic challenges than the Euro-zone and Japan, as reflected in monetary policies and currency movements, with an appreciating US dollar. Within the major emerging economies, developments were also relatively heterogeneous. While India's growth was expanding, and China's GDP growth was only slightly slowing down, both Russia and Brazil moved

Note: Figures based on May 2016 Monthly Oil Market Report.

into severe recessions for a variety of reasons, including the impact of declining commodity prices.

North America, Japan and the Euro-zone

The situation in the three main OECD economic regions was different in 2015, similar to the year before. While the US started the year once again with weak growth in the first quarter, it recovered in the remainder of the year and seemed to be once more in a better position than most of the other advanced economies. Growth for 2015 stood at 2.4%, the same level as in 2014. Private household consumption was the foremost supporter of the underlying growth pattern; it grew by 3.1% y-o-y. This was certainly helped by ongoing labour market improvements and rising house prices, but also by lower energy prices, which were another important factor. However, positive developments in consumption were counterbalanced by the negative impact on the energy market. While consumers enjoyed lower energy prices, energy companies had to cut costs considerably, which had an estimated negative impact of more than 0.2 percentage points on GDP growth levels. Moreover, the rise in the US dollar also weighed on 2015 growth, as exports were impacted by the weakening competitive situation. Finally, some slack became apparent again at the end of the year, with growth at only 1.4% q-o-q seasonally adjusted annualised rate (saar) in 4Q15.

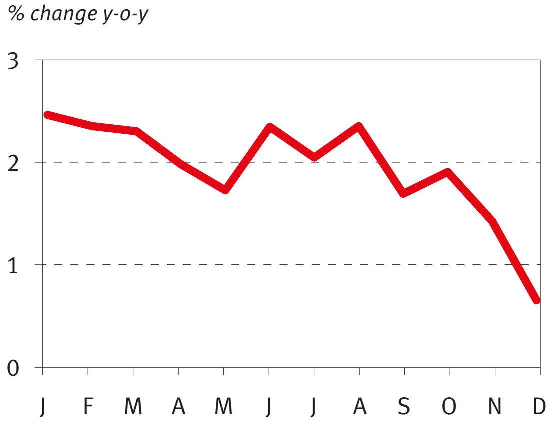
Japan's economy experienced very high 1Q15 growth of 5.4% q-o-q saar, but this was immediately followed by negative growth in 2Q15. Growth in 4Q15 turned negative again, reflecting ongoing weakness in the economy stemming from sluggish exports and muted domestic demand. Despite a very tight labour market with an unemployment rate of below 4%, labour income has been in decline and inflation has not picked up materially, remaining at around the 0% line. Even with ongoing and increasing monetary stimulus from the BoJ, the economic situation of Japan has not improved materially over the course of 2015, leading to growth of only 0.6% in 2015, after 0.1% in 2014.

The Euro-zone continued its cyclical recovery in 2015 with an unexpectedly strong start to the year. Growth in 1Q15 stood at 2.3% q-o-q saar. The recovery in 2015 was broad-based. Germany, the Euro-zone's largest economy, led growth momentum, but most peripheral economies were also growing quite strongly. Full year 2015 growth for the Euro-zone stood at 1.5%, with Germany expanding at the same rate, France at 1.2% and Italy at 0.6%. Furthermore, Spain — the fourth largest economy — grew by a significant 3.2% and Ireland — another ailing economy in the past — expanded by a strong 7.8%. The main issues holding the Euro-zone back from even higher growth rates included the still-high unemployment rate, which stood clearly above 10% on average, low inflation, which was again hovering around the 0% line and the still-weak banking sector. The latter two developments occurred despite newly implemented stimulus measures by the ECB, similar to the situation in Japan — a sign that such measures may become less effective and that more structural reforms may better help to support the economy.

Emerging and developing economies

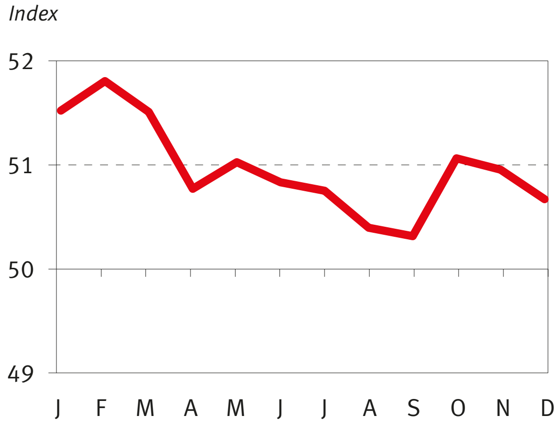
In Brazil, GDP shrank by 3.8% y-o-y in 2015, according to the national statistics agency. The contraction accelerated in 4Q15 to 5.9% y-o-y from the 4.5% and 3.0% declines seen in the two previous quarters,signalling the sharpest contraction in data history since 1991 . This also marks the seventh consecutive drop in GDP. The economy declined by 2.0% and 3.0% y-o-y in 1Q15 and 2Q15, respectively The services sector, which accounts for nearly 65% of total GDP, was in contraction in 2015. The manufacturing sector was also in deep recession. Inflation increased almost throughout the entire year, starting at 12.3% y-o-y in January and registering 14.3% y-o-y in December. The benchmark interest rate increased from 7.1% at the beginning of 2015 to 11.3% in

Figure 1
Global industrial production, 2015



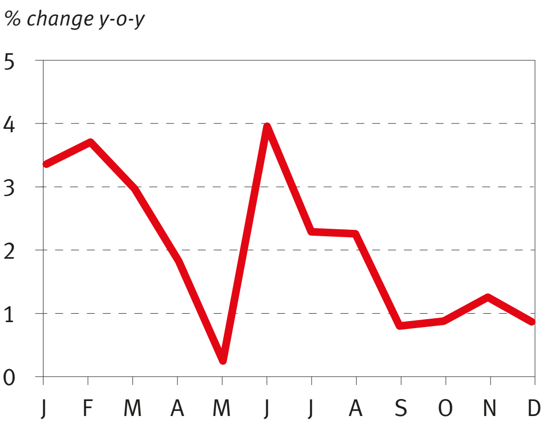
Sources
Netherlands Bureau for Economic Policy Analysis and Haver Analytics.

Figure 2
Global manufacturing PMI, 2015



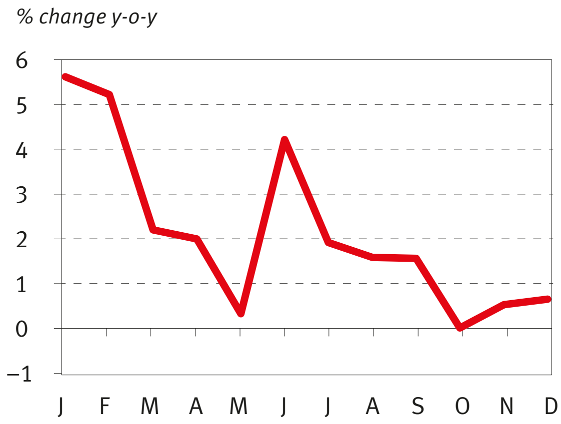
Sources
JP Morgan, Market and Haver Analytics.

Figure 3
World trade, 2015



Sources
Netherlands Bureau for Economic Policy Analysis and Haver Analytics.

Figure 4
World exports, 2015



Sources
Netherlands Bureau for Economic Policy Analysis and Haver Analytics.

December. As the economy of Brazil contracted in 4Q15, private consumption shrank by 6.8% y-o-y in 4Q15, gross fixed capital formation declined by 18.5% and government consumption decelerated by 2.9% in the same period. The trade balance was supportive of GDP growth in 4Q15, with exports increasing by 12.6% y-o-y, while imports were 20.1% lower. Depreciation of the real by more than 40% in 2015 was a main driver of the sizable drop in imports, which outweighed the decline in export prices.

Russia's GDP declined by 3.7% in 2015, according to the Federal Statistics Service. Household consumption and gross fixed capital formation both saw sharp declines of 9.5% and 7.8% y-o-y in 2015, while government consumption slowed by 1.8%. Export values increased by 3.7% y-o-y in real terms, while imports markedly fell 25.7% in 2015. The ruble slid by more than 26% compared with the US dollar. Inflation, in turn, continued posting double-digit increases throughout 2015, from 15.0% y-o-y at the beginning of the year to 12.9% y-o-y in December. The central bank started the year with its benchmark interest rate at 17.0%, then gradually reduced it to 11.0% in June, where it remained until the end of 2015. Retail sales showed persistent deceleration during 2015, falling an average of 9.7% y-o-y in the full year. The manufacturing sector, despite having temporarily benefitted from import-substitution policies in 2014, was back

Table 1

World economic growth rates, 2014–15 ***(% change over previous period)***

Grouping/country	2014	2015
OECD	1.9	2.0
Other Europe	1.6	2.9
Developing countries	3.8	3.1
Africa	3.2	3.0
Latin America and Caribbean	1.0	–0.8
Asia and Oceania	4.9	4.4
Asia Pacific	4.1	3.6
OPEC	2.9	2.3
China	7.3	6.9
FSU	1.2	–2.6
Total world	**3.3**	**2.9**

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

in contraction territory for most of 2015. Likewise, the services sector showed signs of deceleration in eight months of 2015.

Growth in emerging market and developing economies was slowing with some exceptions, particularly India. The slowdown reflected the dampening impact of lower oil and other commodity prices and tighter external financial conditions, particularly in Latin America (e.g., Brazil) and among oil exporters. Other factors included rebalancing in China, structural bottlenecks, and economic distress related to geopolitical factors, particularly in the Commonwealth of Independent States and some countries in the Middle East and North Africa.

In 2015, India's GDP growth expanded by 7.3%, compared with a growth rate of 7.1% in 2014. However, growth has been uneven and driven mainly by private consumption and public investment. The key driver of India's GDP growth in 2015 was falling oil and other commodity prices, which improved corporate margins and household purchasing power, while also improving government tax collections and lowering the subsidy bill. But there have also been significant negative factors. Continued weakness in global demand and a second consecutive season of poor monsoon rainfall have hurt growth dynamics. The revised GDP methodology has also led to some disconnect between official GDP growth and on-the-ground reality, including feedback from businesses. The Reserve Bank of India cut interest rates four times this year as inflation eased sharply, despite strong growth numbers. Rate cuts were widely called for by the industry to reduce the cost of borrowing and help stimulate growth. The government has taken several significant steps to facilitate business and attract foreign investment to India.

China's economy slowed, with growth easing to a 25-year low of 6.9% in 2015, slightly lower than the 7.3% rate posted for 2014, as the world's second-largest economy continues to pursue a reform agenda to open its capital markets and shift away from its manufacturing roots. The real economy basically

Table 2

Summary of macroeconomic performance of 'BRIC' countries in 2015

	GDP growth rates	Consumer price index *% y-o-y change*	Current account balance *US $ bn*	Governmental fiscal balance *% of GDP*	Net public debt *% of GDP*
Brazil	–3.8	9.0	–58.9	–10.5	66.5
Russia	–3.7	15.5	66.7	–2.6	10.1
India	7.3	4.9	–20.0	–4.0	51.8
China	6.9	1.5	293.4	–3.4	18.9

Sources
OPEC Secretariat, Consensus, Economist Intelligence Unit (EIU).

hasn't picked up very well and the slowdown renewed fears of a hard landing for China's economy. In spite of the country's slowdown, its contribution to global demand in many markets remained high, with the country contributing almost one-third to global GDP growth in 2015. The People's Bank of China continued efforts to keep interbank rates low by making further cuts in the required reserve ratio as a monetary policy tool. In 2015, China's capital market fluctuation continued, which affected its economy. In spite of devaluation of the Chinese yuan (CN¥) against the US dollar in mid-August, the trade-weighted CN¥ was stronger than a year ago.

Foreign exchange currency developments

On the currency markets, the US dollar further appreciated against all major currencies, mainly influenced by the beginning of monetary policy normalization

Table 3

Comparison: OPEC and non-OPEC developing countries

	2014		2015*	
	OPEC	Non-OPEC	OPEC	Non-OPEC
Real GDP growth rate *(%)*	2.9	3.8	2.3	3.1
Petroleum export value *(US $ bn)*	956.2	380.9	518.2	243.7
Value of non-petroleum exports *(US $ bn)*	648.4	3,011.2	618.8	2,743.5
Oil exports as percentage of total exports *(%)*	59.6	11.2	45.6	8.2
Value of imports *(US $ bn)*	1,062.7	3,829.2	970.0	3,361.1
Current account balance *(US $ bn)*	238.1	–116.8	–99.6	–66.2
Crude oil production *(mb/d)*	30.8	9.4	31.8	9.6
Reserves, excluding gold *(US $ bn)*	1,508.6	2,716.3	1,294.2	2,726.2

**2015 data are preliminary estimates.*

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

in the US, which included the first interest rate hike since 2006 by the US Federal Reserve last December, while the ECB and the BoJ continued to engage in monetary stimulus programmes. Another important event was the unanticipated depreciation of the CN¥ by 3% against the US dollar in August, as the Peoples bank of China moved to a more market-based approach of exchange rate determination.

On a yearly average, the US dollar rose by 11.8% y-o-y *versus* the euro and increased by 2.2% y-o-y compared with the yen. Moreover, it rose by 4.8% *versus* the pound sterling and by more than 2% compared with the Swiss franc.

Among emerging market currencies, those of commodity exporters significantly under-performed, with the Russian rouble losing 25.7% of its value compared with the US dollar. Meanwhile the Brazilian real dropped sharply by around 46.7%, and the South African Rand lost 30.3% of its value against the US dollar. The CN¥ depreciated by 5.3% y-o-y against the US dollar.

Table 4

OPEC Member Countries' real GDP growth rates, 2014–15 *(% change over previous period)*

Member Country	2014	2015
Algeria	4.1	2.2
Angola	3.9	2.9
Ecuador	3.7	0.5
Indonesia	5.0	4.6
IR Iran	4.3	1.5
Iraq	–3.9	0.0
Kuwait	–1.6	1.0
Libya	–26.1	–6.0
Nigeria	6.2	3.0
Qatar	6.2	4.0
Saudi Arabia	3.6	3.4
United Arab Emirates	4.6	3.2
Venezuela	–3.9	–7.0
Average OPEC	**2.9**	**2.3**

Sources

IMF, International Financial Statistics; IMF, World Economic Outlook; EIU, country reports; official OPEC Member Countries' statistics; Secretariat estimates.

Call for papers

The OPEC Energy Review is a quarterly energy journal published by the OPEC Secretariat in Vienna. Each issue consists of a selection of original well-researched papers on the global energy industry and related topics. The principal objective of the OPEC Energy Review is to provide an important forum that will contribute to the broadening of awareness of these issues through an intellectual exchange of ideas. Its scope is international.

The three main objectives of the publication are to:

1. Offer a top-quality original research platform for publishing energy issues in general and petroleum related matters in particular.
2. Contribute to the producer-consumer dialogue through informed robust analyses and objectively justified perspectives.
3. Promote the consideration of innovative or academic ideas which may enrich the methodologies and tools used by stakeholders.

Recognizing the diversity of topics related to energy in general and petroleum in particular which might be of interest to its readership, articles covering relevant economics, policies and laws, supply and demand, modelling, technology and environmental matters will be considered.

Submissions should be made to: Executive Editor, OPEC Energy Review, OPEC Secretariat, Helferstorferstrasse 17, 1010 Vienna, Austria; or online via: https://mc.manuscriptcentral.com/opec.

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Oil market developments

World oil demand in 2015

World oil demand growth was higher in 2015 than a year earlier at around 1.54 mb/d. In OECD Americas, the US showed bullish y-o-y oil demand growth, with transportation and petrochemical fuels leading gains. Gasoline consumption was encouraged by lower retail prices at the pump in addition to improving car sales data. A similar trend was also observed in OECD Europe, with automotive diesel and LPG supporting growth. In the Asia Pacific region, demand in Japan remained sluggish, seeing negative oil consumption compared with the previous year. In non-OECD countries, oil demand growth in China was mainly driven by gasoline and LPG requirements, supported by lower retail prices, high SUV sales and expansion in the petrochemical industry. In Other Asia, Indian oil demand data showed impressive growth, also driven by gasoline and LPG. Oil demand in the Middle East region was supported by robust demand from Saudi Arabia, partially counterbalanced by slower oil demand from Iraq. In Latin America, Brazilian oil requirements turned negative as economic momentum slowed.

OECD demand

OECD Americas

In 2015, US oil demand was impacted by the low oil price environment, seen through higher product demand, especially for gasoline, which recorded its greatest growth since 2007. This was the result of a number of factors: lower retail gasoline prices compared with 2014, higher vehicle miles travelled, a significant increase in vehicle sale volumes and a falling unemployment rate — the lowest since April 2008. Distillate fuel oil growth, on the other hand, declined in 2015 to below 2014 levels. The decline was exacerbated in 4Q15 as weather conditions were warmer than in 2014 and performance in the industrial sector was subdued. Additionally, lower demand for distillate fuel from the oil and gas sector moderated the growth figure, as distillate fuel requirements from shale oil production sites have seen strong declines. Jet/kerosene was higher y-o-y as air passenger travel traffic increased, likely driven by the underlying health of the economy.

OECD Europe

Oil demand in OECD Europe was surprisingly firm in 2015, bucking the previous years' trend. Diesel oil demand growth was the largest contributor to total oil demand growth. Diesel oil consumption rose y-o-y with most gains taking place in 1Q15. A certain portion of this growth can be attributed to lower oil prices as weather conditions turned out to be colder than the previous year, pushing consumers to build up stocks to secure heating fuel. Demand for road diesel oil also rose in 2015, mainly as a consequence of lower oil prices and strong new car registration sales. New car registrations increased y-o-y by 9%. LPG also increased in 2015 as the product was more competitive than other cracker feedstocks in petrochemical plants. Overall, 2015 was a very promising year for oil demand growth compared with the recent past. Demand expanded in the region's major economies and lower oil prices supported transportation fuels, as well as industrial and residential fuels.

OECD Asia Pacific

Oil demand in OECD Asia Pacific fell in 2015, ending the year in negative territory again. Demand in Japan declined y-o-y, however at a moderate level from one year earlier. A key contributor to this was declining fuel oil demand and less direct crude burning, in line with reductions from the power generation sector, which saw demand drop by more than 4% y-o-y. The Japanese power generation sector was impacted by two different factors; low LNG prices permitting a higher level of substitution in lieu of fuel oil and direct crude burning, warmer-than-usual weather, with 4% fewer heating degree days than the last five-year average and the re-opening of one nuclear reactor after the 2011 Fukushima incident. On the other hand, South Korean oil demand recorded very robust growth, increasing y-o-y. Gains were witnessed in both the transportation sector and the petrochemical industry.

Non-OECD demand

Other Asia

Oil demand in Other Asia during 2015 was largely determined by lower oil price levels and healthy economic growth. India, the largest oil-consuming country in the region, recorded bullish oil demand growth y-o-y, at the 7% level. Road transportation fuel growth was remarkable in 2015; gasoline accelerated by more than 15% y-o-y and diesel by more than 5% y-o-y. Substantial LPG usage in the residential sector in addition to solid demand for naphtha in the petrochemical industry and residual fuel oil demand in the industrial and agriculture sectors are some of the positive developments that deserve to be highlighted. These positive developments in Indian oil demand are supported by growing momentum in the country's general economy and a number of healthy macroeconomic indicators for oil demand; industrial production, manufacturing, strongly rising new vehicle registrations and a fast-growing petrochemical industry.

Latin America

Total oil demand growth in Latin America was flat compared with 2014 levels. This gloomy picture resulted from continuing unstable overall economic development in the largest-consuming countries in the region: Brazil, Venezuela and Ecuador. Oil demand in Brazil came up negative for 2015 compared with 2014, which amounts in relative terms to 2% y-o-y. All main product categories decreased compared with 2014, particularly gasoline, diesel, residual fuel oil and LPG. Losses in demand for these products were partly offset by bullish ethanol requirements in the road transportation sector. The auto market in Brazil was on the decline in 2015, as a consequence of economic uncertainty. In Argentina, 2015 oil demand growth levels were positive y-o-y. All main product categories were on the rise, particularly fuel oil, with the exception of LPG and jet/kerosene, which remained flat compared with 2014.

Middle East

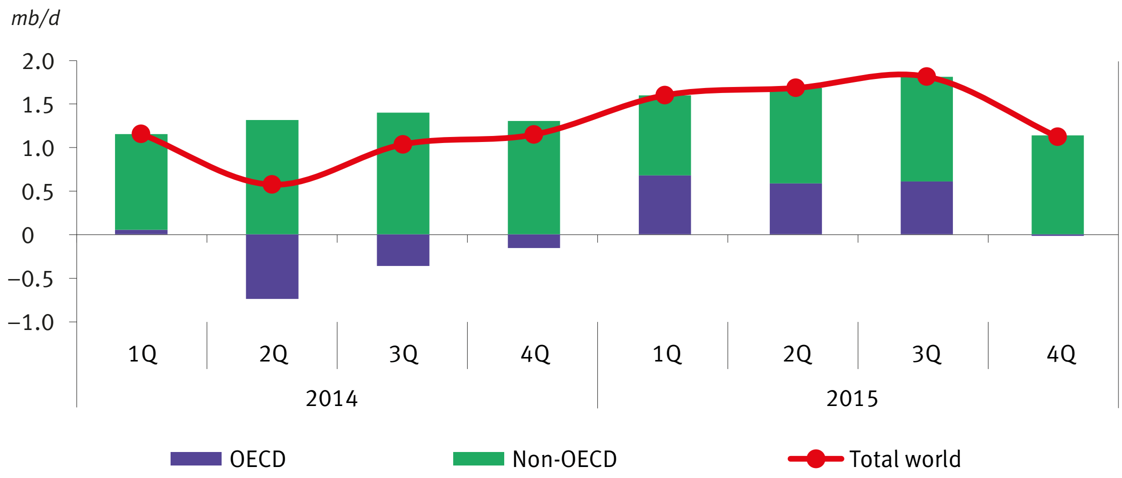
In the Middle East, 2015 oil demand rose solidly y-o-y. As in previous years, the bulk of the growth originated in Saudi Arabia. The Saudi figures showed increasing requirements during 2015 for all main product categories, particularly industrial and transportation fuels, as well as fuels directly used for electricity generation. Other macroeconomic indicators of the country support oil consumption data, with the PMI index comfortably above 50 points in each month of 2015 in line with robust industrial activities, solid GDP growth and rising car sales statistics. Oil demand was also strong in some other countries of the region, particularly IR Iran, the UAE, Kuwait and Qatar. Qatari construction activities for upcoming world events provided the ground for a bullish growth of 30% y-o-y. In Iraq, however, 2015 oil consumption was flat y-o-y. Demand shrank for all main product categories, particularly those intended for the transportation and industrial sectors, partly offset by increasing required volumes of oil for direct use and electricity generation.

China

In China, 2015 oil demand growth was solid, rising y-o-y by around 4%, though lower than average historical levels over the previous five years. Product performance was positive y-o-y, with all products recording positive growth, except residual fuel oil. LPG, gasoline and jet/kerosene were the product categories which grew the most. These developments were in line with improvements in major sectors of the economy

Figure 5

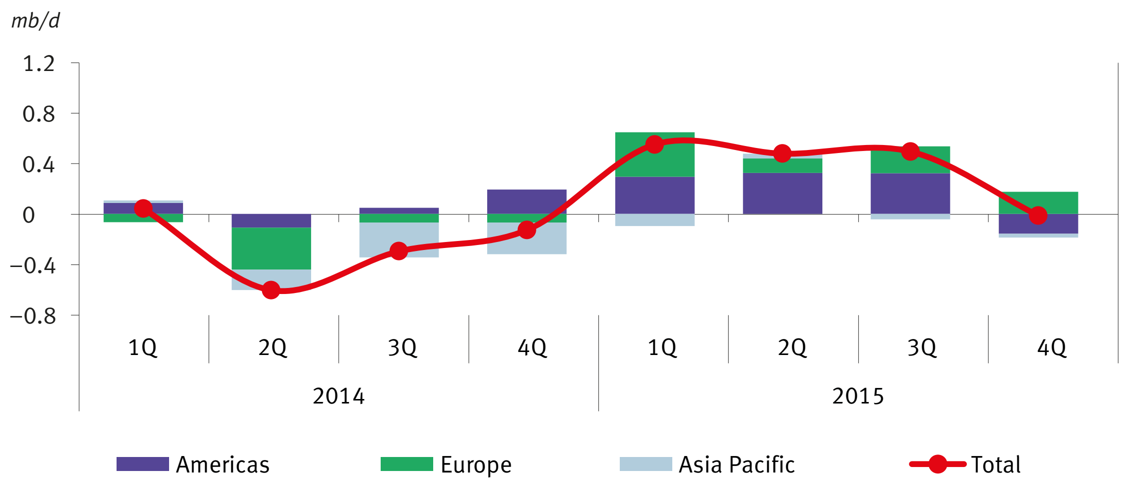
World oil demand by main region, y-o-y growth, 2014–15



Source
OPEC Secretariat.

Figure 6

OECD oil consumption by quarter and region, y-o-y growth, 2014–15



Source
OPEC Secretariat.

over 2014 levels, namely the road and air transportation sectors, as well as the industrial — including petrochemical — and residential sectors. LPG increased by a remarkable 23% y-o-y while jet/kerosene grew by about 17% compared with 2014. Car sales furthermore provided support to gasoline consumption with new registrations continuing to grow significantly, rising by around 7% compared with 2014, allowing gasoline consumption to rise by around 10% y-o-y.

World oil supply

The world's petroleum liquids supply was relatively boosted in 2015, despite the weak oil price, lower investment and cuts in IOC's capex compared with a year earlier. The annual increase came from a tight oil, condensate and NGL output surge from non-OPEC countries, particularly from US unconventional sources, as well as OPEC crude oil and NGLs. Together these totalled 2.67 mb/d to average 95.11 mb/d, which was higher by 0.4 mb/d compared with growth in 2014.

Non-OPEC countries produced 57.14 mb/d of liquids on average, indicating growth of 1.47 mb/d in 2015. In terms of breakdown, they produced 42.8 mb/d, 7.1 mb/d and 5 mb/d of crude oil including condensate, NGLs and unconventional liquids, respectively. Processing gains saw 23 tb/d of growth, to reach an average of 2.13 mb/d in 2015. The OECD saw good growth of approximately 1 mb/d, primarily from OECD Americas. OPEC crude oil production also rose in the year by 1.07 mb/d to average 31.84 mb/d. Moreover, OPEC NGLs and unconventional liquids grew by 130 tb/d to average 6.13 mb/d in 2015. In general, an oversupply of 2.1 mb/d was seen in the world in 2015, assuming total global demand of 92.98 mb/d.

Non-OPEC supply

The non-OPEC liquids supply averaged 57.14 mb/d in 2015, an increase of 1.47 mb/d over the previous year. Growth was driven by a rise from OECD Americas, with the US being the main contributor, followed by Canada. Growth also came from other regions, including Brazil, Russia, Norway, the UK, Malaysia, Vietnam, Oman and China. Declines from Mexico, Australia, Yemen and Kazakhstan partially offset growth in 2015.

On a regional basis, OECD Americas experienced the greatest growth among all non-OPEC regions in 2015 at 0.93 mb/d, followed by OECD Europe, which experienced relatively good growth in 2015 of 0.14 mb/d. The US experienced the highest growth in oil supply among all non-OPEC countries in 2015, up by 1.03 mb/d, supported by a surge in tight oil production from shale development areas, though it expanded at a slower pace than the previous year. Canada's oil supply saw mild growth of 0.1 mb/d in 2015, which was weak compared with 0.27 mb/d of growth in 2014. Mexico encountered the greatest decline among all non-OPEC producers in 2015 of 0.20 mb/d. Oil production in the North Sea increased mainly in Norway and the UK, where it was boosted by 60 tb/d and 90 tb/d, respectively, compared with one year earlier. Australia's oil supply experienced a decrease of 50 tb/d in 2015; indeed Australia was the main contributor to the decline in the OECD Asia Pacific region.

Oil production in developing countries (DCs) grew by 0.20 mb/d in 2015, mainly in Latin America, to average 11.53 mb/d compared with one year earlier. The Middle East and Africa regions experienced supply declines in 2015 of 70 tb/d and 10 tb/d, respectively, while Other Asia and Latin America registered production growth by 0.10 mb/d and 0.18 mb/d, respectively. Relative growth of 0.21 mb/d by Brazil in Latin America led to remarkable growth in DCs in 2015. Yemen registered the second-greatest decline in the Middle East due to regional unrest — 100 tb/d — next to Mexico.

The Former Soviet Union (FSU)'s oil supply experienced remarkable growth of 0.15 mb/d in 2015, to average 13.69 mb/d. Russia saw robust growth of 0.17 mb/d, which was partially offset by annual declines from Kazakhstan and Azerbaijan. Chinese oil production growth was higher by 70 tb/d compared with 50 tb/d in 2014 to average 4.37 mb/d in 2015.

OPEC crude oil production

According to secondary sources, OPEC crude oil production (including Indonesia) averaged 31.84 mb/d in 2015, an increase of 1.07 mb/d over the previous year. It was higher in 2H15 by 0.8 mb/d to average 32.24 mb/d compared with 1H15. OPEC's production share (crude oil & NGLs) of the global liquids supply in 2015 increased to 39.9% (+1.20 mb/d) from 39.8% the previous year. OPEC produced 1.07 mb/d more crude oil in 2015 compared with a year earlier. The main growth came from Iraq and Saudi Arabia, which rose 0.66 mb/d and 0.43 mb/d, respectively,

Table 5

OPEC crude oil production based on secondary sources, 2011–15 *(tb/d)*

	2011	2012	2013	2014	1Q15	2Q15	3Q15	4Q15	2015	Change 2015/14
Algeria	1,240	1,210	1,159	1,151	1,112	1,107	1,109	1,108	1,109	–42
Angola	1,667	1,738	1,738	1,660	1,746	1,716	1,762	1,786	1,752	92
Ecuador	490	499	516	542	551	546	541	547	546	4
Indonesia	795	765	726	696	678	702	695	706	695	–1
IR Iran	3,628	2,977	2,673	2,766	2,779	2,828	2,860	2,880	2,837	71
Iraq	2,665	2,979	3,037	3,265	3,437	3,856	4,153	4,238	3,924	659
Kuwait	2,538	2,793	2,822	2,774	2,748	2,726	2,721	2,718	2,728	–46
Libya	462	1,393	928	473	382	450	381	402	404	–69
Nigeria	2,111	2,073	1,912	1,911	1,879	1,804	1,846	1,851	1,845	–67
Qatar	794	753	732	716	679	667	659	666	668	–48
Saudi Arabia	9,296	9,737	9,586	9,683	9,809	10,253	10,259	10,106	10,108	425
UAE	2,516	2,624	2,741	2,761	2,817	2,838	2,880	2,878	2,853	93
Venezuela	2,413	2,392	2,389	2,373	2,367	2,376	2,368	2,365	2,369	–4
Total OPEC	30,616	31,933	30,958	30,771	**30,985**	**31,869**	**32,234**	**32,249**	**31,839**	**1,068**

Note
Totals may not add up due to independent rounding.

Source
OPEC Secretariat assessment of selected secondary sources.

while the main decreases were seen in Libya and Nigeria, according to secondary sources.

Transportation

Tanker market sentiment in 2015 strengthened for vessels in different segments, with spot freight rates enhanced in various sectors. On average, dirty spot freight rates on reported routes edged up in 2015 by 11% from a year before. Tonnage demand remained generally strong across almost all major trading routes, partially supported by floating storage requirements and a balanced market. Dirty tanker rates increased in 2015 despite an increase in tanker capacity seen during the year in combination

Table 6

OPEC crude oil production based on direct communication, 2011–2015 *(tb/d)*

	2011	2012	2013	2014	1Q15	2Q15	3Q15	4Q15	2015	Change 2015/14
Algeria	1,173	1,203	1,203	1,193	1,141	1,150	1,159	1,179	1,157	–36
Angola	1,618	1,704	1,701	1,654	1,766	1,784	1,777	1,742	1,767	113
Ecuador	500	504	526	557	555	544	538	536	543	–13
Indonesia	794	763	727	697	674	698	695	693	690	–7
IR Iran	3,576	3,740	3,576	3,117	3,017	3,103	3,170	3,313	3,152	35
Iraq	2,653	2,944	2,980	3,110	3,064	3,351	3,744	3,846	3,504	394
Kuwait	2,660	2,977	2,922	2,867	2,850	2,838	2,870	2,876	2,859	–8
Libya	465	1,450	993	480	411	n/a	n/a	n/a	n/a	n/a
Nigeria	1,896	1,954	1,754	1,807	1,792	1,632	1,790	1,778	1,748	–59
Qatar	734	734	724	709	687	647	640	651	656	–53
Saudi Arabia	9,311	9,763	9,637	9,713	9,878	10,401	10,285	10,202	10,193	480
UAE	2,565	2,652	2,797	2,794	2,948	2,976	3,030	2,999	2,989	195
Venezuela	2,795	2,804	2,786	2,683	2,722	2,679	2,631	2,587	2,654	–28
Total OPEC	30,740	33,193	32,326	31,380	**31,503**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**

Note

Totals may not add up due to independent rounding.

Source

Direct communications.

with increasing spot freight rates. Bunker fuel prices dropped further in 2015 from 2014; bunker fuel 380 centistoke edged down by a drastic 50% from one year earlier, leading to a major reduction in operational costs, thus positively boosting shipowner margins. Clean tanker spot fright rates were not isolated from the positive trend in the market and showed an increase both East and West of Suez.

In 2015, spot freight rates for dirty vessels including very large crude carriers (VLCC), Suezmax and Aframax increased on average by 29%, 6% and 7%, respectively, from a year ago. Similarly, spot freight rates for the clean tanker market rose both East and West of Suez as the clean sector was supported by strong global product trade.

VLCC average spot freight rates rose by 29% in 2015 from the previous year; a rise was experienced on all reported routes. Rates for VLCCs operating on key Middle East-to-East and Middle East-to-West routes were enhanced by 33% and 26%, respectively. In West Africa, dirty tanker market rates for VLCCs operating on the West Africa-to-East route mostly mirrored those in the Middle East, up by 27% from a year earlier. Freight rate increases were seen to be at their highest levels in 2Q15 and 4Q15, corresponding to market seasonality. Asian tonnage demand remained one of the most influential factors in 2015, leading to higher tanker utilization and rates in many areas.

Tonnage demand for Suezmax remained healthy, supporting freight rates over the year before. The increase in Suezmax rates came partially on the back of a spillover effect from its larger sister, although Suezmax gains remained below those of VLCCs. On average, Suezmax spot freight rates went up by 6%, mainly due to higher rates registered on the West Africa-to-US Gulf Coast route, while rates for the Northwest Europe-to-US route remained almost flat on an annual basis. Delays in several ports, prompt replacements and weather conditions were the main factors behind higher rates for this class.

Aframax followed the same trend as other vessels in the dirty segment of the market; rates showed a moderate increase on average from the previous year, up by 7% from 2014, as different routes reflected higher rates. Spot freight rates on the Indonesia-to-East route showed the highest gains, rising by 14%, while freights on Caribbean-to-US East Coast route increased by 5%. Rates in both directions of the Mediterranean were also higher in 2015. In the past year, Aframax rates in several regions benefitted from bad weather conditions, prompt requirements, uncertain loading schedules and delays at the Turkish Straits.

Clean tanker spot freight rates followed a similar pattern to those of dirty rates. On an annual basis, average reported rates for clean tankers went up by 11% from the previous year, showing enhanced levels on all reported routes.

Annually, the highest gains were registered for tankers trading on the Singapore-to-East route, which edged up by 18% over the previous year, followed by rates on the Northwest Europe-to-US Gulf route, which increased by 12% from a year earlier.

Refinery industry

Product markets displayed mixed performance in 2015, showing recovery during the driving season in the Atlantic Basin supported by stronger US gasoline demand, which hit levels not seen since 2007. However, product markets lost some momentum during 3Q15, with a slowdown in gasoline demand following the end of the US driving season, amid higher product inventories worldwide.

Meanwhile, the Asian market continued to recover on the back of stronger light distillate demand, despite increasing middle distillate supply exerting pressure on the gasoil market.

Since the start of 2015, Atlantic Basin product markets exhibited strong improvement, thus recovering from the slump suffered at the end of 2014 when margins showed a sharp drop due to an oversupply of products in the region.

During the first quarter, US Gulf Coast (USGC) refining margins showed a sharp recovery on the back of tight sentiment fuelled by lower refinery runs due to some outages in the region and the maintenance season, along with severe cold weather, which boosted heating fuel demand. This, along with strong export opportunities to Latin America, caused a drop in middle distillate inventories and strongly supported crack spreads. US product markets in 2Q15 continued to be supported by a surge in domestic gasoline demand, hitting levels not seen since 2007. This led to a sharp increase in gasoline crack spreads to levels not seen in more than two years. This positive performance allowed refinery margins for WTI on the USGC to recover more than \$5/b from 4Q14 to average around \$13/b during 1H15.

US product markets weakened at the end of 3Q15 with the end of the driving season. This triggered a considerable narrowing in gasoline crack spreads, which, along with weakness seen across the barrel, caused refinery margins to plunge to their lowest levels for the year, averaging around \$5/b in 4Q15. This lower level caused refinery margins in the US to average around \$8/b during 2015.

US refiners continued with higher refinery runs, supported by strong domestic gasoline demand amid increasing export opportunities, mainly to Latin America. Refinery runs reached 92.5% of capacity during the peak driving season in 3Q15, and averaged 89.9% of capacity during the year, corresponding to an average of 16.1 mb/d of throughput, around 300 tb/d higher than in 2014.

In Europe, product markets showed some recovery after January, reversing a declining trend seen at the end of 2014. European refining margins exhibited a sharp recovery during 1H15 as product markets were supported by greater export opportunities. Refinery margins for Brent crude in Northwest Europe showed a sharp gain of more than \$3/b *versus* December levels to average more than \$8/b in 1H15, the highest level seen in almost two years. However, product markets lost some momentum after the end of 3Q15, exhibiting relatively weak performance due to supply side pressure, with increasing inflows to the region amid a lack of export opportunities. During 4Q15, the mild winter continued impacting the product market. However, refinery margins averaged \$9/b in 2015, a sharp gain of more than \$3/b *versus* the previous year's level.

European refiners operated at moderated throughput levels in response to deteriorating margins. However, an overall improvement in margins encouraged an increase in refinery runs, which reached an average of around 10.4 mb/d of throughput in 2015 (equivalent to a utilization rate of higher than 89% for 2015, a level not seen in years) and representing a sharp increase of more than 500 tb/d *versus* the previous year.

During 2015, the Asian market continued the recovery trend that started in 4Q14 as crack spreads strengthened at the top of the barrel, supported by strong gasoline demand and tight sentiment fuelled by a limited supply of naphtha amid higher petrochemical demand in the region. In addition, higher demand was reported for middle distillates which, along with the heavy maintenance season, contributed to easing concern about product oversupply at the end of the year. These developments allowed refinery margins in Singapore to continue to recover to average around \$10/b during 2015, the highest level seen in more than three years.

In Asia, refinery runs have been rising since 3Q14 to meet increasing demand in the region, with Chinese and Indian refineries increasing their throughput, resulting in both countries hitting record-high refinery levels. Chinese refinery runs hit a record high of 10.7 mb/d in December and averaged around 10.4 mb/d during 2015, representing an increase of almost 500 tb/d *versus* the previous year. In Singapore and Japan, refinery runs for the year averaged around 90%.

Stock movements

Total OECD inventories — including commercial and government stocks — rose by 283 mb or 0.8 mb/d at the end of 2015 from the same time the previous year

Table 7

World oil demand and supply balance, 2012–15

	2012	2013	2014	1Q15	2Q15	3Q15	4Q15	2015
World demand *(mb/d)*								
OECD	45.9	46.0	45.7	46.5	45.4	46.5	46.3	46.2
OECD Americas	23.6	24.1	24.1	24.2	24.1	24.8	24.4	24.4
OECD Europe	13.8	13.6	13.5	13.5	13.6	14.1	13.7	13.7
OECD Asia Pacific	8.5	8.3	8.1	8.7	7.7	7.6	8.3	8.1
DCs	28.4	29.2	30.0	29.9	30.6	31.4	30.8	30.7
FSU	4.4	4.5	4.6	4.5	4.3	4.7	5.0	4.6
Other Europe	0.6	0.6	0.7	0.7	0.6	0.7	0.7	0.7
China	9.7	10.1	10.5	10.4	11.1	10.7	11.1	10.8
(a) Total world demand	**89.1**	**90.5**	**91.4**	**91.9**	**92.0**	**93.9**	**94.0**	**93.0**
Non-OPEC supply *(mb/d)*								
OECD	21.1	22.2	24.2	25.2	24.9	25.3	25.5	25.2
OECD Americas	16.7	18.2	20.1	21.0	20.7	21.1	21.2	21.0
OECD Europe	3.8	3.6	3.6	3.7	3.8	3.7	3.9	3.8
OECD Asia Pacific	0.6	0.5	0.5	0.4	0.4	0.5	0.5	0.5
DCs	11.0	11.1	11.3	11.6	11.5	11.4	11.5	11.5
FSU	13.4	13.6	13.5	13.8	13.7	13.6	13.7	13.7
Other Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	4.2	4.2	4.3	4.3	4.4	4.4	4.4	4.4
Processing gains	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2
Total non-OPEC supply	**51.9**	**53.4**	**55.7**	**57.2**	**56.8**	**57.1**	**57.5**	**57.1**
OPEC NGLs + NCOs	5.7	5.8	6.0	6.0	6.2	6.2	6.2	6.1
(b) Total non-OPEC supply and OPEC NGLs + NCOs *(mb/d)*	**57.6**	**59.2**	**61.7**	**63.2**	**62.9**	**63.3**	**63.7**	**63.3**
OPEC crude oil production[1]	**31.9**	**31.0**	**30.8**	**31.0**	**31.9**	**32.2**	**32.2**	**31.8**
Total supply *(mb/d)*	**89.6**	**90.2**	**92.4**	**94.2**	**94.8**	**95.5**	**95.9**	**95.1**
Balance (stock change and misc.)	**0.5**	**-0.3**	**1.0**	**2.2**	**2.8**	**1.6**	**1.9**	**2.1**
OECD closing stock level (outside FCPEs) *(mb)*								
Commercial	2,683	2,589	2,738	2,816	2,908	2,984	3,015	3,015
SPR	1,547	1,584	1,580	1,583	1,585	1,579	1,587	1,587
Total	4,230	4,174	4,318	4,399	4,493	4,563	4,601	4,601
Oil-on-water	879	909	924	864	916	924	1,017	1,017
Days of forward consumption in OECD								
Commercial onland stocks	58	57	59	62	63	64	65	65
SPR	34	35	34	35	34	34	34	34
Total	**92**	**91**	**93**	**97**	**97**	**98**	**99**	**99**
Memo items *(mb/d)*								
FSU net exports	8.9	9.0	8.9	9.3	9.4	8.9	8.7	9.1
Difference (a — b)	**31.5**	**31.3**	**29.8**	**28.8**	**29.1**	**30.6**	**30.3**	**29.7**

Note
Totals may not add up due to independent rounding.
Source
OPEC Secretariat.

[1] OPEC Secretariat assessment of selected secondary sources.

to stand at 4,601 mb. This sharp build was attributed mainly to an increase in commercial oil inventories of 277 mb — ending the year at 3,015 mb — while the Strategic Petroleum Reserve (SPR) rose slightly by 6.0 mb to 1,587 mb.

On a regional basis, the bulk of the build in total OECD inventories came from the Americas and Europe, which increased by 149 mb and 106 mb respectively, while OECD Asia Pacific rose by only 29 mb. On a quarterly basis, total OECD inventories experienced a contra-seasonal stock build of 81 mb in the first quarter, followed by a build of 94 mb and 70 mb in the second and third quarters, respectively. The fourth quarter also saw a contra-seasonal stock build of 38 mb.

The year 2015 saw a build in total commercial stocks of 277 mb, with the bulk coming in 2Q15, when they increased by 92 mb. The first and third quarters registered a build of 78 mb and 76 mb, respectively, while the fourth quarter saw a rise of 31 mb. The huge build in OECD inventories was due to global oil production outpacing world oil demand.

At the end of 2015, OECD commercial stocks finished the year 351 mb above the five-year average. Within the OECD region, America experienced a surplus of 238 mb above the latest five-year average, followed by OECD Europe with a surplus of 77 mb, while OECD Asia Pacific indicated a gain 36 mb above the seasonal norm.

The build in total OECD commercial inventories during 2015 was divided between crude and products, which increased by 177 mb and 100 mb, respectively. Within the components of OECD commercial inventories, crude and product stocks stood at 246 mb and 105 mb above the five-year average. Middle distillates indicated a large surplus of 59 mb above the seasonal norm, while gasoline stocks started to improve, showing a slight surplus of 4.0 mb compared with the five-year average.

In terms of days of forward cover, OECD commercial stocks stood at 64.8 days at the end of 2015, 5.7 days higher than was observed 12 months earlier and 6.8 days higher than the latest five-year average. OECD Americas forward cover was 8.2 days above the historical average to stand at 64.8 days at the end of 2015 and OECD Europe stood 5.3 days above the seasonal average to finish the year at 72.7 days. Meanwhile, OECD Asia Pacific indicated a slight surplus of 5.2 days, averaging 50.2 days.

Total SPR in the OECD at the end of 2015 rose by 6.0 mb from the previous year to stand at 1,587 mb. This was divided between OECD America and OECD Europe, which increased by 4.2 mb and 2.7 mb, respectively. OECD Asia Pacific fell slightly by 0.7 mb. OECD Americas' SPR stood at 697 mb, followed by OECD Europe with 473 mb, while OECD Asia Pacific finished 2015 with 416 mb.

Estimated total non-OECD stocks — including commercial and SPR — stood at 2,196 mb at the end of 2015, up by 141 mb from the end of 2014. The bulk of this build came from China, where inventories increased by more than 80 mb. Middle East and non-OECD Asia regions saw a build of 45 mb and 22 mb, respectively. Low crude oil prices provided an opportunity for the country to accelerate the filling of its SPR.

Balance of supply and demand

World oil demand grew by around 1.5 mb/d in 2015, higher than initial projections, averaging total demand of 93.0 mb/d. Both OECD and non-OECD countries contributed to this growth, with increases of 0.5 mb and 1.0 mb/d, respectively. Demand growth in 2015, which was higher than the rise experienced in 2014, was encouraged by lower prices across the globe. Meanwhile, the forecast for non-OPEC supply growth in 2015 experienced an upward revision from initial projections. Non-OPEC supply rose by 1.5 mb/d in 2015 to stand at 57.14 mb/d. The US oil supply saw the greatest increase among all non-OPEC countries in 2015, while Mexico, Yemen and Kazakhstan witnessed the main declines. Growth of OPEC NGLs and non-conventional oils in 2015 remained almost unchanged from the initial forecast of 0.1 mb/d to stand at 6.1 mb/d.

Table 8

Average quarterly and yearly spot prices for selected crudes, 2014–15

		2014	1Q15	2Q15	3Q15	4Q15	2015	% Change 2015/14
OPEC Reference Basket *($/b)*		**96.29**	**50.27**	**59.90**	**48.29**	**39.71**	**49.49**	**–48.6**
OPEC Basket crudes	Arab Light	97.18	50.13	60.44	49.14	39.89	49.85	–48.7
	Basrah Light	94.45	48.29	58.22	47.08	38.08	47.87	–49.3
	Bonny Light	100.85	54.55	62.71	50.76	44.03	52.95	–47.5
	Es Sider	98.51	52.76	60.80	49.50	42.66	51.38	–47.8
	Girassol	99.19	54.35	63.30	50.77	43.67	52.96	–46.6
	Iran Heavy	96.18	49.09	59.18	48.71	38.39	48.80	–49.3
	Kuwait Export	95.32	48.33	58.73	47.83	37.82	48.13	–49.5
	Marine	96.39	51.71	61.19	49.53	40.62	50.71	–47.4
	Merey	86.88	44.01	52.10	38.08	30.57	41.11	–52.7
	Murban	99.45	54.78	64.15	51.89	44.87	53.87	–45.8
	Oriente	87.31	45.00	55.84	42.98	36.16	44.94	–48.5
	Saharan Blend	99.68	54.32	61.85	50.76	44.45	52.79	–47.0
Other OPEC crudes	Arab Heavy	93.68	46.86	57.24	47.38	36.71	47.01	–49.8
	Dubai	96.71	52.01	61.29	49.93	40.72	50.94	–47.3
	Dukhan	98.44	53.77	63.44	51.07	43.50	52.87	–46.3
	Forcados	101.35	56.79	64.43	51.96	45.00	54.41	–46.3
	Iran Light	97.26	52.71	61.84	49.43	42.15	51.40	–47.2
	Zueitina	98.97	53.89	61.83	50.44	43.49	52.36	–47.1
Other Non-OPEC crudes	Brent Dated	99.08	53.94	61.83	50.44	43.66	52.41	–47.1
	Isthmus	93.65	49.85	62.14	50.10	42.61	51.14	–45.4
	Minas	98.68	52.10	60.54	45.60	38.79	49.17	–50.2
	Oman	97.04	52.75	61.35	50.05	40.91	51.21	–47.2
	Suez Mix	95.13	50.23	59.22	47.15	39.67	48.94	–48.6
	Tapis	103.15	57.89	66.09	52.26	47.02	55.75	–46.0
	Urals	98.08	53.26	62.19	49.90	42.50	51.90	–47.1
	W T Intermediate	93.26	48.56	57.87	46.60	42.05	48.73	–47.7
	W Texas Sour	87.34	47.56	58.60	48.22	41.71	48.99	–43.9
Differentials	B. Light – A. Heavy	7.17	7.69	5.47	3.38	7.32	5.94	
	B. Light – S. Blend	1.17	0.23	0.86	0.00	–0.42	0.16	
	Brent – WTI	5.82	5.38	3.96	3.84	1.61	3.68	
	Brent – Dubai	2.37	1.93	0.54	0.51	2.94	1.47	

Notes
Quarterly and yearly averages based on daily quotations.

Sources
Platts and direct communication, OPEC Secretariat assessments.

Based on these revisions, the forecast demand for OPEC crude in 2015 has been changed up from the initial forecast by 0.4 mb/d to stand at 29.7 mb/d. This represents a slight contraction of 0.1 mb/d from 2014 levels. This upward revision mainly reflects higher world oil demand, as non-OPEC supply remained almost unchanged. On a quarterly basis, required OPEC crude in 2015 stood at 28.8 mb/d and 29.1 mb/d in the first and second quarters, respectively, while it was higher in the second half of the year, averaging 30.6 mb/d in the third quarter and 30.3 mb/d in the fourth quarter.

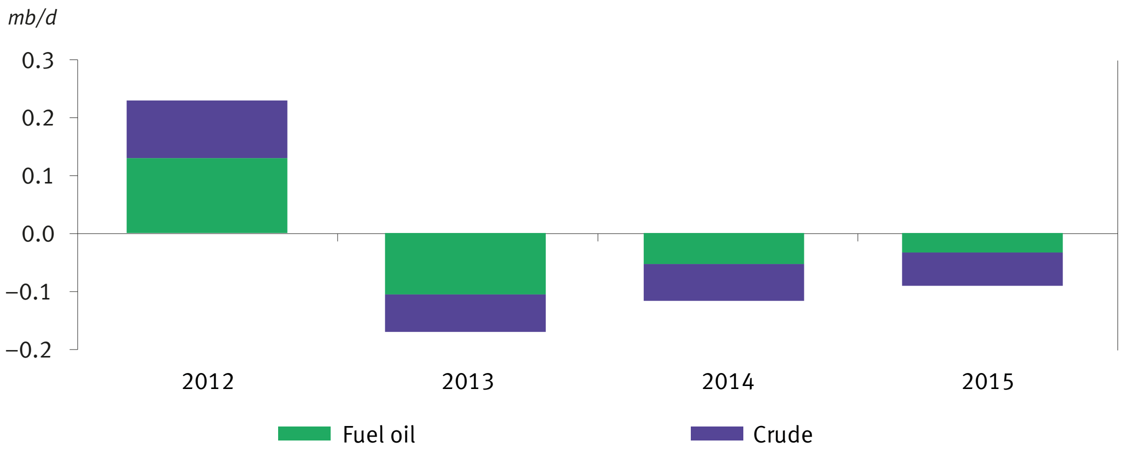
Meanwhile, OPEC production in 2015 averaged 31.8 mb/d, indicating an implied stock build of 2.1 mb/d. The first and the second quarters saw a stock build of 2.2 mb/d and 2.8 mb/d, respectively, while the third and fourth quarters experienced an implied stock build of 1.6 mb/d and 1.9 mb/d, respectively.

Crude oil price movements

The OPEC Reference Basket (ORB) yearly value almost halved in 2015 compared with the previous year, settling below $50 as global oil markets continued to suffer from a year-and-a-half long persistent oversupply coupled with increasing signs of a slowdown in the Chinese economy. Along with these two factors, a significant price decline in global equity and commodity markets helped to depress oil prices. The engine of China's energy demand, the industrial sector, performed poorly over the year, with the Purchasing Managers' Index (PMI) ending the year much lower than anticipated. In addition, oil prices were driven down by financial flows caused by fluctuations in other asset prices, including the US dollar. A warmer winter also affected seasonal demand and prices negatively. Together these factors caused inventories

Figure 7

Japanese direct crude and residual fuel burning, y-o-y growth, 2012–15



Source
OPEC Secretariat.

— both crude and refined products — to swell further and contribute to the oil glut and steep price free fall. The ORB's value sank by 48.6% in 2015 to $49.49/b *versus* its $96.29/b yearly value in 2014, the lowest yearly value reached since $36.05/b in 2004.

Looking back, the ORB ended 2Q15 19% higher, the best q-o-q value in more than three years. During the quarter, the Basket was almost $10 higher at nearly $60/b compared with 1Q15. The move was supported by bullish factors seen earlier in the quarter. Besides the rally in oil futures, physical demand for crude oil was healthy. Refiners' demand for crude was supported by healthy refining margins, particularly in Asia and Europe. This was seen in the steep easing of the contango in the Dubai and Brent markets. Refined product values were supported by lower refinery production due to seasonal turnarounds. Prices were also supported by consecutive weeks of crude oil inventory draws in the US on firm refiner demand as refineries ran at above 90% of capacity. US demand for crude picked up as refineries returned from seasonal turnarounds. Inventory draws in refined product stocks lent support to the oil markets. The ORB value was also boosted by upward adjustments to most Middle East Gulf producers' official selling prices and formulas to Asia and Europe as the contango market structure in these markets came down.

As for global sweet/sour differentials, by the end of 2Q15 the sweet/sour spread in Asia continued its narrowing trend, as firm demand from regional refiners supported the Mideast Gulf crude market, but signs of higher arbitrage shipments to the region started to assert pressure. Refining margins in Asia were still holding well above the average for the previous year. Oversupply in the Atlantic Basin switched the North Sea Dated Brent premium to a discount to Dubai. This widely opened arbitrage from West to East, pressuring the Asia Pacific light sweet market. Supply was plentiful in the Asia Pacific region, with abundant storage and an increase in Malaysian crude production weighing on prices. Asia Pacific cargoes came under further pressure as cargoes were sold from storage, adding to the region's supply glut. By then, the Dubai crude discount to Tapis dropped to $4.20/b. In January, the spread was close to $7/b. In Europe, the Urals medium-sour crude discount to Brent flipped into a significant premium amid a shortfall in Iraqi Kirkuk and Russian Urals, in contrast to plentiful light sweet crudes. High freight rates cut the flow of Baltic-loading Urals to Mediterranean markets and loading delays at Ceyhan, Turkey, the terminal for Kirkuk, reached around 20 days, prompting some cancellations. This boosted demand for alternative sour grades such as Iraqi Basrah Light and Colombian Vasconia. On the other hand, oversupply in the Atlantic Basin of unsold North Sea cargoes and West African crude eroded North Sea Brent. Supply was strong, while demand from European and Asian refineries was less than expected. Higher production from the Buzzard field and the deferring of a maintenance shutdown boosted supplies. The Urals Med discount to Dated Brent moved to a premium of near $1/b. On the USGC, an unanticipated increase in the supply of medium sour crude in Louisiana pressured Mars sour. However, firm demand for naphtha-rich crude and strong gasoline crack spreads supported Light Louisiana Sweet (LLS), the premium of which increased to Mars to $4.80/b.

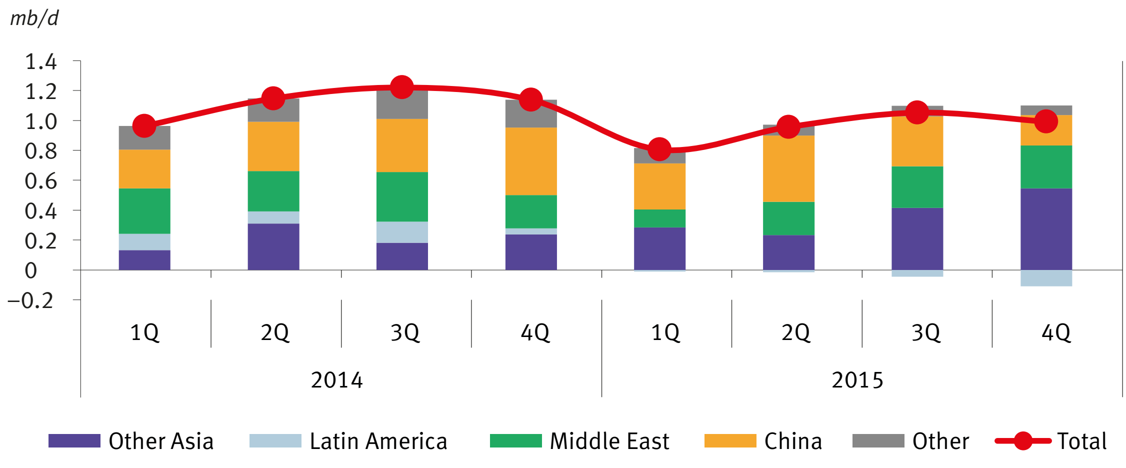
By the end of 2015, sweet/sour differentials widened in Asia, while narrowing slightly in Europe and the USGC. In Asia, the Tapis/Dubai spread widened further as the Brent/Dubai spread continued to make local sweet crude such as Tapis more attractive compared with arbitrage volumes from outside the region. The Brent/Dubai spread widened to about $3.60/b. This helped to limit arbitrage movement of light sweet crudes from the Atlantic Basin and supported shorter-haul cargoes. Robust margins for light oil products also buoyed demand for light crude and condensate. Meanwhile, medium sour Middle East crudes were under pressure, with spot differentials for most grades facing downward pressure as refiners largely met their requirements earlier. The light sweet Tapis premium over medium sour Dubai ended the year at $7.20/b, its highest for the year. In Europe, Urals medium sour crude discount to Brent eased slightly from record highs, but remained wide on firm demand amid attractive low flat prices. Moreover, wide availability of alternative grades and a rise in exports weighed on Urals markets. On the other hand, and more broadly, the North Sea market stumbled due to the scale of excess supply relative to demand and differentials for all four major grades: Brent itself, Forties, Ekofisk and Oseberg, struggled to remain in positive territory. Nevertheless, North Sea light sweet was supported by a supply glitch and signs of demand from outside the region. Med Urals discount to Dated Brent ended the year at $1.20/b.

In the USGC, the LLS premium over medium sour Mars ended at $4.15/b, easing from near $5/b reached earlier. An unanticipated increase in the supply of medium sour crude in Louisiana pressured Mars sour, while firm demand for naphtha-rich crude and strong gasoline crack spreads were seen to support LLS. Meanwhile, most USGC grade differentials weakened as the Brent/WTI spread narrowed. WTI strength relative to Brent mostly came after the US lifted a 40-year-old ban on exporting crude.

In 2015, both main crude oil futures declined significantly, falling by double digits and for a second straight year, with ICE Brent ending 2015 down by $45.87 or 46.1% at $53.64 compared with $99.51 in 2014. Nymex WTI plunged by $44.20 or 47.5% to $48.80/b from $93 in 2014. Both futures saw the largest drop ever, year-on-year. The ongoing glut of crude oil and notable slowdown in China's economy and its predicted effect on oil demand were key factors weighing on oil prices since the oil sell off began 18 months earlier. Deterioration in key stock markets, particularly Chinese equities, and the appreciation of the US dollar relative to other currencies also pres-

Figure 8

Non-OECD oil consumption by region and quarter, y-o-y growth, 2014–15



Source
OPEC Secretariat.

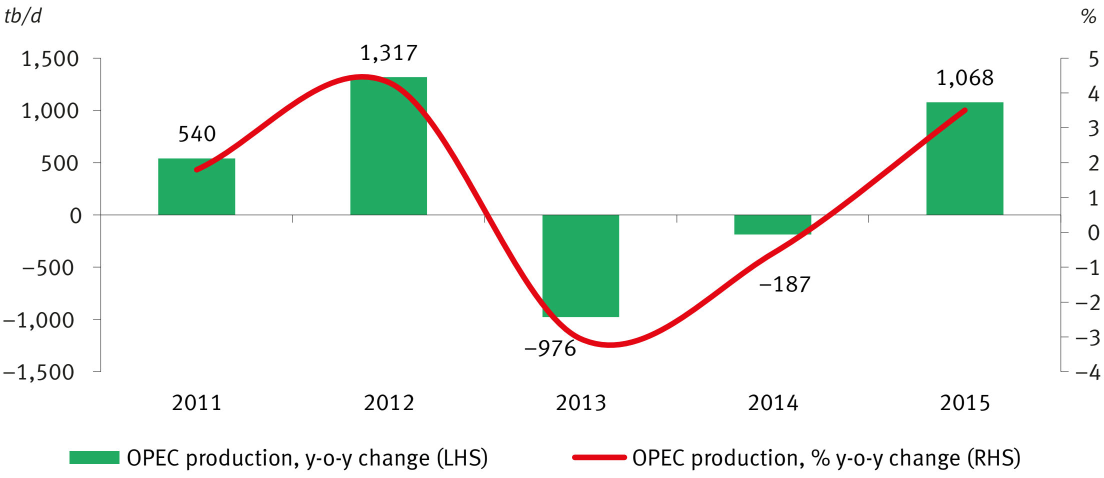
sured crude oil and other commodity prices, causing them to fall. A much warmer than usual start of winter in the Northern Hemisphere due to the El Niño weather phenomenon, one the warmest on record, crippled seasonal heating oil demand. This caused lower demand for physical crude and contributed to a significant build in crude and product inventories everywhere, particularly in the US, which added to bearish sentiments regarding oil prices.

Nevertheless, crude oil futures were briefly up by the end of 3Q15 after two months of steep declines, despite the fact that a year-long imbalance in oil supply/demand fundamentals had not changed profoundly. Some overhung crudes, particularly in West Africa, managed to clear, while demand picked up in many regions on the back of healthy refining margins, particularly gasoline cracks in Europe, which rose to levels not seen in many years. Margins were also healthy in the US amid a sharp increase in demand for gasoline on the back of cheaper prices. Meanwhile, although US shale oil — as well as some Canadian production — showed signs of declining, the oil glut remained. This, coupled with worries about top energy consumer China, capped oil prices at low levels. Most gains came from Nymex WTI futures, supported by positive US economic data, slowing shale oil production growth and consecutive weeks of inventory draws at the pricing hub of the contract. Global ICE Brent futures contract gains were limited by China's lower-than-expected economic performance and ongoing oil oversupply.

At the end of 2Q15, crude oil futures finished mixed. ICE Brent was largely range-bound from the beginning of the quarter, hovering at around $60–65/b. Prices were trapped within this range by competing concerns that lower prices supported

Figure 9

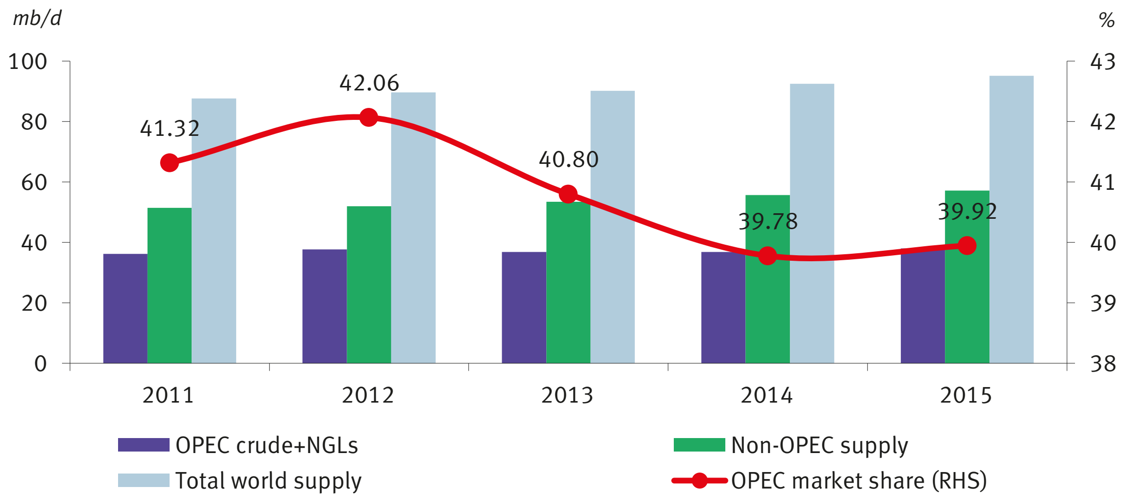
Year-on-year percentage change in OPEC production, 2011–15



Source
OPEC Secretariat.

Figure 10

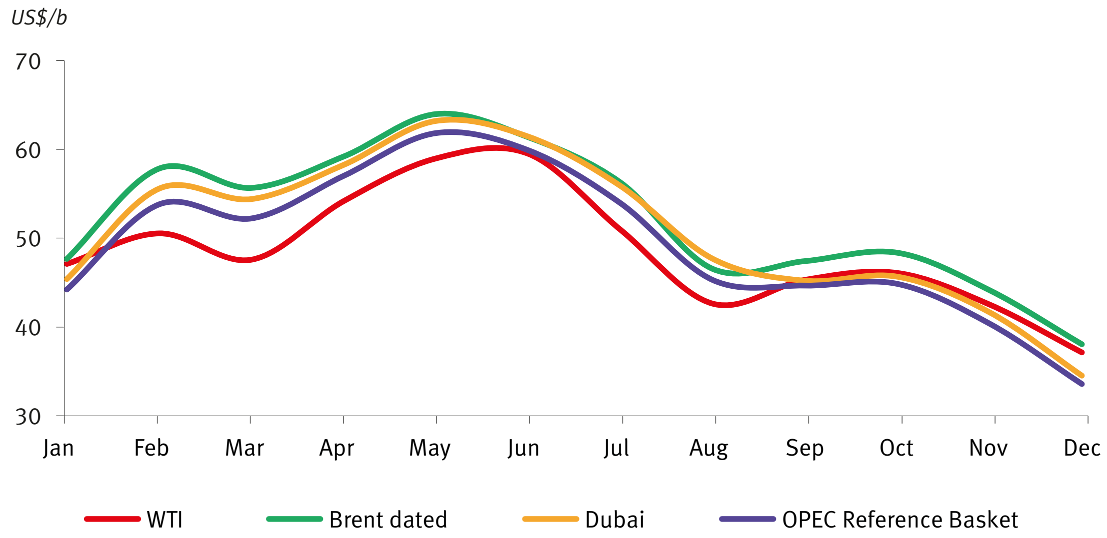
OPEC[1], non-OPEC[2] and total world supply, as well as OPEC market share, 2011–15



Notes
[1] Including OPEC NGLs + non-conventional oils.
[2] Including processing gains.
Source
OPEC Secretariat.

Figure 11

Monthly oil price movements, 2015



Source
OPEC Secretariat.

demand growth, but crimped US supply growth. Meanwhile, US crude stocks fell on firm refinery demand, supporting WTI. Crude inventories fell sharply as US refineries ran at above 90% of capacity. During this period, crude prices generally fell under pressure from a supply overhang in the Atlantic Basin, coupled with deteriorating gasoline margins, as US product stocks rose. Uncertainty regarding progress in resolving Greece's crisis also forced oil prices lower. Nevertheless, consumption in oil-importing countries rose more strongly than expected in response to economic growth and lower pump prices. Yet, not even this offset the negative effect of supply growth on crude prices. Nevertheless, ICE Brent rose by 15.2% to near $64/b for its best quarter since September 2012 and Nymex WTI jumped 19.3% to around $60/b in the second quarter for its best quarterly gain since December 2011.

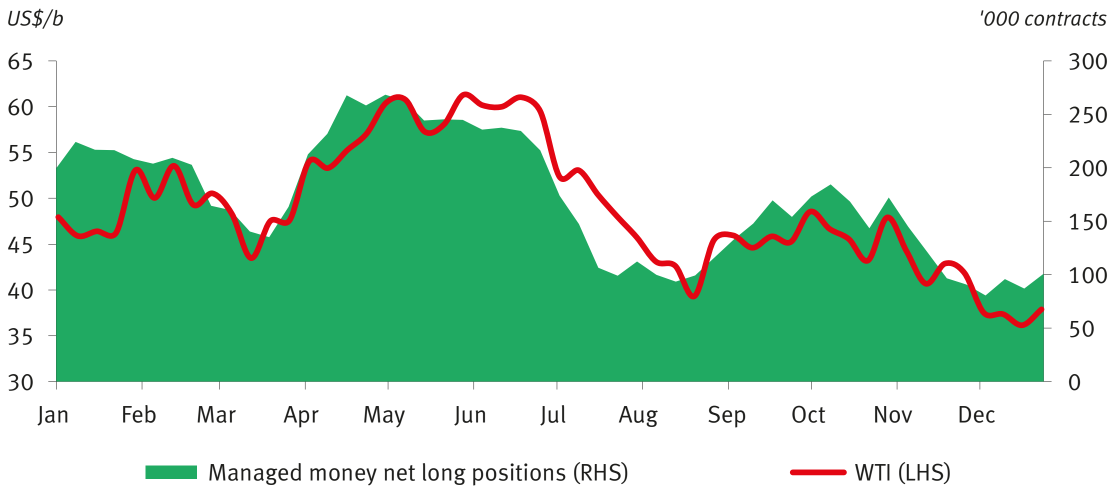
The transatlantic (ICE Brent *versus* Nymex WTI) spread or Brent premium over WTI decreased significantly over the year with US crude gaining some support from reduced drilling and the lifting of a ban on most US crude exports, which pushed US crude briefly to a premium to global benchmark Brent for the first time in about a year. Brent was pressured by oversupply. This narrowing trend supported crude imports from West Africa back to the US. The spread narrowed by about $1.65 for the year from $6.50 in 2014 to $4.85 in 2015.

In 2015, the $1.15/b WTI backwardated structure from 2014 flipped into an average contango of $1.70/b as US stocks grew continually throughout the year. Meanwhile, Brent's flat price structure in 2014 weakened significantly in 2015 to $1.60/b. Likewise, oversupply in the Dubai market in 2015 forced the prompt month to trade at a steep discount to forward months, where (M1–M3) moved from an equilibrium in 2014 to minus $1.35/b in 2015 on average.

As for speculative activities in 2015, US Commodity Futures Trading Commission data at the end

Figure 12

Nymex WTI price *versus* speculative activity, 2015



Sources
Commodity Futures Trading Commission, CME Group and OPEC Secretariat.

of the year showed Nymex WTI speculators cut their net long positions to the smallest amount since 2010, bailing out of the market just as oil prices were tumbling toward 12-year lows. Hedge funds cut their net long positions to around 75,000 contracts or 75 million barrels from 100,000 net long positions held earlier. On the other hand, in ICE Brent, net length positions increased by 7,107 lots to 185,052, Inter-Continental Exchange (ICE) data showed. Meanwhile, total futures and options open interest volume in the two markets increased by 42,460 contracts to 4.84 million contracts.

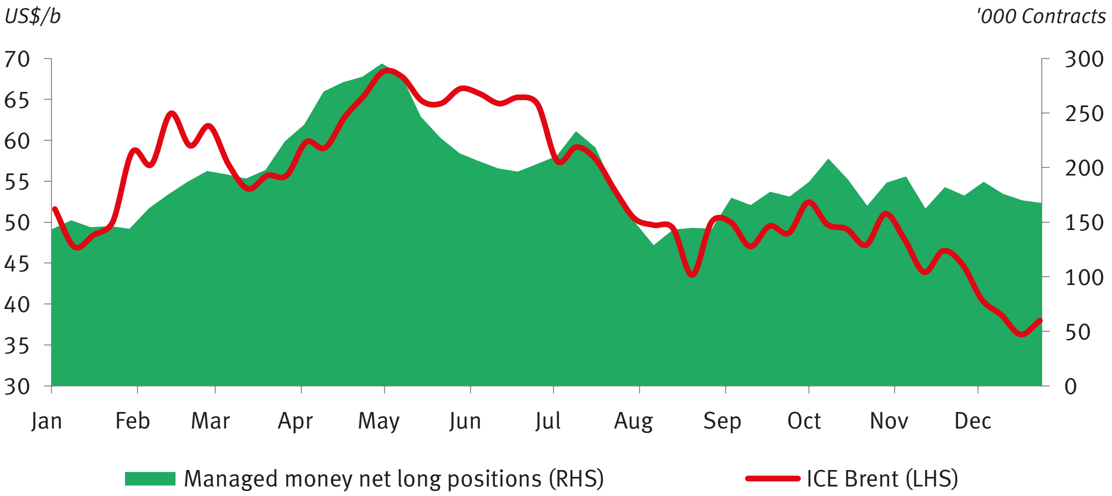
In contrast, hedge fund managers' overall bullish bets on US crude prices grew by the end of 3Q15. Long positions in WTI futures and options held by money managers, including hedge funds, rose to 266,678 contracts. The group's short positions, or bets on lower oil prices, fell sharply to 112,764 lots as more took profit from WTI prices that firmed at around $45/b after sinking earlier to a six-and-a-half-year bottom below $38/b. As a result, money managers' net lengths rose to 99,176 contracts.

Similarly, speculators increased their net lengths for ICE Brent futures and options to 168,913 lots. This was a result of dropping short contracts to 99,208 lots and increasing long contracts to 268,665 lots. On the other hand, total futures and options open interest volume in the two markets declined by 33,414 contracts to 5.05 million contracts. The daily average traded volume during the final month of 3Q15 was 798,718 Nymex WTI contracts and 650,664 ICE Brent contracts. The daily aggregate traded volume in both crude oil futures markets was around 1.5 million futures contracts, equivalent to around 1.5 billion b/d.

Moreover, in 2015, Nymex WTI total traded volume was significantly higher y-o-y over 2014 — 40% greater — at 202 million contracts, compared with 145 million in the previous year, the highest in three years. ICE Brent traded volumes also increased to about 182 million lots, up by 22 million lots, or 15%, over 2014.

Figure 13

ICE Brent price *versus* speculative activity, 2015



Sources
IntercontinentalExchange and OPEC Secretariat.

INDONESIA rejoins OPEC

Shutterstock

At the end of 2015, OPEC was happy to welcome Indonesia back into its fold after the former Member Country asked to reactivate its membership in September after seven years away. With the official acceptance of Indonesia at the 168th Meeting of the Conference held on 4 December, OPEC again became an Organization of 13 Members.

The country's Minister of Energy and Mineral Resources Sudirman Said was present at the December meeting, and said in an interview with the *OPEC Bulletin*: "Indonesia's ...return to the OPEC family will help it reduce its dependence on oil supplies from a small group of traders." When the country suspended its membership in 2009 after becoming a net importer of oil, it was cut off from top oil producers and became vulnerable to a small group of traders, on which it had to depend for supply.

1885	first commercial oil discovery
1871	start of exploration
1945	became a Republic
1962	first joined OPEC
1966	Indonesian Production Sharing Contract
2009	suspended OPEC membership
2016	rejoined OPEC

Rejoining OPEC would improve the country's position, stated Said, allowing it to improve its relationships with top oil producers, perhaps leading to long-term oil supply agreements and necessary investment in the country's energy infrastructure. The country produced about 794,000 b/d in 2014.

OPEC Founder Member IR Iran is very interested in cooperation with Indonesia in the export of crude oil, gas condensates and oil derivatives such as liquefied gas and Indonesia is being encouraged to invest in gas and petrochemical projects in IR Iran.

IR Iran's Petroleum Minister Bijan Namdar Zangeneh stated the two countries would continue market cooperation under the umbrella framework of OPEC.

The only Asian Member of OPEC has a long history with the Organization, going back to 1962 when it first joined, just two years after the Organization was founded. Indonesia has contributed much to OPEC's history and its return is welcomed.

About Indonesia

Indonesia is an archipelago located in Southeast Asia covering an area of around 1,904,000 square kilometres and comprised of 17,000 islands, stretching across three time zones. It is the fourth most-populous nation worldwide with 252.8 million inhabitants, representing more than 300 ethnic groups, societies and cultures, many of which predate recorded history, making it one of the most diverse countries on Earth.

Surrounded by the Indian and Pacific Oceans, it shares land borders with Malaysia, Papua New Guinea and Timor-Leste.

Jakarta is the capital city and has a population of over 10.2 million. Its currency is the Indonesian rupiah. Indonesia's current President is HE Joko Widodo, who was elected in 2014. Although Bahasa Indonesia is the country's official language, an estimated 580 languages and dialects are spoken.

With the largest economy in Southeast Asia, Indonesia is a member of the Group of 20 major economies. In addition to petroleum and natural gas, other key industries include manufacturing, agriculture, mining, services and tourism.

Indonesia's energy landscape

In 1885, the country made its first commercial oil discovery in northern Sumatra through the drilling of the Telaga Tunggal No. 1 well. Exploration had begun a few years earlier in 1871, but most of its natural resources remained untapped until Indonesia gained its independence after three-and-a-half centuries of Dutch colonialism, becoming a Republic in 1945.

In the first half of the 20th century, exploration and production was dominated by foreign interests, but following World War II and the country's independence, all oil, oil fields, refineries and supplies were returned to the Indonesian Government, thus kicking off a new era of exploration and production.

The State Constitution of 1945 firmly puts land, water and natural resources under the control of the State and decrees they be "utilized for the greatest benefit and welfare of its people".

To this end, the Indonesian Government created the Indonesian Production Sharing Contract. First introduced in 1966, it has since been adopted by other oil-producing countries in various forms, according to the Indonesian Petroleum Association (IPA).

Both oil and gas have played an instrumental role in Indonesia's economic development and Indonesian oil production is only behind that of China in the Asia Pacific region, according to the IPA.

The country has 60 sedimentary basins, over half of which have been well-explored, with 14 producing oil and gas. The east remains under-explored and holds great promise. According to the IPA, about 75% of exploration and production is in western Indonesia, with four oil producing regions: East Kalimantan, Arun (North Sumatra), South Sumatra and Natuna. Of these, Sumatra accounts for more than half of the country's oil production.

Oil production in the country peaked in 1977 to 1.6 million barrels per day (mb/d), says the IPA, with production declining steadily ever since, due to diminishing yields from mature fields. Production fell below 1 mb/d in 2007. A great deal of investment is needed to investigate and tap into unexploited resources. The newly formed National Exploration Committee has recently proposed several recommendations to boost reserves and hence production. According to the Oil & Gas Journal, Indonesia had 4.3 billion barrels of proven oil reserves as of January 2007.

Indonesia also has significant amounts of gas with gas reserves at 164.9 trillion cubic feet (tcf), while methane from coal sources (CBM) — which can be used to produce compressed natural gas and solid natural gas — is also showing great promise. Potential reserves of CBM are estimated at 453.3 tcf. In addition, the country has the largest geothermal energy sources in the world, says the IPA, due to its volcanic sources.

INDONESIA facts and figures

Indonesia is an archipelago located in southeast Asia covering an area of around 1,904,000 square kilometres. It is the fourth most-populous nation worldwide with 252.8 million inhabitants. Surrounded by the Indian and Pacific Oceans, it shares land borders with Malaysia, Papua New Guinea and Timor-Leste.

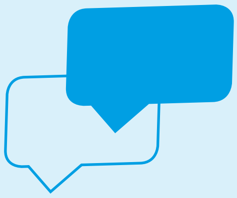
Jakarta is the capital city and has a population of over 10.2 million people.

252.8 million inhabitants

1,904,000
square kilometres

Indonesia's current President is HE Joko Widodo, who was elected in 2014.

Indonesia which became a Full Member of OPEC in 1962, suspended its membership in December 2008. It reactivated its membership at the 168th Meeting of the OPEC Conference, effective 1 January 2016.



580
languages and dialects

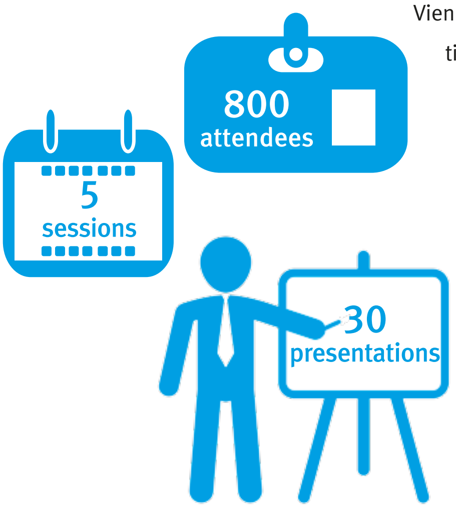
The currency is the Indonesian rupiah.

300
ethnic groups

With the largest economy in southeast Asia, Indonesia is a member of the Group of 20 major economies. In addition to petroleum and natural gas, other key industries include manufacturing, agriculture, mining, services and tourism.

6th OPEC International Seminar hosts energy industry leaders

A record number of participants attended the 6th OPEC International Seminar, which was held in the beautiful, historic Hofburg Palace in Vienna on 3–4 June under the title ‘Petroleum: An engine for global development’.



The 800 attendees on hand took part in what has become one of the world’s most important and influential global energy gatherings. Energy ministers from both OPEC and non-OPEC countries, heads of major oil companies, international organizations and energy institutions, analysts and stakeholders were present to provide input and answer questions on various subjects from five sessions and about 30 presentations.

The high caliber of this event — carried by its list of honorable speakers — heightened the Seminar’s growing reputation, supported by the number of media representatives who attended and reported on its activities to the world. In addition to the many discussions which took place on stage, many more meetings and much deal-making took place out of the spotlight, as the Seminar is a rare opportunity to gather so many influential decision-makers in one place.

Staff in the various departments, offices and units of the OPEC Secretariat spent many months

The main Seminar hall at the Hofburg.

contributing their various skills and competencies to the organizing of this event in order to ensure its success.

OPEC Conference Alternate President Mohammed Bin Saleh Al-Sada, Qatar's Minister of Energy and Industry gave the opening address to the gathered audience, highlighting how important the Seminar is for bringing together energy sector stakeholders to discuss some of the main issues affecting the global energy industry.

"The OPEC Seminar allows us to examine in some detail the main issues affecting the oil industry. It also provides an important yardstick as to where we stand today in a global context," said Sada.

Despite the challenges facing the oil industry at the time of the Seminar, when oil prices had lost half their value, Sada said there are many reasons to feel optimistic about the situation going forward: "The global economy recovery is showing encouraging signs, oil demand is improving...We know full well that the oil industry will continue to face new challenges and these will require new solutions.

"It is clear to us in OPEC that the extraordinary advances already witnessed in the 21st century require the collaboration of all main parties associated with the global petroleum sector if we are to move forward in an efficient and orderly fashion.

"OPEC's commitment to market order and stability is unwavering...This Seminar is part of our ongoing effort to promote dialogue and cooperation with the industry's stakeholders from around the world," he said. The two days of intense discussion included the following sessions:

Session I: Global energy outlooks, with Chairperson Ali I Naimi, Minister of Petroleum and Mineral Resources of Saudi Arabia and speakers Abdalla S El-Badri, OPEC Secretary General; Maria van der Hoeven, Executive director of the International Energy Agency (IEA); Rex Tillerson, CEO and Chairman of the Board for Exxon Mobil Corporation; and Bob Dudley, Group Chief Executive of British Petroleum;

Session II: Oil market stability, with Chairperson Bijan Namdar Zangeneh, Minister of Petroleum,

Around 800 attendees took part in the influental global energy gathering.

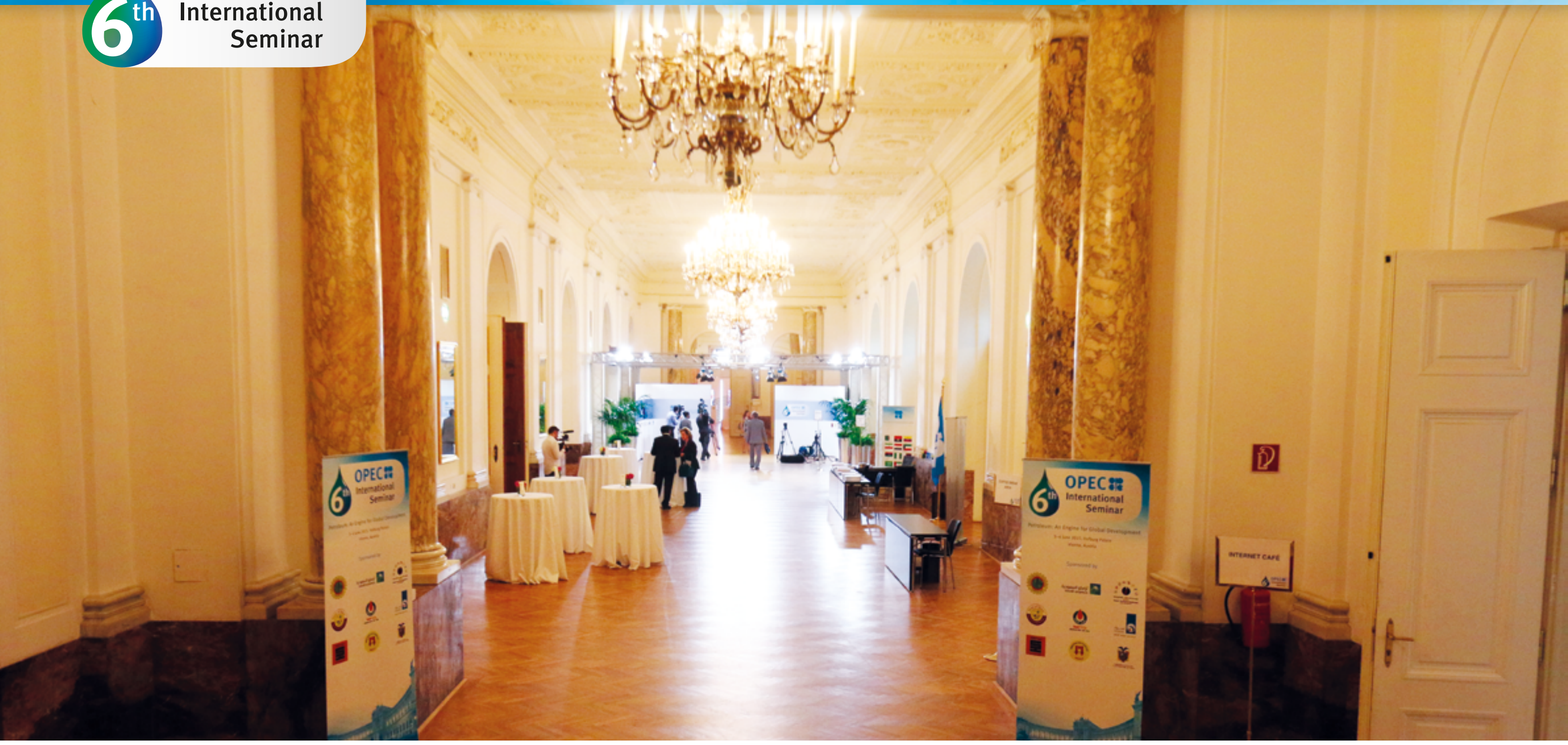
IR Iran, keynote speaker Adil Abd Al-Mahdi, Minister of Oil, Iraq and speakers Asdrúbal Chávez J, People's Minister of Petroleum and Mining, Venezuela; Dharmendra Pradhan, Minister of Petroleum and Natural Gas, India; Aldo Flores-Quiroga, Secretary General, International Energy Forum (IEF); and Urban Rusnák, Secretary General, Energy Charter Secretariat;

Session III: Production capacity and investment, with Chairperson José Maria Botelho de Vasconcelos, Minister of Petroleum, Angola and speakers Alexander Novak, Minister of Energy, Russian Federation; Fu Chengyu, Former Chairman, Sinopec; Claudio Descalzi, CEO, Eni; John Watson, Chairman of the Board and CEO, Chevron Corporation; and Patrick Pouyanné, CEO, Total;

Session IV: Technology and the environment, with Chairperson Suhail Mohamed Al Mazrouei, Minister of Energy, UAE; Keynote speaker Pedro Merizalde-Pavón, Minister of Hydrocarbons, Ecuador; and speakers Ali Saleh Al-Omair, Minister of Oil, Kuwait; Joseph Dawha, Group Managing Director, Nigerian National Petroleum Corporation; Ryan Lance, Chairman and CEO, ConocoPhillips; Ben van Beurden, CEO, Royal Dutch Shell; and Markus Mitteregger, CEO, RAG (Rohöl-Aufsuchungs-Aktiengesellschaft);

Session V: Prospects for the world economy, with Chairperson Mohammed Bin Saleh Al-Sada, Minister of Energy and Industry, Qatar and speakers Suleiman Al-Herbish, Director General, OPEC Fund for International Development (OFID) (represented by Faris Hasan, Director, Corporate Planning and Economic Services at OFID); Seyed Mohammad Hossein Adeli, Secretary General, Gas Exporting Countries Forum; Thomas Helbling, Chief of the World Economic Studies Division, International Monetary Fund (IMF); Paulo de Sa, Practice Manager of the Energy and Extractives Global Practice, World Bank.

Naimi pointed out in his comments for the first session that the future looks very positive, stating the global economy is growing, the middle class is expanding and the world's population is rising. Energy and access to energy are vital to this, he stated,



The reception hall at the 6th OPEC International Seminar.

adding renewables will play an increasingly important role going forward and "we welcome this" and that Saudi Arabia is already very involved with solar energy developments.

OPEC's El-Badri said that one point all parties could agree on is that the world will need more energy in the decades ahead. He added that all forms of energy would be needed to meet growing demand and that the challenge will be first to provide enough energy to the world and second to do this in a sustainable way.

The IEA's van der Hoeven stated: "Times have not changed. Over 40 years after the founding of the IEA, energy security remains the primary concern of countries around the globe," adding that oil remains critically important and the number one energy source on a global level. She stated the oil industry is no longer about extraction, but has evolved into a knowledge industry.

In a Q&A session ExxonMobil's Tillerson stated: "My experience after 40 years with ExxonMobil is that we have seen a lot of cycles in this commodity…If you can't live with uncertainty in this business then you need to get out and go find another profession. Managing uncertainty is what all of us in this room live with."

BP's Dudley pointed out that forecasting is a very difficult and notoriously risky business, adding that BP sees a lot of value in forecasting. "We are one of the longest investment wavelength industries on the planet." He stated that when times are tough and challenges are complex, partnerships become increasingly important.

Chairperson of the second session and IR Iran's Minister of Petroleum, Bijan Namdar Zangeneh, stated that market disruption and crude oil price volatility are not to the advantage of OPEC Member Countries. "At the same time, in the mid to long term they are contrary to consuming countries' interests as well."

Iraq's Abd Al-Mahdi stated that the main way to balance oil market fundamentals is through consumer-producer dialogue and cooperation. "I would like to highlight the fact that with cooperation between consuming and producing countries and other entities, economic growth will be within the target limits and hence the global oil market will be based more on firm fundamentals, rather than swinging with uncertainties."

Uncertainties in the oil market hinder planning in the short, medium and long term, which is of vital

The OPEC Seminar drew 800 high-level delegates, who listened to discussions on timely energy issues by the world's top experts and leaders in the field.

importance for the development of both consuming and producing countries, according to Venezuela's Chávez. He stated that the failure of traditional producers to appropriately predict and react to the shale boom and speculation are behind the fall in oil prices.

India's Minister for Petroleum and Natural Gas, Shri Dharmendra Pradhan stated that India's projected demand growth rate of between 2013 and 2040 is the highest in the world, adding that hydrocarbons are likely to remain the most important source of energy for decades to come. Most of the country's oil has been imported, about 85% from OPEC Member Countries, he said, pointing out that OPEC and India share a very long and special relationship.

Russia's Minister of Energy, Alexander Novak, stated he believes that the global petroleum market is nearing the end of another cycle and said that cyclicity would speed up but cycles would become shorter. He pointed out that petrochemicals are also on the rise, and the number of motor vehicles is increasing, thus the high-tech oil segment will sharply increase its share by 2020.

China is entering a new phase, with the industrialization process nearing completion, said Former Sinopec Chairman Fu Chengyu. As a result, China's oil consumption has slowed and the trend is expected to continue for two reasons, according to Chengyu: "First, the country's economic transformation would result in China's new energy consumption being characterized by medium to low growth…Secondly, to address environmental pollution and climate change concerns, the Chinese government has implemented more stringent regulations…" However, in China's longer-term energy consumption mix, oil remains flat for some time to come.

CEO of Eni, Claudio Descalzi stated that the industry needs to recover profitability in the new low-price scenario. The solution is not a simple cut in capital expenditure, but a deeper revision of the operating model. "…companies need to address their cost structure by selecting the right investment opportunities and focusing on less complex assets and brown field enhancements, managing directly the development of projects with strict control over every stage of the process, focusing more on production optimization and operational synergies."

Seminar press conference.

Meanwhile, CEO and Chairman of the Board of Chevron Corporation John Watson stated oil markets have entered a "brave new era", in which the amount of available spare capacity has dropped significantly and that shale oil has become a new balancing mechanism to some degree. "The key issues that we will face in order to draw capital will be fiscal terms, environmental objectives, social stability and the balance between the needs individual nations have for the revenues they are drawing form the oil business balanced against the need for reinvestment to be sure the world is adequately supplied."

Patrick Pouyanné, CEO of Total added to this that the oil industry is about turning difficulties into opportunities. It is important to bet primarily on "what we control, ie. cost control, capital allocation, operational reliability and technology." He said the company organizes its reaction around four key words: safety, delivery, cost and cash. Pouyanné added that NOCs and IOCs must pool their means if they are to produce ever more complex oil and gas resources and successfully address the current environmental challenges.

Chairperson of Session IV, Suhail Mohamed Al Mazrouei, UAE's Minister of Energy, pointed out that the interconnection between technology and the environment has grown in the energy industry. Technology has helped the industry's environmental credentials and has become increasingly important as a way to help the oil and gas industry find new and creative ways to reduce potential impact on the environment and to minimize effects on production…" Technology has helped improve the industry's overall performance, he added.

Ecuador has several fields that are exemplary regarding environmental management, stated Pedro Marizalde-Pavón, the country's Minister of Hydrocarbons. He added that the world's current rate of recovery of 35% could easily reach up to 60%. He said that national oil company Petroamazonas is working on a project which uses oil field gas to provide power, thus diversifying the national grid. His country started a big push eight years ago to change the energy matrix with a focus on independence, environmental protection and sustainability, he said.

Kuwait's Minister of Oil, Ali Saleh Al-Omair stated that oil and gas would continue to play an important role in the low-carbon shift while assuring the world's economy is stable and secure. He said that technology is helping to transform the industry, playing a fundamental role in supporting the efficient production of hydrocarbons and added that between 1980 to 2000 world energy efficiency improved by 1.2% per year. Advanced technology will be needed to help the country reach its goal of 4 mb/d by 2020, he said, while switch-

Vienna's majestic Hofburg Palace.

ing in the downstream to cleaner, low-sulfur products will enhance a cleaner environment.

Projects have become more costly and technologically challenging, said Joseph Dawha, Group Managing Director of the Nigerian National Petroleum Corporation. He stated that the deployment of new technology is often considered a risk. "We must take that risk so that we can make progress." He added: "Technological development has an important role to play in environmental protection and preservation of natural ecosystems, so this must not be lost on all of us that are in the E&P business."

Unconventional oil is here to stay, stated Chairman and CEO of ConocoPhillips Ryan Lance: "…we have quickly learned what works and what does not. We have made major advances in petro-physics, reservoir engineering, drilling and completions…With that said, though, we still know too little about these reservoirs." The biggest challenge on the demand side is efficiency, he stated.

Ben van Beurden, CEO of Royal Dutch Shell stated that one massive challenge facing the industry today is responding to climate change. He stated governments need to develop policies which both reduce greenhouse gas emissions and, at the same time, support economic development. "What the global energy system is experiencing, what it needs to undergo, is a transition from a traditional model based on oil and coal to a more progressive, cleaner, less carbon-intensive model." Beurden also talked extensively about the potential of carbon capture and storage and the role it can play in reducing emissions.

Talking about prospects for the world economy, Minister of Energy and Industry of Qatar, Mohammed Bin Saleh Al-Sada, stated that, "as the world is adjusting to the new economic environment created by China's slow-down and the collapse of oil prices, the winners not surprisingly are oil importers, who are benefitting from reduced inflationary pressure and much-needed and timely space in their fiscal budgets to boost public spending," adding that emerging countries remained in the driver's seat with regard to economy and energy demand.

Meanwhile, Thomas Helbing, Chief of the World Economic Studies Division of the International Monetary Fund stated that the global economy is improving, especially in advanced economies, although GDP growth in the medium term would stay relatively lower than it was before the economic crisis. Paulo de Sa, Practice Manager of the Energy and Extractives Global Practice from the World Bank stated that the institution's advice to member countries was to assume that over the mid-term oil prices would be closer to their current levels than levels that prevailed the last four years.

In his closing remarks, Director of OPEC's Research Division and Chairman of the Seminar Steering Committee, Omar S Abdul-Hamid, highlighted the benefits enjoyed by participants in hearing from many leading figures in the oil and gas industry. He added the event also furthered the Organization's market stability efforts and enhanced its longstanding goal of expanding cooperation and dialogue with the energy industry's main stakeholders.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Activities of the Secretariat

Office of the Secretary General

The year 2015 marks almost a decade with the Secretariat under the leadership of Secretary General HE Abdalla S El-Badri. In the course of the year, the Office of the Secretary General was heavily involved in assisting and supporting the Secretary General in the execution of his duties.

In addition to coordinating the preparation of reports and documentation for submission to the Ministerial Conferences and Meetings of the Board of Governors (BOG), the Office of the Secretary General was occupied with minuting these meetings, writing *précis* of the discussions that took place and preparing summaries of the decisions taken, as well as preparing formal, edited minutes for distribution to Ministers, Governors and Management, as appropriate. The Office of the Secretary General was extensively involved in preparations for and coordination of the 6th OPEC International Seminar, as well as other regular meetings, in addition to high-level meetings such as the Energy Dialogue Meetings with China, India, and Russia.

The Office of the Secretary General was also responsible for coordinating 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

In line with its objectives and responsibilities, the Legal Office (LO) contributed to the conduct of the Organization's affairs by promoting the rule of law within the Organization and in its relations with governments, organizations, enterprises and individuals. It provided legal advice to the Secretary General, supervised the Secretariat's legal and contractual affairs, and evaluated legal issues of concern to the Organization, reporting its findings to the Secretary General.

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

On an international level, the LO monitored and — with the assistance of outside counsel and in close liaison with the Secretariat's legal defense team — defended in court cases filed against the Organization in the USA, keeping the BOG and the OPEC Conference abreast of case proceedings.

On internal issues, the LO, through the Secretary General, delivered legal opinions to the Secretariat's governing bodies on issues relating to and arising from the Conferences and the BOG, and provided *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, governing bodies related to the Organization's rules and procedures. It provided legal advice and expertise to the Secretary General and Management on various issues, including:

- Legal support in respect to amendments of the Organization's Staff Regulations;
- Interpretation of the Host Agreement between OPEC and the Republic of Austria regarding privileges and immunities afforded and contained therein;
- Monitoring of relevant legal developments pertaining to the energy sector in international fora and nationally;
- Monitoring of international legal issues on which it reverted, when relevant, to the Secretary General and through him to the governing bodies, thus protecting and advancing the interests of the Organization and its Member Countries (MCs) in international fora;
- Reviewing and evaluating legal implications regarding membership to and cooperation

with various international organizations and entities;

- Contributing extensively to the Organization's Long-Term Strategy on specific challenges and objectives;
- Drafting and reviewing contracts and agreements with external entities and individuals;
- Drafting and reviewing internal guidelines, manuals and procedures.

The LO also undertook missions and trainings on international legal and industry-related issues of significance to OPEC, and attended events when appointed by and on behalf of the Secretary General, submitting reports to the Secretary General about the implications of international legal, industry-related and socioeconomic developments to the Organization and its MCs. These included:

- UK Energy Law & Policy Association 2015 annual event;
- Oil Council Legal Assembly (delivering speech);
- Global Forum on Dispute Resolution for the Oil & Gas Industry (delivering speech);
- Energy Charter Legal Forum;
- Energy Conference at the University of Oxford;
- ELSA Dispute Resolution Academy;
- 10th Anniversary of Transparency International — Austrian Chapter;
- OMV Energy Talk;
- 4th Assembly of Parties to IACA;
- Bretton Woods Law's seminar on 'International Administrative Law';
- International Administrative Law.

In addition, the LO participated in the 15th Multi-Disciplinary Training Course (MDTC), organized by the Secretariat.

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

- Academic Committee (chaired);
- Personnel Committee;
- Contracts Committee;
- Missions Committee;
- Editorial Board of the *OPEC Energy Review*;
- Website Publication Task Force;
- Library Task Force.

Research Division

The Research Division (RD) is responsible for a continuous programme of research, designed to meet the requirements of the Organization and its Member Countries, with particular emphasis on energy, oil and related matters.

It consists of the Petroleum Studies Department, the Energy Studies Department, the Data Services Department (including the Information Centre), and the Environmental Matters Unit.

The annual work programme of the RD for the year 2015, the third year of the Secretariat's third five year Medium-Term Programme (MTP III), reflected the objectives and activities contained in the MTP. In addition to the general framework drafted in MTP III, the Division's work programme is directed by the objectives detailed in the Organization's Long-Term Strategy (LTS).

The OPEC LTS aims to provide a coherent and consistent vision and framework for the Organization's future. It sets specific objectives, identifies the main challenges facing the Organization now and in the future, explores contrasting overall energy landscape scenarios and formulates elements of a strategy in order to attain the agreed-upon objectives and address the identified challenges. During 2015 the LTS underwent its second review with the aim of adjusting the strategy to recently emerging challenges.

Based on the MTP III and the LTS, RD's regular activities centred around:

- Performing comprehensive short-term petroleum market analysis and forecasts, putting emphasis on medium-term supply and demand in the oil market outlook, developing long-term oil market scenarios, and updating the models required to perform such analysis;
- Gathering, compiling and dispensing perti-

nent up-to-date statistical data and information as a reliable basis for the analysis of relevant energy developments and corresponding information technology applications;

- Monitoring of energy policies, important technological developments, and dynamic structures in the international energy industry;
- Following relevant debates and policy developments in international fora and multilateral discussions and multidisciplinary taskforces in order to assist Member Countries in formulating their positions on important issues;
- Providing continuous support to the decision-making processes of Member Countries in key oil-related matters;
- Preparing up-to-date and reliable information and analysis for 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) through the Secretary General.

In addition, the Secretariat reflected during the year upon the decisions of and specific requests by the governing bodies of the Organization in response to current and emerging developments on the energy scene and associated challenges.

In this context, the RD performed several projects focusing on medium- and long-term analyses pertaining to supply and demand, with particular emphasis on demand in the transportation, upstream and refining sectors, as well as technological developments related to both supply and demand.

The RD continued its efforts to further strengthen modelling capabilities within the Secretariat, and several market-oriented studies provided important insights into market and technological evolution.

During 2015, the Research Division was directly involved in the process of reviewing the Secretariat's LTS and in the mid-term review of the MTP III. The Division also provided substantial support to the organization of the 6th OPEC International Seminar in June 2015.

Furthermore, OPEC's key publications, sharing the Secretariat's views and findings concerning energy market developments, direct interactions in major energy and policy platforms, as well as producer-consumer dialogue, provided valuable opportunities to strengthen the role of the Secretariat as a centre of competence for energy-related matters within the international research community. Electronic media has been rightly identified as an instrument of choice to share OPEC's findings and views among researchers around the globe, including the new interactive versions of the *Annual Statistical Bulletin* (*ASB*) and the OPEC *World Oil Outlook* (*WOO*), which play a significant role in this context.

Market environment in 2015

World economic growth in 2015 remained moderate at an estimated 3.0%, down from 3.3% in 2014. While growth in the OECD was relatively well supported and expanded in comparison with the previous year, economic development in the emerging and developing economies (EMDCs) continued weakening, with the exception of India. Growth in the OECD moved to 2.0%, after reaching 1.8% a year earlier. The Euro-zone was the main contributor to this positive development, following low growth in 2014 and two previous years of recession. The US managed growth of 2.5% in 2015 compared with 2.4% the previous year, showing a weak first quarter due to extremely cold weather and the impact of a considerable decline in investments in the energy sector. Japan continued to be challenged by weak domestic demand and a slowdown in trade with China, leading to growth of 0.7%, an improvement compared with a decline of 0.1% a year earlier. India benefitted from lower oil prices and was also the only major emerging economy to post rising growth in 2015 at 7.3% from 7.1% a year earlier. Importantly, China continued its slow-down amid some uncertainty, which led to stock market volatility and considerable currency devaluation in the second half of the year. However, the country still managed to grow at 6.9% in 2015, slightly lower than the 7.3% of the previous year. Brazil and Russia saw a severe contraction in GDP over 2015 of 3.0% and 3.7%, respectively, compared with the 0.2% and 0.6% growth of a year earlier.

World oil demand growth increased from 0.96 mb/d in 2014 to 1.54 mb/d in 2015. In OECD Americas, the US showed bullish y-o-y oil demand growth, with transportation and petrochemical fuels leading gains. Gasoline consumption was encouraged by lower retail prices at the pump in addition to improving car sales data. A similar trend was observed in OECD Europe, with automotive diesel and LPG supporting growth. In the Asia Pacific region, demand in Japan remained sluggish; oil consumption was negative compared with the previous year. Among the non-OECD countries, oil demand growth in China was mainly driven by gasoline and LPG requirements, supported by lower retail prices, high sport utility vehicle (SUV) sales and expansion in the petrochemical industry. Indian oil demand data also showed solid growth, driven by gasoline and LPG sales. Oil demand in the Middle East was supported by robust demand from Saudi Arabia, partially offset by slower oil demand from Iraq. In Latin America, Brazilian oil requirements contracted as economic momentum slowed.

Non-OPEC oil supply growth decelerated sharply in 2015 from growth of 2.27 mb/d in 2014 to rise by 1.23 mb/d. Supply growth is expected to reach an initial forecast of 1.31 mb/d, following an upward adjustment and higher-than-expected growth seen in 4Q15. Much of this upward revision came from the OECD — particularly from OECD America — and Russia. The US remained the main driver for growth at 0.91 mb/d, followed by Brazil, Russia, the UK, Canada and China, while some of this yearly growth was offset by output declines in Mexico, Yemen, Australia and Kazakhstan.

Nevertheless, US tight oil (tight crude and unconventional natural gas liquids [NGLs]) growth saw the largest decline among non-OPEC producers. However, on a regional basis, OECD Americas' oil supply still saw the highest increase among all non-OPEC regions in 2015 at 0.79 mb/d.

At the same time, OPEC crude oil production increased by 1.1 mb/d to average 31.9 mb/d. OPEC NGLs were estimated to average 6.15 mb/d in 2015, representing growth of 0.15 mb/d over the previous year.

Crude oil prices experienced their worst deterioration in more than 10 years on persistent oversupply in the oil market, coupled with a slowdown in the Chinese economy. In addition, oil prices were affected by financial flow fluctuations in other asset prices, including the US dollar and equity markets. Lower-than-expected seasonal winter oil demand, due to warmer weather, also weighed on oil prices. The OPEC Reference Basket (ORB) followed this trend, losing half of its yearly value in 2015 compared with the previous year. The ORB's value sunk 48.6% in 2015 to $49.49/b from a year earlier, its lowest point since 2004. Meanwhile, ICE Brent and Nymex WTI dropped by double digits for a second straight year, with ICE Brent ending down at $53.64/b in 2015 compared with $99.51/b the previous year. Nymex WTI plunged by $44.20 to $48.80/b from $93/b a year earlier. All major crude oil markets remained in contango for the entire year amid an overwhelming supply glut. The Brent-WTI (transatlantic) spread narrowed significantly over the year to average $4.85/b.

Energy dialogue and cooperation

The OPEC Secretariat continued to pursue its close cooperation with other international institutions such as the International Energy Agency (IEA), and the International Energy Forum (IEF).

The 5th IEA-IEF-OPEC Symposium on Energy Outlooks, which took place at the IEF Headquarters in Riyadh in March 2015, covered short-, medium- and long-term global energy outlooks. The event has developed over the years to become a productive knowledge exchange among experts from industry, government and academia. A Technical Meeting with experts of the IEA, IEF and OPEC was also held.

Two separate but complementary IEA-IEF-OPEC Technical Meetings on Historical Baseline Data were held in June and October 2015. The meetings were attended by senior statistical experts and heads of the statistical departments of the IEA and OPEC; the meetings were coordinated by the IEF.

In 2015, the IEA, IEF and OPEC hosted the first technical meeting on the Interactions between Physical and Financial Energy Markets at the OPEC Secretariat in Vienna on 30 March 2015. The event, which built upon insights gained in four joint workshops previously held on this topic, was structured to foster a more open and interactive dialogue among select market participants, including regulators, oil companies, trading houses and end-users, in order to provide a diversity of views on the evolving interactions between financial and physical energy markets.

The Secretariat continued its active stance in promoting data transparency by significantly contributing to the activities of both JODI-Oil and JODI-Gas.

In line with the spirit of international dialogue and cooperation, OPEC attended the JODI Inter-Secretariat Meetings in New Delhi (April 2015) and Paris (September 2015). The Secretariat also participated in the 12th JODI International Conference (April 2015), as well as the JODI Training Workshop in Vienna (October 2015).

The Secretariat organized the 2nd JODI Technical Meeting with OPEC Member Countries, held on 14–15 October 2015, which aimed at further fostering knowledge transfer and the exchange of technical views and opinions between participants.

Under the 2015 Turkish Presidency, the G20 focused its energy activities on five work streams, namely: Energy Access; Market Transparency; Inefficient Fossil Fuel Subsidy Reform; Energy Efficiency; and Renewables.

Of these, Energy Access represented a new initiative for the G20, which in 2015 focused on improving electricity access in Sub-Saharan Africa. Market Transparency represented an important and long-standing initiative covering ongoing work on Oil Price Reporting Agencies (PRAs), as well as efforts to enhance JODI. Assessment reports prepared over the course of the year by IOSCO, IEA, IEF and OPEC concluded that "the PRAs have made the PRA Principles an integral part of their management policies and operational practices."

Additionally, the first gathering of G20 Energy Ministers was held in Istanbul on 2 October. The previous year, G20 leaders requested that Energy Ministers meet and report on options to take work forward on the endorsed G20 Principles of Energy Collaboration. In their communique, the Ministers welcomed the progress made on energy issues in 2015 and declared their "commitment to support the implementation of all Principles through the G20 in the years ahead."

Furthermore, RD was present at the regular spring meeting of the International Monetary Fund in Washington, DC and its autumn meeting in Lima, Peru.

The Secretariat continued to contribute to ongoing energy dialogues between producers and consumers. In this regard, the First High-Level Meeting of the OPEC-China Energy Dialogue was held at the OPEC Secretariat in Vienna in September 2015. The meeting's deliberations and discussions included the short-term oil market outlook, the long-term energy outlook and a review of China's energy situation.

The OPEC-India Energy Dialogue was also established, with the First High-Level Meeting held in New Delhi in December of 2015. Both parties expressed their satisfaction with the meeting and stressed that such dialogue could create more confidence between Member Countries and India.

Of a complementary nature, a technical meeting on the Asian Energy and Oil Outlook was held in June 2015 at the Secretariat headquarters in Vienna. The event was organized in coordination with the Japanese Institute of Energy Economics (IEEJ), with the aim of encouraging technical interaction among experts from China, India, Japan and Korea, including the Economic Research Institute for ASEAN and East Asia, the Korea Energy Economics Institute, SIA Energy and IEEJ.

The Fourth High-Level Meeting of the established OPEC-Russia Energy Dialogue took place in Moscow in July 2015. The meeting saw an exchange of views on global energy developments, outlooks and challenges, as well as more specific discussions on areas such as petrochemicals and fiscal regime perspectives in the Russian oil sector.

Representatives from RD participated in the Vienna Energy Club's spring and autumn meetings, thus continuing with the Organization's active participation. The club is an informal platform for information exchange among nine Vienna-based international organizations.

Environmental debate

Understanding the energy challenges posed by multilateral governance in climate change were core tasks in RD's 2015 work programme.

In this context, the focus was on two major multilateral debates held in 2015. These were the UN Summit on Sustainable Development Goals (SDGs) in New York and the 21st Meeting of the Conference of the Parties (COP21) in Paris. In the run-up to these multilateral fora, several reports/studies were prepared by the Secretariat in 2015 to provide technical support and assist Member Countries in their effective participation.

In addition, two meetings aiming to assist Member Countries in coordinating amongst themselves prior to COP21, were organized at the Secretariat. For both meetings, respective reports were produced; the first in July 2015, entitled Report of OPEC Member Countries' Coordination Meeting, and the second in November 2015, entitled Report of OPEC Member Countries' Coordination Meeting in the Run-up to COP21/CMP11.

The Secretariat also organized two online coordination meetings through the Webex tool as part of ongoing support to Member Countries in order to carefully examine and exchange views on the negotiating text of the "Ad Hoc Working Group on the Durban Platform for Enhanced Action" (ADP) leading to the Paris Agreement. The first Webex was held in January 2015, and the second in August 2015, as requested by Member Countries.

OPEC Publications

Now in its ninth edition, the *WOO* aims to highlight possible future developments in the oil and energy scene, as well as identify the main challenges and opportunities facing the oil industry in the years to come. The 2015 version of the *WOO* presented a comprehensive outlook on oil supply and demand, as well as the downstream for the medium (2014–2020) and long term (2020–2040).

Driven by demographic and productivity trends, the 2015 *WOO* estimated world GDP growth at 3.5% per annum (p.a.) for the period 2014–2040. Following this line of analysis, the world economy in 2040 will be 244% bigger than that of 2014. Developing countries will account for three-quarters of that growth with an average growth rate of 4.6% p.a. for the forecast period.

The 2015 *WOO* projected that global energy demand will grow by 47%, reaching 399 million barrels of oil equivalent per day by 2040. Much of this growth will continue to be concentrated in the developing world as industrialization, population growth and the unprecedented expansion of the middle class will propel the need for energy. Moreover, changes in the energy mix are expected to continue, though fossil fuels will remain the dominant fuel in the mix, with a 78% share by 2040. Oil and gas combined are expected to supply 53% of the energy mix by then. In the next 20 years, oil will remain the fuel with the largest share of global energy use.

Oil demand was projected to increase by an average of 1 mb/d annually in the medium-term, from 91.3 mb/d in 2014 to 97.4 mb/d by 2020. Compared with the previous year's *WOO*, global demand has been revised upward by 0.5 mb/d in 2020. In the long term, the reference case sees oil demand increasing by more than 18 mb/d between 2014 and 2040, reaching 109.8 mb/d at the end of the forecast period.

The global liquids supply was projected to increase by 5.2 mb/d in the medium-term, rising from 92.4 mb/d recorded in 2014 to 97.6 mb/d projected for 2020. Longer-term, non-OPEC supply was thought to reach 61.5 mb/d in 2025 but then decline to 59.7

mb/d in 2040, a reduction of 2.2 mb/d in 2040 compared with last year's *WOO*. Major additions are expected from the oil sands in Canada, as well as other non-conventional oil (combined increase of 3.1 mb/d between 2014 and 2040), biofuels (1.6 mb/d) and NGLs (0.8 mb/d). In contrast to these, non-OPEC crude oil supply is set to decline by 3.1 mb/d over the forecast period.

In the 20-year period between 2020 and 2040, OPEC crude is thought to expand by 10 mb/d to a level of 40.7 mb/d in 2040. The share of OPEC crude in the total world liquids supply is projected to increase to 37% in 2040, compared with current levels of around 33%.

In the downstream sector, a 2015 review of existing projects indicates that 7.1 mb/d of new distillation capacity will be added globally in the period 2015–2020, the vast majority of it in the Middle East, China and Other Asia Pacific. Over the longer term, cumulative total additions — assessed projects plus total model additions — are projected to reach 20 mb/d by 2040. These capacity additions maintain a pattern of being focused in regions where demand growth is significant. Despite the fact that surplus refining capacity in the medium-term has eased, primarily as a consequence of project delays resulting from the recent crude price drop combined with some capacity closures during 2015, existing surplus and expected capacity additions continue to point to a period of competition for product markets, as well as the need for continuing refinery closures on a significant scale, if depressed refining margins are to be averted.

Moreover, projects assessed to 2020 broadly maintain the existing base capacity ratio of 40% conversion to distillation. However, distillation capacity additions to 2020 include approximately 0.7 mb/d produced by condensate splitters spread between the US and the Middle East. These have little or no associated secondary capacity. Consequently, the post-2020 period embodies a degree of 'catch up' with conversion additions running at somewhat above 70% of new distillation capacity. These additions, for both existing projects and beyond, include coking, fluid catalytic cracking and hydro-cracking.

Finally, crude oil movements between the seven major regions were projected to stay essentially level in the medium-term at around 36 mb/d through 2020, before growing to over 44 mb/d by 2040. The projections underscored the future role of the Middle East as the major crude oil exporter. Despite flat medium-term crude exports, engendered in large part by the rapid increase in regional refinery capacity by 2020, total crude exports from the Middle East are projected to reach 24 mb/d by 2040, over 6 mb/d higher than in 2013. In terms of destination, the dominant flow and major increases are to be to the Asia-Pacific region, drawn by the area's rising demand, in contrast to falling crude oil imports to the US, Canada and Europe.

Regarding climate change, emphasis was placed on win-win policies that could address the challenge. Carbon Capture and Storage (CCS) is seen as one solution and emphasis was placed on policies that would lead to the rapid deployment of this technology. In relation to energy poverty and the Sustainable Development Goals (SDGs), emphasis was placed on ways and means to address energy access for the poor and implement the SDGs.

The *ASB* is another important publication. It is a unique, useful and frequently cited reference tool for those working in the energy industry. The overall aim of the *ASB* is to make reliable and timely historical data on the global oil and gas industry readily available to the general public. It is an important source for different stakeholders in the oil industry. The *ASB* includes statistical information about both the upstream and the downstream. In addition to being launched earlier in 2015, the *ASB* was substantially enhanced, with nine additional tables that are relevant to the oil market, while its interactive version was fully redesigned in order to maximize its usability.

The OPEC *Monthly Oil Market Report*, another flagship publication 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 its feature articles. Some topics that were covered in 2015 included: the impact of low prices on non-OPEC supply development; the increase in global inventories amid high global supply outpacing world oil demand and the oil market outlook for 2016.

The *OPEC Energy Review* (*OER*) publishes original, peer-reviewed research and analytical papers on energy-related issues. The journal provides a forum for information exchange among academics worldwide and for the general enhancement of research, with a broad-based readership in industry and among scholars, consultants and policymakers. In 2015 the *OER* underwent several changes. Most notably, a reorganization of the editorial board took place and an electronic peer review tool, aimed at improving communication between authors and reviewers, went online. A special edition on "*Oil demand in the transportation sector*" was published at the end of 2015 and included contributions from internationally recognized "thought leaders" on the subject.

Reports and Studies

Ongoing research into energy-related subjects continued in 2015. 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.

RD provided pertinent and reliable information and analysis in support of decision-making in the semi-annual world oil market reports to the Economic Commission Board (ECB).

During 2015, the RD also produced reports and studies with a focus on specific subjects, such as the study titled "*Assessment of Present and Future Natural Gas Markets*". This study includes a projection of natural gas use in the future energy mix and coverage of natural gas demand issues. It then turns to gas supply issues, including production and resources, as well as unconventional gas prospects. An overview of LNG prospects in the US and their implications is also presented. Finally, the report assesses prices and possible outcomes in various regional markets.

"*Cost of the Marginal Barrel of Liquid Supply*" is the title of a study that aims to provide an informed and detailed assessment of the marginal cost per barrel of liquids supplied in the long term. The results provide a semi-quantitative basis for the OPEC's Reference Case oil price assumption and enhance liquid supply projections in OPEC's modelling activities.

The study "*Medium- and Long-Term Coal Outlook*" provides an overview of various aspects of the coal market, including reserves and resources, demand and supply in the medium and long term, coal investment and challenges, the latest technologies and environmental implications and obstacles associated with coal use.

The report "*OPEC Road Transport Model: Progress Report*" helps to explain how global oil consumption in road transportation is likely to change through to 2040 due to the impact of its primary determinants: the size and composition of the vehicle fleet and oil use per vehicle, which is determined by fuel economy and average distance driven per vehicle.

"*The nexus between upstream fiscal regimes and long-term supply projections in key non-OPEC countries: Russia's new fiscal policy and ensuing implications on long-term supply*" considers the fluctuating dynamics of the oil and gas sector's fiscal policies, with a special focus on ensuing trends and implications. Russia is chosen amongst a few select countries, given its resounding impact on the global supply/demand balance in the long-term and the frequent changes to its upstream fiscal regime.

The study "*EU Energy Policy Developments and Implications on the Oil Industry*" aims to provide a deeper description of the policies affecting oil and gas markets in the region. Not only has an analysis of oil and gas policies been included in the report, but also policies on coal, nuclear and renewables, as well as efficiency and climate change alternatives.

Another annual update was provided in the study "*Projections for North America's tight oil supply — update of the assessment*". Ever since tight oil production from North America started to play an important role in non-OPEC supply, the Secretariat has regularly reported to the ECB on tight oil developments and supply prospects. This report is a continuation of the same trend. It provides an update of North America's tight oil supply projections taking into account recent developments and lower oil prices.

The study "*Prospects for tight oil production outside North America*" addresses the main issues related to the development of tight crude and unconventional NGL plays outside North America and establishes a medium- and long-term production forecast for potential non-OPEC countries outside North America. The production outlook is based on three scenarios: reference, up-side and low-side cases.

With assistance from the company Navigant Consulting Inc., the study "*Opportunities for oil to regain market share in power generation*" assesses the future of oil-based possibilities in power generation. The study's forecasts are based on datasets and modelling for oil-based power generation at both the country and regional levels and are presented under various potential natural gas pricing scenarios for the medium and long term.

The objective of the report "*Terminology of crude and NGLs from tight oil and shale gas plays*" was to establish a well-defined terminology to be used in the Secretariat's reports, publications and correspondence.

In addition, RD produced several reports/studies on climate change and sustainable development in line with its Work Programme.

In this context, the Secretariat produced a report entitled "*Market-based mechanisms in the post-2020 climate agreement*", which considers the provisions of market-based mechanisms in the "negotiating text" of the 2015 climate agreement. Market-based mechanisms are a component of Intended Nationally Determined Contributions (INDCs) submitted by some Parties, therefore this report aimed to serve as a reference document for Member Country negotiators.

Another research product in RD's 2015 work programme was entitled "*The architecture of the emerging climate change regime: Analysis of the ADP negotiating text*", which examined the negotiating text for the 2015 climate agreement, focusing on issues of importance to the collective interest of Member Countries.

Given the need for CCS deployment, which arises from the call to address climate change, a report was produced entitled "CCS deployment in the context of regional developments in meeting long-term climate change objectives". This report was produced in collaboration with IEA GHG[1] and commissioned to Carbon Counts Company (UK) Ltd.

The report "The Run-up to COP21/CMP11: Negotiation Issues in Paris" provided information about key developments in climate change negotiations in the year running up to COP21. In capturing these developments, the focus of the report was on the work of the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP), as well as on the Parties' submitted INDCs and interactions between the post-2015 sustainable development agenda and climate change negotiations.

Database and communications

Data services (such as expanding, updating and validating statistical databases) and the development of application systems and their maintenance were ongoing in 2015. These activities aimed at adapting to Secretariat and Member Countries needs regarding ease of access to the Intranet. Special emphasis was put on system administration and support systems, thereby improving navigation functions and introducing a global search utility, as well as a download facility and user support features. Furthermore, the Secretariat launched a new application for online data submissions from Member Countries in 2015.

The delivery of key and up-to-date end-user information was facilitated through regular dissemination of electronic reports, as well as publications such as the *ASB*, the *Annual Report* (*AR*) and the A*nnual Summary of the Secretariat's Activities*.

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[1] International Energy Agency Greenhouse Gas R&D Programme.

Data provided for online statistical reports on the OPEC Intranet was continuously improved to better address end-user requirements, serving input as required for the achievement of the Secretariat's LTS. Furthermore, the Secretariat published the "*ASB — pocket version*" in 2015, an abridgement of OPEC's latest edition of the *ASB*.

The 14th OPEC Annual Statistical Meeting was held at the OPEC Secretariat on 12–13 May 2015, aiming to further improve the flow of regular oil and energy statistics from Member Countries, the exchange of Member Country experiences with energy databank management and the utilization of OPEC's statistical databases.

The RD has enriched the Secretariat's crude oil database by including additional data sources and conducting comprehensive statistical analysis. The Secretariat's databases have also been prepared to accommodate information from Indonesia, which rejoined the Organization at the end of the year.

The RD developed IT software applications in response to internal and external Secretariat needs during the year. It improved existing software solutions for internal support services and new functionalities were added to already existing solutions. Additional interactive features were brought to the *ASB* and the *WOO*, resulting in increased visits and visibility. Data communication with Member Countries was modernized for timely, transparent and reliable data reporting.

The OPEC Information Centre continued to maintain its services to the Secretariat in 2015 through its subscriptions to electronic and non-electronic publications, newspapers and the purchase of books and reports. The Helpdesk in the Centre 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, international organizations and students continued to use the Information Centre's resources and facilities.

Training and knowledge transfer

The 15th OPEC MDTC was held from 23–27 February at the Secretariat, with 43 participants from eight Member Countries attending the course.

Participants gained insight into the Organization's activities, and its role in the energy demand and supply balance. They received information on the latest developments in the short-term petroleum market, energy modelling, as well as long-term and multilateral issues related to the oil market.

The 2015 OPEC Summer Fellowship Programme accommodated 12 participants from seven Member Countries. Throughout the programme, young professionals from Member Countries improved their technical skills and increased their professional knowledge of energy-related research themes.

The Summer Fellows worked on a broad array of research subject areas, including income and price elasticities of oil demand, the principles of the UNFCCC process and UN system in light of international law, data mining techniques and quality, the evolution of the refinery sector in OPEC Member Countries, drivers of economic growth in general and the causal relationship between energy consumption and economic growth.

6th OPEC International Seminar and OPEC Award for Research

The RD was heavily involved in preparations for the 6th OPEC International Seminar at the Hofburg Palace in Vienna, Austria, on 3–4 June.

The theme of the event was "Petroleum — An Engine for Global Development". In this context, the Seminar examined a range of important energy issues with presentations by Ministers, oil company executives, representatives from international organizations, academic experts and industry analysts. Topics included the global energy outlook, market stability, oil investments, technology and the environment, and the state of the world economy.

In 2015, OPEC once again honoured outstanding researchers by recognizing them with the 2015 OPEC Award for Research. Dr Vaclav Smil, Distinguished Professor Emeritus at the University of Manitoba in Canada, was the recipient of the OPEC Award for Research in recognition of his life-long academic work and publications in the field of energy economics and petroleum.

PR and Information Department

In 2015, the Public Relations and Information Department (PRID) once again focused on the enhancement of OPEC's public image, doing so through targeting specific areas and output, reflected in the Department's manifold activities.

Improving and enriching the image of the Organization is one of the key challenges identified in the OPEC 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 and editing, to audio-visual activities, workshops and distribution 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 and 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, as well as in 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 2015.

There is especially close cooperation between PRID and the Research Division in the area 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. The work of PRID also requires close cooperation with other departments and offices, including the Secretary General's Office and the Legal Office as well as Member Countries. Many departments of the Secretariat benefitted from the expertise of the department's three sub-sections — editorial, public relations (including audio-visual) and design and production — in 2015.

Editorial Section

Publications

A great deal of time and effort was spent in 2015 by the editorial section editing, revising and proofreading research documents and reports. These included the regularly produced *Monthly Oil Market Report*, which is carefully followed by the oil industry, as well as many other internal and external documents. Editorial staff also attended various meetings and assisted in internal write-ups and reports, as well as articles when required for OPEC's monthly magazine, the *OPEC Bulletin* from such meetings. In addition, staff wrote blurbs for the OPEC website, as well as press releases and aided in the editorial content of various types for all departments upon request throughout the year. Editorial staff also travelled to various events, contributing articles and coverage of such events for both the webpage and the *Bulletin*.

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. 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 *Annual Statistical Bulletin (ASB)* once again provided accurate, reliable and timely historical data on various aspects of the global oil and gas industry. The *WOO* was launched on 23 December and the 50th edition of the *ASB* was launched on 24 June. Following the successful launch of the interactive version of the *WOO* in 2014, a more comprehensive interactive version was made available in 2015. The interactive version of the 2015 *ASB* enables the downloading of complete time-series data. The document has become a useful reference tool for people in the industry. The Annual Report (*AR)* chronicles the activities of the Secretariat in the previous year. This tradition continued in 2015, with contributions from all departments and offices. PRID edited, designed and printed both the *ASB* and the *AR*.

In the lead-up to its 40th year of publication in 2016, the *OPEC Energy Review (OER)*, OPEC's academic quarterly, has made important changes. From revamping its Editorial Board to publishing a special thematic edition to joining (in collaboration with Wiley-Blackwell) one of the world's leading online academic portals to facilitate the submission and review of manuscripts, the journal now marks a new phase in its history. These changes also highlight one of the many ways the Organization continues to contribute to the exchange of knowledge about energy and the oil markets with other market participants. The new Editorial Board met for the first time in June 2015. It discussed the journal's achievements, its challenges and what steps to take as the journal approached its 40th year of publication. Another change that has been implemented is publishing specific articles on certain topics or subjects — by moving the *OER* towards occasional 'thematic' editions. The Chairman of the Board, Dr Omar S Abdul-Hamid, and the Executive Editor, Hasan Hafidh, both stressed that this was an important way to help further improve the journal's profile. This would be especially useful in order to attract specialists and other authors, researchers and journalists. Thus, in December 2015, the *OER* published its first thematic issue — a 'special edition'. With the 'Call for Papers' going out under the theme of "oil demand in the transport sector", submissions were received from countries around the world. In the end, three papers were chosen, each offering a unique perspective on transportation. These were accompanied by a broad overview of the transport sector derived from OPEC's *WOO 2015*. The special December 2015 edition marked a new phase in the *OER*'s history. It also seems to have been ideally timed, since it is worth noting that the appearance of the 'special edition' reflects something that has been occurring in other academic publications around the world: the increased specialization of journals and the growing popularity of special 'thematic' editions. The 'special edition' of the *OER* marked the first attempt to publish an edition with a very specific thematic focus bringing together perspectives from different fields and disciplines. So far, reaction to the 'special edition' has been extremely favourable. It is hoped that occasional future editions of the *OER* might also have a specific thematic focus.

The *OPEC Bulletin* continues to highlight the activities of the Secretariat and Member Countries. Its coverage comprises articles of interest on topical issues, as well as informative and analytical features. In 2015, over 60 articles and features were drafted by editorial staff for publication in the *OPEC Bulletin*, as well as for other outside publications.

Special features in the *Bulletin* over the year included articles on to late King Abdullah of Saudi Arabia and a focus on the Saudi petrochemicals industry, as well as an in-depth look at the Future of Oil (February), Qatar's plans for the World Cup and the Annual UN Charity Bazaar (March), the removal of Iranian sanctions and the 'new' Angola (April), the Iranian Oil and Gas Exhibition, Turning Gas into Cash and Trinidad and Tobago (May), extensive coverage of the OPEC Seminar and 167th Meeting of the Conference, as well as new Nigerian Head of State Muhammadu Buhari and the Fastest Boy in the Gulf (June), a feature on Dr Vaclav Smil, OPEC Science Award winner, the UK North Sea, RAG, Morocco, and Save the Dream (July/August), OPEC's 50th anniversary in Vienna, CITGO: Behind the 'trimark' logo and the Algerian coastal city of Oran being selected to host 2021 Mediterranean Games (September), features on CCS, 175 Years of Montan University and the Saudi economy (October), coverage of 6th Asian Ministerial Energy Roundtable and ADIPEC 2015, as well as the Kuwait Oil and Gas Show, Saudi Aramco's first CCS project and rise of the female entrepreneur (November), more coverage of the 168th OPEC Conference, ADIPEC 2015, and the GECF meeting, the re-entry of

Indonesia into OPEC and closer look at the country and UNHCR's launch of a sport programme for young refugees (December). In addition to these special features, various meetings and events were covered and reported on throughout the year.

Speeches and statements

In 2015, around 70 speeches were written for the Secretary General, the Director of the Research Division and other OPEC officials.

The Secretary General was in attendance at numerous major events over the year and delivered speeches, statements and interventions at, *inter alia*, the World Economic Forum Annual Meeting (Davos-Klosters, Switzerland), the Chatham House Conference: Middle East and North Africa Energy 2015 (London, UK), the 19th Middle East Oil and Gas Conference and Exhibition (Manama, Bahrain), the 2nd Petroleum Media Forum of GCC Member States (Riyadh, Saudi Arabia), the 5th IEF-OPEC-IEA Symposium on Energy Outlooks (Riyadh, Saudi Arabia), the 4th High-level Meeting of the OPEC-Russia Energy Dialogue (Moscow, Russia), the 2015 Oil and Money Conference (London, UK), the Kuwait Oil and Gas Show and Conference (KOGS 2015, Mishref, Kuwait), the 6th Asian Ministerial Energy Roundtable (Doha, Qatar), Abu Dhabi International Petroleum Conference and Exhibition (ADIPEC 2015, Abu Dhabi, UAE), the 3rd Summit of the Heads of State and Government of the Gas Exporting Countries Forum (Tehran, IR Iran), the 1st High-level Meeting of the OPEC-India Energy Dialogue (New Delhi, India), OPRV and non-OPEC technical meetings (Vienna, Austria), and the OPEC International Seminar (Vienna, Austria).

Speeches, statements and interventions delivered at these events were always well received by participants and the media, given how much they were reported, analyzed 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.

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.

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 news monitoring

Another tool used to help improve and enhance the image of the Organization was coordination of media coverage through one-on-one interviews with the Secretary General, press conferences and briefings, speeches and statements, as well as the proactive seeking of further networking opportunities among media outlets and journalists. This 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 the overall coverage of OPEC.

Media briefings and exclusive interviews were provided for international press at various events throughout the year. These included briefings and interviews with many members of the press from such renowned organizations such as: Al Arabiya, Al Jazeera, Argus, the BBC, Bloomberg, Bloomberg TV, CNN, CNBC, Energy Intelligence, the Financial Times, Handelsblatt, Hispan TV, Kuwait TV, the Middle East Economic Survey, New Delhi TV, the Petroleum Economist, Platts, PRESS TV, Reuters, Ria Novosti, Russia Today, Russia 24, Sky News Arabia, Der Spiegel, Sputnik News, Tass news agency, Telesur, Vedmosti, the Wall Street Journal and Dow Jones news wires.

Staff were also asked to produce articles and question and answer material for various events and industry-related publications. This included for the Davos World Economic Forum 2015, the World Petroleum Council Yearbook 2015, the G7 Elmau Summit in Germany, First Forum for Decision Makers, Oil and Gas Year Abu Dhabi 2016, Oxford Business Group: Saudi Arabia, Cercle Diplomatique, the 6th Asian Ministerial Energy Roundtable, the G20 Antalya Summit in Turkey and the Petroleum Economist.

The media advisor also provided background information upon request to many journalists from various media outlets, as well as contextual information for the Secretary General for various interviews and bilateral meetings.

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, the editorial section continued throughout 2015 to produce the Daily News Summary, as well as maintaining subscriptions to various industry-related publications.

Public Relations Unit

Public Relations

As part of achieving OPEC's strategy, aims and objectives, and as part of PRID's work programme, the PR unit has conducted many activities to reach a wider and more varied audience, raising awareness about OPEC, enhancing image and perspectives, and addressing any misconceptions about the Organization.

Conference preparations

Press accreditation: During OPEC Conferences and main events, the Organization's doors open to a large number of journalists, analysts and others from the industry who are eager to attend such events personally and witness the unfolding of history, in addition to meeting decision-makers within the Organization and its Member Countries. A special area on the OPEC webpage has been designed for such requests with an application form. After this is received, the details of each request are checked and separated into groups which are invited to be issued badges permitting them to enter the Secretariat in order to have the chance to cover events and talk to OPEC Ministers and the Secretary General.

Before and during each Conference, PR staff work together with administration to facilitate Conference organization regarding visitors, including press and analysts from all over the world, in terms of their applications, permission and badges.

Briefing programme

In-house briefing: Briefings are important in establishing two-way communication with the public, receiving opportunities to uncover how the public perceives OPEC and how to better address such perceptions; raising awareness about the objectives and goals of the Organization and promoting the Organization's publications.

Briefings start with an introduction and brainstorming session, followed by a general presentation about OPEC, screening of various films produced by the PR department and conclude with a question and answer session. A group picture is usually taken during such visits and a guided tour through the main conference room is offered, depending on availability and time. The briefing programme normally lasts between 1½ to 2 hours.

Visitors stemmed from both the public and private sector, mainly from ministries, universities, schools and research institutes, as well as the army, air force, embassies and other organizations and Member Countries' national oil companies. Individuals were also received. The age of visitors ranged from 8–68, and they stemmed from a variety of backgrounds.

The outreach programme constitutes briefings outside the Secretariat. Over a dozen schools and universities were contacted for a briefing/visit. Due to a heavy schedule at the Secretariat, it was only possible to arrange one visit with the Saudi School, based in Vienna, on 24 of November 2015, when 14–16 years old students gained further insight into the oil industry and the history of OPEC. The presentation was made in English and was very well received.

News monitoring and What the Papers Say

What the Papers Say is produced daily built on two reports received morning and afternoon, from trusted news providers. These include news about energy in general, as well as petroleum, OPEC and its Member Countries in particular, and a selection of the most important and informative articles. The News Summary is gathered and presented to OPEC officials (Ministers, Governors and National Representatives) in addition to the Secretary General, Secretariat staff and some outside members from the industry upon request.

Website

In 2015, PRID continued to maintain and update the content of the OPEC website in a timely and accurate manner with press releases, speeches, statements, publications and reports, data and graphs, videos on demand, Member Country information, employment opportunities, etc.

New modules and applications were introduced to enhance the reachability, functionality and the look and feel of the website's content and make browsing more user-friendly overall. PRID suggested and worked with a consultant company on the expansion of the main website Home Page to include four additional content placeholders. This step enabled the highlighting of additional information on the Home Page and for a longer period of time.

In addition, new designs for the main pages of two major publications at the Secretariat, the Annual Statistical Bulletin and the World Oil Outlook, were introduced to make the content of the these publications and their interactive versions available in a more practical and convenient manner. The livestreaming of OPEC events, a website feature for a long time, was enhanced to allow viewing on mobile devices in 2015.

PRID continued monitoring the number of views to website pages and prepared monthly reports on the data. These reports are critical to website operations, as the Department continues to ensure that visitors find the information they require in an easy and practical manner and works on enhancements as needed. In general, the website attracted more views in 2015 over 2014, with the number of views to all website pages reaching 5,983,896. PRID continued to maintain and update its email lists, which consist mainly of journalists, news agencies, investment banks, analysts, etc. The lists include over 700 recipients and were used to forward press releases, publications, website update alerts, daily and weekly basket price data, announcements and general press info, etc. and proved to be a timely and effective tool in informing the public about OPEC and its activities.

Regular monitoring was undertaken of messages received through the website email box and various public requests regarding website content. These emails provided positive feedback to PRID on various issues and were attended to by the Secretariat.

Distribution of publications

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.

Distribution is undertaken in coordination with related departments. PRID facilitates distribution of the yearly *ASB* and *WOO* in addition to the *OPEC Bulletin* and the *AR* according to an updated mailing list supplied by OPEC.

Corporate gifts

Gifts were offered to visitors received in briefing sessions and general visitors to the department, as well as to visitors from Member Countries, to promote hospitality and maintain the good image of the Organization. It has also become a custom in all departments to offer corporate presents to almost all visitors with the Organization's logo purchased by the PR unit. Selection, negotiation, arranging for logo design with R&D, quality control, invoice approval and gift handling are done within the PR unit, while the Production and Design unit helps with logo design.

Workshops, seminars and exhibitions

Other activities in 2015 included various workshops and seminars. PRID was heavily involved with the once again successful 6th OPEC International Seminar, held 3–4 June 2015. A record 800 participants attended the Seminar, where high-level speakers addressed the main issues surrounding today's international energy markets and spoke of the principle challenges facing the industry going forward. Drawn from all parts of the globe, a cross-section of some of the energy sector's most influential figures, personalities and stakeholders assembled in the Vienna Hofburg's grandiose Conference Centre for the Seminar, which was held under the theme 'Petroleum: An Engine for Global Development'.

PR was involved in preparation, including work with a company regarding seating and pre-seating arrangements, and other arrangements at the site, as well as manning a booth at the event and distributing publications, among other things.

The 2nd Annual Workshop for Member Countries' Public Relations Managers was held at the Secretariat from 9–11 February and brought together PR managers from many OPEC Member Countries. Public relations issues and local solutions were discussed, as well as issues facing OPEC from a public relations perspective and how Member Countries' PR managers can help. A list of recommendations was drawn up at the end of the workshop.

A very important task performed by the PR unit is representation of the Organization in different events, both inside and outside of Austria. Publications are displayed at such events, where opportunities present themselves to explain the role of OPEC in the oil industry and provide information about Member Countries and the work of the Organization. These events are attended by high-level delegations and elite groups of petroleum leaders.

To this end, the Secretariat had booths organized and manned by PRID staff at some major industry events in 2015.

The Abu Dhabi International Petroleum Exhibition & Conference (ADIPEC) took place in the UAE from 9–12 November. Over the four days of the exhibition, the OPEC booth had about 500 visitors and approximately 100 business cards were collected. Copies of the *AR*, the *Bulletin*, the *ASB* (both hard copy and digital), the DVD of the OPEC film, Who Gets What from Oil, as well as shirts, ties, pens, and other gifts were distributed or made available.

The Kuwait Oil and Gas Show and Conference (KOGS) returned to Kuwait City from 11–14 October 2015 with more than 3,500 participating delegates and 260 expert speakers from 60 companies across 27 countries. PRID had a booth at the event and covered the opening ceremony (which the Prime Minister attended) and Executive Plenary Session with remarks by the Minister of Oil, and other industry leaders, including OPEC's Secretary General. The booth received many visitors and distributed a wide variety of OPEC materials.

A PRID team was also attended the 20th International Oil, Gas, Refining and Petrochemical Exhibition, held at the Tehran International Permanent Fairground on 6–9 May and manned a booth which many ministry officials came to visit, along with many other visitors throughout the event. Many gifts and OPEC materials were distributed.

These events provide an opportunity for face-to-face interaction with both the public and high officials and allows individuals to have a closer look at specific activities undertaken by OPEC.

Design and Production

Improvements from previous years concerning the *WOO* with regard to layout and readability were refined in 2015 and USB sticks that contain an offline version of the website woo.opec.org were clipped onto the publication. The design and production team was responsible for designing, typesetting, producing and overseeing the printing process of the publication, along with the *ASB* and the *AR*.

The design, layout and finishing of the *ASB* was lined up to visually communicate the publication's 50th anniversary by highlighting this fact through the overall look and feel of the publication. In addition to the 'full' version, a pocket version has been designed which displays the most important tables and graphs in a consolidated form. An interactive version is available on a USB stick rather than CD. The colours of sections have been streamlined with corresponding sections of the *WOO*; following an editorial re-positioning, additional colours were selected.

The design and layout of the *AR* were adapted in 2015 in a new and fresh way. The *OPEC Bulletin* is designed and typeset on a monthly basis. The design and production team is responsible for its layout, typesetting and production processes and oversees its printing with an outside printer. Throughout the year, the layout of the *Bulletin* was adapted to fit state-of-the art corporate publication trends in an international and multi-cultural environment in coordination with the editorial team.

The team produced an overview of corporate design-related matters in order to prepare corporate design guidelines for presentation to the management and to garner their input and approval. The section prepared numerous logo designs throughout the year for OPEC in-house meetings and events and produced nameplates, programmes, badges, notepads and giveaways, as well as corporate gifts. Roll-ups and an advertisement were designed and installed.

The *OER* was also updated and revamped in 2015 and now boasts a modern and fresh look. The first *OER* to appear with the new design was the special edition that was launched in December 2015.

Exhibitions and advertorial material

The Design and Production team provided visuals for OPEC exhibition stands in order to disseminate the Secretariat's key message at ADIPEC, KOGS and the 20th International Oil, Gas, Refining and Petrochemical Exhibition, as well as the OPEC International Seminar. The team also supported the stand design for the Vienna International Science and Engineering Fair, held in Vienna on 14 March. Posters and roll-ups for internal and external use were designed to display OPEC Member Countries and the Organization's message.

OPEC International Seminar

The team developed a corporate design for the 6th OPEC International Seminar which was used throughout the promotion and execution of the event. It visually covered all relevant materials from the Seminar website and printouts as well as the set-up on-location. Design and Production staff worked closely with and advised Seminar designers on how to set up and streamline their input within the Organization's corporate look.

Other activities

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.

Administration and IT Services Department

The primary objective of the work of the Administration staff is to ensure the provision of all necessary services in order to facilitate the smooth running of the day-to-day affairs of the Secretariat, and to allow the various specialized areas of activity to meet their targets. These services include, but are not limited to, procurement and disposal; travel and transportation services; arrangements for all meetings and entertainment functions in Vienna; implementation of the Headquarters Agreement regarding visas, ID cards, import declarations and license plates; up-keep of the premises and residence; security and safety.

- Endeavours continued to improve cost efficiencies within the scope of work and to achieve further cost savings, amongst others, through negotiations with facility management and other service providers, including the electricity supplier, hotels, parking, and catering.

- Vacant positions, job cuts (two messenger positions) and one new appointment (Administrative Coordinator) required training and work re-organization efforts with a view to maintaining the high quality of services despite reduced staff strength.
- In addition to the organization of traditional conferences and meetings throughout the year, Administration was involved in the organization and implementation of the OPEC Seminar 2015 at the Hofburg. This entailed administrative and logistical oversight including budgetary planning, monitoring, and reporting as well as the liaising with external counterparts.

IT Services Section

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.

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

Apart from its routine activities, the Section carried out the following projects in 2015:

- Implementation of a monitoring/intrusion detection system;
- Implementation of a pilot project to introduce Virtual Desktop Infrastructure technology;
- Expansion of the current storage system;
- Review and enhancement of IT security controls implemented on IT Systems;
- Upgrade of the mass printing facility.

Finance and Human Resources Department

In addition to fulfilling the regular day-to-day activities of providing services related to managing the human and financial resources of the Organization, the Finance and Human Resources Department continued to focus on improving the efficiency of each process and quality of its services, as well as the accuracy of data by applying the latest technology whenever possible in 2015.

Regular financial services were once again supplied to the Secretariat. The Finance Office also prepared and presented the 2014 Financial Report, 2015 Provisional Financial Statements and 2016 Draft Budget to the 145th Meeting of the BOG. Furthermore, the Finance Office continued to streamline its business processes in conjunction with external auditors for greater efficiency.

In addition to providing personnel-related services to the Secretariat, the Human Resources Section continued to monitor all human resources processes with a view to improving the efficiency of each process, as well as the quality of services and accuracy of data provided by the section, by applying modern technology whenever possible.

The section also continued its efforts to utilize the Secretariat's available manpower to the maximum extent possible to ensure efficiency and proficiency.

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Heads of Delegation

Algeria

HE Dr Salah Khebri

Angola

HE Eng José Maria Botelho de Vasconcelos

Ecuador

HE Eng Carlos Pareja Yannuzzelli

Indonesia

HE Sudirman Said

IR Iran

HE Eng Bijan Namdar Zangeneh

Iraq

HE Adil Abd Al-Mahdi

Kuwait

HE Anas Khaled Al-Saleh

Libya

HE Abdourhman A Al-Ahirish

Nigeria

HE Dr Emmanuel Ibe Kachikwu
President of the Conference in 2015

Qatar

HE Dr Mohammed Bin Saleh Al-Sada
Alternate President of the Conference in 2015

Saudi Arabia

HE Ali I Naimi

UAE

HE Suhail Mohamed Al Mazrouei

Venezuela

HE Eng Eulogio Del Pino

Outgoing Heads of Delegation by country

Algeria

HE Dr Youcef Yousfi
(to May 2015)

Ecuador

HE Eng Pedro Merizalde-Pavón *(to November 2015)*

Kuwait

HE Dr Ali Saleh Al-Omair
(to November 2015)

Nigeria

HE Mrs Diezani Alison-Madueke *(to May 2015)*

Venezuela

HE Rafael Ramirez
(to February 2015)

Venezuela

HE Eng Asdrúbal Chávez J
(to August 2015)

Board of Governors

Algeria
Ahmed Messili *(to 7.6.)*
Eng Mohamed Hamel *(from 8.6.)*

Angola
Felix Manuel Ferreira *(to 11.2.)*
Estévâo Pedro *(from 12.2.)*

Ecuador
HE Wilson Pástor-Morris

Indonesia
Dr Widhyawan Prawiraatmadja *(from 10.9.)*

IR Iran
Hossein Kazempour Ardebili

Iraq
Dr Falah J Alamri

Kuwait
Ms Nawal Al-Fezaia

Libya
Samir Salem Kamal *(to 2.2015)*
Mohamed M Oun *(from 7.4.)*

Nigeria
Dr Jumila Shu'ara *(to 18.5.)*
Taiye Hassan Haruna *(to 26.11.)*
Dr Omar Farouk Ibrahim, MCIPR *(from 27.11.)*

Qatar
Issa Shahim Al Ghanim

Saudi Arabia
Dr Mohammed S Al-Madi

United Arab Emirates
Dr Ali Obaid Al-Yabhouni

Venezuela
Dr Bernard Mommer *(to 27.1.)*
Eng Iván Orellana *(from 28.1.)*
Chairman of the Board in 2015

Economic Commission Board

Algeria
Dr Achraf Benhassine

Angola
Luís Correa Neves *(to 11.2.)*
Kupessa Daniel *(from 12.2.)*

Ecuador
Dr Andrés Miño Ron

Indonesia
Dr Widhyawan Prawiraatmadja *(from 10.9.)*

IR Iran
Dr Mehdi Asali

Iraq
Ali Nazar Faeq Al-Shatari

Kuwait
Mohammad Khuder Al-Shatti

Libya
Imad A Ben Rajab *(to 2.2015)*
Abdelkarim M Omar Alhaderi *(from 7.4.)*

Nigeria
None named

Qatar
Sultan K Al-Binali

Saudi Arabia
Dr Nasser A Al-Dossary

United Arab Emirates
Salem Hareb Al Mehairi

Venezuela
Ms Nélida Izarra

Officials of the Secretariat

Secretary General
Abdalla Salem El-Badri

Research Division
Dr Omar S Abdul-Hamid

Data Services Department
Dr Adedapo Odulaja
Mohamed Mekerba
Dr Hossein Hassani

Energy Studies Department
Oswaldo Tapia
Dr Taher Massoud Najah *(left in January)*
Julio Arboleda
Amal Alawami
Mehrzad Zamani
Dr Jorge Leon
Shayma Amin *(left in February)*
Hend Lutfi
Erfan Vafaiefard
Moufid Benmerabet
Dr Faisal Mirza *(left in July)*

Petroleum Studies Department
Dr Hojatollah Ghanimi Fard
Elio Rodriguez Medina
Eissa Alzerma
Anisah Almadhayyan
Afshin Javan
Imad Alam Al-Khayyat
Hassan Balfakeih
Mohammad Ali Danesh
Hector Hurtado

Environmental Matters Unit
Dr Mohammad Taeb

Legal Office
Asma Muttawa
Dr Garba I Malumfashi *(left in March)*

Finance & Human Resources Department
Jose Luis Mora
Kamal Al-Dihan
Abiodun Ayeni

Administration & IT Services Department
Abdullah Alakhawand *(joined in February)*
Badreddine Benzida

Public Relations & Information Department
Hasan Hafidh
Zoreli Figueroa *(left in January)*
Tania de Vasconcelos Inacio *(left in June)*

Secretary General's diary

20–23 January	World Economic Forum Annual Meeting, Davos-Klosters, Switzerland
26–27 January	Annual Chatham House Conference on Middle East and North African Energy, London, UK
8–10 March	19th Middle East Oil and Gas Conference and Exhibition (MEOS), Manama, Bahrain
22 March	2nd Petroleum Media Forum of GCC Member States, Riyadh, Saudi Arabia
23–24 March	5th IEA-IEF-OPEC Symposium on Energy Outlooks, Riyadh, Saudi Arabia
30 July	4th High-level Meeting of the OPEC-Russia Energy Dialogue, Moscow, Russia
6–7 October	Oil & Money Conference, London, UK
11–14 October	Kuwait Oil and Gas Show and Conference (KOGS 2015), Mishref, Kuwait
8–10 November	6th Asian Ministerial Energy Roundtable (AMER6), Doha, Qatar
9–12 November	Abu Dhabi International Petroleum Conference and Exhibition (ADIPEC 2015), Abu Dhabi, UAE
23 November	3rd Gas Summit of the Gas Exporting Countries Forum (GECF), Tehran, IR Iran
15 December	1st High-level Meeting of the OPEC-India Energy Dialogue, New Delhi, India

20–23 JAN

Abdalla Salem El-Badri, OPEC Acting Secretary General, at the Annual Meeting of the World Economic Forum in Davos-Klosters, Switzerland.

8–10 MAR

OPEC Acting Secretary General, Abdalla Salem El-Badri, speaking at the 19th Middle East Oil and Gas Conference and Exhibition (MEOS), in Manama, Bahrain.

30 JULY

The Russian-OPEC Dialogue was held in Moscow on 30 July 2015. OPEC Acting Secretary General, Abdalla Salem El-Badri (left), is pictured here with Russian Energy Minister, Alexander Novak.

11–14 OCT

The Kuwait Oil and Gas Show and Conference in Mishref, Kuwait, was attended by many high-level experts from the energy industry. OPEC Acting Secretary General, Abdalla Salem El-Badri (left) is pictured here on the panel at the opening ceremonies.

Calendar 2015

27 January	1st OPEC MC Webex Meeting, HQ, Vienna, Austria
2 February	Meeting of Thought Leaders on LTS, HQ, Vienna, Austria
3 February	1st Meeting of Governors on Second Review of OPEC's Long-Term Strategy, HQ, Vienna, Austria
9–11 February	2nd Annual Workshop (Orientation Programme) for Member Countries' Public Relations Managers, HQ, Vienna, Austria
23–27 February	15th Multi-Disciplinary Training Course, HQ, Vienna, Austria
23 March	5th IEF/OPEC/IEA Symposium on Energy Outlooks, Riyadh, Saudi Arabia
24 March	IEF/OPEC/IEA Technical Experts Meeting, Riyadh, Saudi Arabia
30 March	Technical Meeting on Interlinkages Between Physical & Financial Energy Markets, HQ, Vienna, Austria
5 May	2nd Meeting of Governors on Second Review of OPEC's Long-Term Strategy HQ, Vienna, Austria
6–7 May	144th Meeting of the Board of Governors, HQ, Vienna, Austria
12–13 May	14th Annual Statistical Meeting, HQ, Vienna, Austria
28–29 May	123rd Meeting of the ECB, HQ, Vienna, Austria
3–4 June	6th OPEC International Seminar, Hofburg Palace, Vienna, Austria
5 June	167th Meeting of the Conference, HQ, Vienna, Austria
24 June	Technical Meeting on Asian Energy & Oil Outlook, HQ, Vienna, Austria
27–28 July	1st Member Countries' Coordination Meeting, HQ, Vienna, Austria
30 July	4th High-Level Meeting of the OPEC-Russia Energy Dialogue, Moscow, Russia

16–17 September	15th Special Meeting of the ECB, HQ, Vienna, Austria
28 September	OPEC-China High-level Meeting 2015, HQ, Vienna, Austria
30 September	3rd Meeting of Governors on the Second Review of OPEC's Long-Term Strategy, HQ, Vienna, Austria
14–15 October	JODI Technical Meeting, HQ, Vienna, Austria
21 October	Technical Meeting of OPEC and Non-OPEC, HQ Vienna, Austria
2–3 November	145th Meeting of the Board of Governors, HQ, Vienna, Austria
4 November	4th Meeting of Governors on the Second Review of OPEC's Long-Term Strategy, HQ, Vienna, Austria
10–11 November	Coordination Meeting with Member Countries in the Run-up to COP21/CMP11, HQ, Vienna, Austria
26–27 November	124th Meeting of the ECB, HQ, Vienna, Austria
4 December	168th Meeting of the Conference, HQ, Vienna
30 November–11 December	COP21/CMP11, Paris, France
15 December	1st OPEC-India Energy Dialogue Meeting, New Delhi, India

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