

## OVERVIEW

Attempting to understand how the oil market will look during the next five years is today a task of enormous complexity. Some certainties that have guided our past outlooks are now not so certain at all: that oil prices falling to twelve-year lows will lead to a strong demand growth spurt; that oil prices falling to twelve-year lows will lead to a mass shut-in of so-called high cost oil production; and not least that oil prices falling to twelve-year lows will force the largest group of producing countries to cut output to stabilise oil prices.

For some time now analysts have tried to understand when the oil market will return to balance. A year ago it was widely believed that this would happen by the end of 2015 but that view has proved to be very wide of the mark. In 2014 and again in 2015 supply exceeded demand by massive margins, 0.9 mb/d and 2 mb/d respectively, and for 2016 we expect a further build of 1.1 mb/d. Only in 2017 will we finally see oil supply and demand aligned but the enormous stocks being accumulated will act as a dampener on the pace of recovery in oil prices when the market, having balanced, then starts to draw down those stocks. Unless we see an even larger than expected fall in non-OPEC oil production in 2016 and/or a major demand growth spurt it is hard to see oil prices recovering significantly in the short term from the low levels prevailing at the time of publication of this report.

It is very tempting, but also very dangerous, to declare that we are in a new era of lower oil prices. But at the risk of tempting fate, we must say that today's oil market conditions do not suggest that prices can recover sharply in the immediate future – unless, of course, there is a major geopolitical event. Further, it is becoming even more obvious that the prevailing wisdom of just a few years ago that “peak oil supply” would cause oil prices to rise relentlessly as output struggled to keep pace with ever-rising demand was wrong. Today we are seeing not just an abundance of resources in the ground but also tremendous technical innovation that enables companies to bring oil to the market. Added to this is a remorseless downward pressure on costs and, although we are currently seeing major cutbacks in oil investments, there is no doubt that many projects currently on hold will be re-evaluated and will see the light of day at lower costs than were thought possible just a few years ago. The world of peak oil supply has been turned on its head, due to structural changes in the economies of key developing countries and major efforts to improve energy efficiency everywhere.

In the meantime, our forecast for oil demand to 2021 is for annual average growth of 1.2 mb/d (1.2%) which represents a very solid outlook in historical terms. Oil demand breaks through the 100 mb/d barrier at some point in 2019 or 2020. A major change from the 2015 *MTOMR* is the higher base from which our forecast begins. In 2015 world oil demand increased by 1.6 mb/d (1.7%), one of the biggest increases in recent years stimulated to a large extent by the rapid fall in oil prices that began in the second half of 2014 and gained momentum in 2015. However, any expectations that the most recent fall in oil prices to USD 30/bbl oil will provide further stimulus to oil demand in the early years of our forecast and send annual rates of growth above 1.2 mb/d are likely to be dashed. In the first part of 2016 we have seen major turmoil in financial markets and clear signs that almost any economy you care to look at could see its GDP growth prospects downgraded.

Since 2014 the non-OECD countries have used more oil than OECD countries and the gap will widen in years to come. However, the rate of demand growth in the non-OECD countries is vulnerable to being pared back as the cost of energy subsidies becomes a major burden and governments take

action. This will probably not have an immediate impact on demand in the early part of this forecast, but later on we might see that the reduction in expensive fuel subsidies in many countries, including the fast-growing Middle East, does have a significant effect on growth. Also, rising energy use has brought with it terrible environmental degradation, particularly in the fast-growing Asian economies, and oil's part in this is recognised by measures to limit vehicle registrations and use. Although reducing subsidies and tackling pollution will affect the rate of demand growth, it should be stressed that non-OECD Asia will still remain the major source of oil demand growth with volumes increasing from 23.7 mb/d in 2015 to 28.9 mb/d in 2021.

**Table ES.1** Global balance summary (million barrels per day)

	2015	2016	2017	2018	2019	2020	2021
<b>World Demand</b>	<b>94.4</b>	<b>95.6</b>	<b>96.9</b>	<b>98.2</b>	<b>99.3</b>	<b>100.5</b>	<b>101.6</b>
<b>Non-OPEC Supply</b>	<b>57.7</b>	<b>57.1</b>	<b>57.0</b>	<b>57.6</b>	<b>58.3</b>	<b>58.9</b>	<b>59.7</b>
OPEC Crude*	32.0	32.8	33.0	33.0	33.2	33.5	33.6
OPEC NGLS etc	6.7	6.9	7.0	7.1	7.1	7.1	7.2
<b>Total World Supply*</b>	<b>96.4</b>	<b>96.7</b>	<b>97.0</b>	<b>97.8</b>	<b>98.7</b>	<b>99.5</b>	<b>100.5</b>
<b>Implied Stock Change</b>	<b>2.0</b>	<b>1.1</b>	<b>0.1</b>	<b>-0.4</b>	<b>-0.7</b>	<b>-1.0</b>	<b>-1.1</b>

\*OPEC actual output in 2015. Assumes a post-sanctions increase for Iran in 2016 and adjusts for OPEC capacity changes thereafter.

Asia's key role in the future demand picture is reflected in the rise in the region's share of global oil trade. By 2021 non-OECD Asia will be importing 16.8 mb/d of crude oil and products, a rise of 2.8 mb/d compared to 2015. The People's Republic of China (hereafter 'China'), remains central to this growth, partly because of the underlying rise of oil demand but also due to its build-up of strategic reserves which will reach at least 500 mb by 2020. A trade issue that has recently appeared on the agenda is the possibility of US crude oil exports. The US is already a major exporter of oil products (2.8 mb/d in 2015) and the lifting of the crude export ban potentially opens up another trade opportunity. In our trade section we analyse why the economics mean that large volumes of US crude oil will not move out of the region during the forecast period.

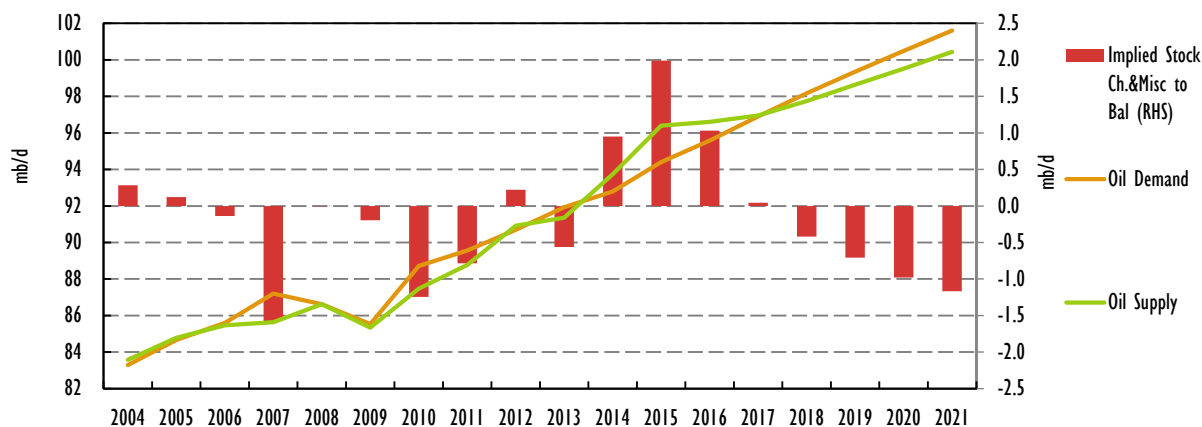
The continued rise in the global trade of oil will reach a peak at 37 mb/d in 2017 with the long-term eastwards drift continuing. Crude oil will be processed through refineries in ever rising volumes, although one of the most noticeable trends in the refining sector in the forecast period will be over-capacity. Our report points out that it is in Asia where most of the 5.3 mb/d of global spare refining capacity will be found. Although products demand will continue to grow, it will not keep pace with the expected increase in investment in new plant. The Middle East will consolidate its place as a major refining centre and products exports will grow at a rate exceeded only by the US which will process rising volumes of domestic crude over the period of the forecast as a whole.

However interesting and important oil demand trends are, the major focus in the next few months will be on the supply side of the balance. In the year since the 2015 *MTOMR* was published, the supply side has provided many surprises. By far the most significant has been the resilience of high cost oil production and in particular that of light, tight, oil (LTO) output in the US. As oil prices cascaded down from more than USD 100/bbl it was widely predicted at various milestones that the extraordinary growth in total US crude oil production from 5 mb/d in 2008 to 9.4 mb/d in 2015

would grind to a halt and move rapidly into reverse. Growth certainly ceased in mid-2015 but the intervening period has seen a relatively modest pull-back and total US crude oil production in early February 2016 was still close to 9.0 mb/d, aided by expanding production in the Gulf of Mexico.

In our base case outlook, there is an element of the “straw breaking the camel’s back” and we expect US LTO production to fall back by 600 kb/d this year and by a further 200 kb/d in 2017 before a gradual recovery in oil prices, working in step with further improvements in operational efficiencies and cost cutting, allows a gradual recovery. Anybody who believes that we have seen the last of rising LTO production in the United States should think again; by the end of our forecast in 2021, total US liquids production will have increased by a net 1.3 mb/d compared to 2015. Such has been the element of surprise provided by the resilience of US oil production, and the wide divergence of views as to the future, that we have added a High and Low Case to our non-OPEC production analysis and plotted the impact on the global oil market balance of US LTO production falling by more than in our base case or, conversely, less. The eventual outturn is one of the most important factors – if not the most important – in assessing when the oil market will re-balance.

Figure ES 1 Global balance base case



Elsewhere, the determination of members of the Organisation of Petroleum Exporting Countries to maintain and expand their market share has clearly been shown by the fact that at two ministerial meetings following the historic November 2014 decision not to cut production to support oil prices, ministers have resisted any temptation to change course. In mid-February some OPEC members and Russia agreed to freeze production and they indicated that further policy initiatives may follow. Rising oil production in 2015, notably from Iraq and Saudi Arabia, will now be joined by Iran, freed from nuclear sanctions. Within the time frame of this forecast we do not expect a major increase in the production capacity of either Iran or neighbouring Iraq due to political uncertainties, but this outlook could, towards the end of the period, be revised. In other OPEC countries we are seeing one of the downsides of low oil prices: massive economic retrenchment in countries such as Algeria, Nigeria and Venezuela will reduce their ability to invest in the oil sector. It is not our role to analyse political issues, but it is worth flagging up the potential implications for supply stability in countries that have seen their income collapse dramatically. For OPEC as a whole oil export revenues slumped from a peak of USD 1.2 trillion in 2012 to USD 500 billion in 2015 and, if oil prices remain at current levels, this will fall in 2016 to approximately USD 320 billion

Another downside to low oil prices is the impact on investment. The IEA has regularly warned of the potential consequences of the 24% fall in investment seen in 2015 and the expected 17% fall in 2016. In today's oil market there is hardly any spare production capacity other than in Saudi Arabia and Iran and significant investment is required just to maintain existing production before we move on to provide the new capacity needed to meet rising oil demand. The risk of a sharp oil price rise towards the later part of our forecast arising from insufficient investment is as potentially de-stabilising as the sharp oil price fall has proved to be.

In 2016, we are living in perhaps the first truly free oil market we have seen since the pioneering days of the industry. In today's oil world, anybody who can produce oil sells as much as possible for whatever price can be achieved. Just a few years ago such a free-for-all would have been unimaginable but today it is the reality and we must get used to it, unless the producers build on the recent announcement and change their output maximisation strategy. The long-term consequences of this new era are still not fully understood but this report aids the debate in shedding light on the outlook for the next five years.