



Executive Summary

- Strong world GDP growth from 2002 to 2007 led to a steady rise in global oil demand. Coupled with more modest increases in oil output and capacity levels, and the impact of a gradually weakening US dollar, this led to an accelerating rise in oil prices. World demand for oil peaked in the first quarter of 2008, prior to the onset of the global financial crisis and subsequent recession that saw oil demand decline in both 2008 and 2009, despite a pick-up in the latter part of last year and in Q1 2010.
- As a result of the sharp swings in demand, oil prices have been volatile. The price of Brent crude peaked at US\$149pb in July 2008, the culmination of a 10-year rise from lows of under US\$10pb in 1998, but then subsided to under US\$40pb at the end of 2008, a slide of almost 75% in less than six months. Greater stability in the world economy and OPEC quota cuts led to a steady recovery in oil prices through 2009, ending the year at around US\$75pb but averaging US\$62pb, a 36% fall from the 2008 average. And the price has risen further in early 2010, to over US\$80pb at April but then slipping to US\$70pb in May.
- The price of oil in real terms set a new record high in mid 2008, surpassing the level in 1980 that resulted from the Iranian revolution and the outbreak of the Iran-Iraq war. Despite the sharp slide in the latter part of 2008, the real oil price remains comfortably above the levels that prevailed during the 20-year period from 1985 to 2005 and that resulted in low oil industry investment over the period.
- The key influence on oil prices over the next year will be the pace of world growth. Oxford Economics forecasts a modest pick-up in world growth, with global GDP seen growing close to 4% on a PPP basis this year after falling by about 1% in 2009. The fastest growth will be in the emerging markets, led China and India in particular, while OECD countries will experience a sluggish recovery. As a result, although oil demand in non-OECD countries is forecast to grow quite strongly, OECD oil demand is expected to be broadly unchanged in 2010, held down by weak growth and further gains in energy efficiency and use of alternative energy sources. In addition, OECD inventories are currently also at relatively high levels.
- This demand scenario suggests that oil prices are unlikely to climb significantly further this year, with rising oil output also likely to act as a restraint. The improving global economy and the higher oil price have meant that OPEC countries are now raising production, with output currently running at around 29 mb/d, the highest for over a year, and with the prospect of further increases. Non-OPEC output remains broadly stable, with higher output in FSU countries offset by lower production in Norway, the UK and Mexico.
- Beyond 2010, demand for oil will still be largely driven by the pace of the world economic recovery but with other factors beginning to play an increasingly important role, including efforts to reduce greenhouse gas emissions, the growing importance of gas and increasing use of alternative energy sources such as nuclear and biofuels. As a result, the level of global oil intensity will continue to fall steadily in the coming years, as will the share of oil in global GDP.



- With global GDP growth seen accelerating to almost 5% in 2012 and 2013 but then dropping back to some 4-4.5% pa in the second half of the decade, Oxford Economics expects world oil demand to grow by 1.2% pa over the period to 2020, with much of the increase coming from the emerging markets, led by China and the rest of emerging Asia.
- Despite the failure of the December 2009 Copenhagen summit to deliver global commitments to cut carbon emissions, growing pressure to combat global warming will see many countries trying to curb demand for hydrocarbons, including the growing use of carbon taxes, energy efficiency gains and use of renewable energy sources. But the absence of coordinated global action to stem the rise in carbon emissions means that oil demand will continue to rise in many emerging markets.
- This demand profile is likely to see the call on OPEC rising in the years ahead, especially as non-OPEC oil output is likely to remain broadly static as a result of the lack of investment in recent years and ageing oilfields. Moreover, new oil resources are expected to be in more remote and less accessible areas, thereby involving greater exploitation and transportation costs and longer lead times. As a result, OPEC capacity is expected to rise steadily, with some countries such as Nigeria and Iraq hoping to raise output significantly and other smaller members, seeking to accelerate economic development, also likely to press for higher quotas.
- The medium-term supply and demand trends are expected to result in world oil prices rising by about 2½% pa in real terms over the period to 2020, to US\$100pb in 2008 prices, with nominal Brent crude forecast to climb to around US\$100pb in 2015 and to about US\$130pb in 2020.
- Over the longer term, the pace of oil demand growth is expected to ease slightly, to 1% pa during 2020-2030 from 1.2% pa in 2010-2020. Again, much of this demand growth will be led by the emerging markets, with China's role in the world economy – overtaking the US in terms of GDP on a PPP basis after 2020 and becoming the second largest oil consumer by 2030 – meaning that demand for primary fuel sources will continue to climb.
- As a result, we forecast the price of Brent crude in nominal terms will climb to around US\$180pb in 2030, slightly below the projections of both the IEA and the EIA. In constant 2008 US\$ terms, we expect Brent crude to be nearly US\$110pb, continuing the steady trend increase since the lows of the 1990s.
- There are many risks to the central forecast. In the short term, the most important risk is that the world economy grows more slowly than expected, which in turn would probably keep oil demand and prices lower than expected in the next few years. Moreover, OECD inventories are also relatively high currently, which could further undermine any recovery in demand.
- But a stronger than expected recovery in the world economy this year, coupled with continued OPEC quota discipline, could see prices spike even higher in the short term, perhaps hitting US\$100pb later in 2010. Medium-term upside risks include further tensions in the Middle East, which currently appear most likely to be linked to the situation in Iran, or in other major OPEC producers, such as Nigeria or Venezuela. Currency movements are also a significant risk, with any extended period of US\$ weakness likely to exert greater than expected upward pressure on prices, as was the case during 2003-2008.

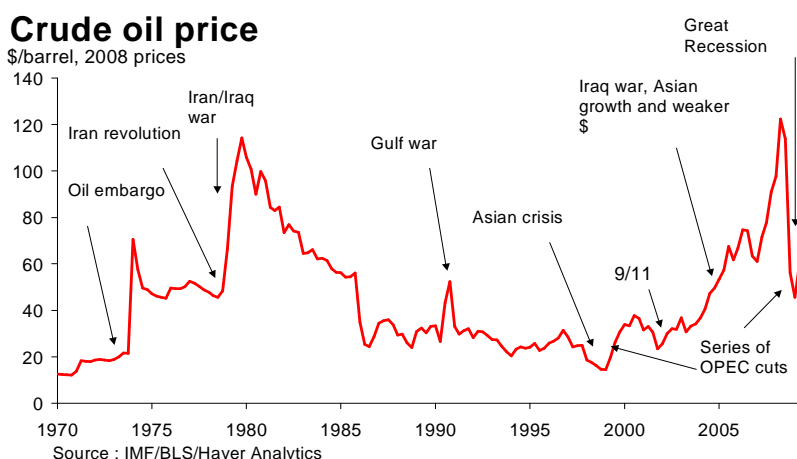
Recent oil market developments...

The period of strong world GDP growth from 2002 to 2007 led to a steady rise in global oil demand. Coupled with only modest increases in oil output and capacity levels, and the impact of a gradually weakening US dollar, this led to an accelerating rise in oil prices. World demand for oil then peaked in the first quarter of 2008, prior to the onset of the financial crisis and many of the leading industrialised economies entering recession later that year.

The initial falls in demand reflected not only the deterioration in the global economy but also a demand response to the steeply rising level of real oil prices. As recession became deeper and more widespread, oil demand weakened in most regions in late 2008 and as a result world oil demand fell in 2008 overall, the first annual decline since the early 1980s. Demand then fell more sharply in the first half of 2009. But as the downturn started to come to an end in the leading industrialised economies in mid-2009, together with unexpectedly strong growth in China and India that spread into other emerging Asian economies, oil demand began to rise again in the second half of 2009, although this was not enough to prevent a second successive full-year drop in demand, and in Q1 2010.

World oil prices climbed steeply in 2007 and the first half of 2008 prior to the start of the financial market crisis, the global recession and the associated collapse in demand for oil. The peak in oil prices came in July 2008, when Brent crude reached US\$149 per barrel (pb), the culmination of a 10-year rise from lows of under US\$10pb in late-1998. But there was then an equally sharp downturn in prices as world demand collapsed – Brent crude fell to under US\$40pb at the end of 2008, a decline of almost 75% in less than six months. Mounting evidence of greater stability in the world economy, together with greater output discipline from OPEC members in response to reduced quotas, led to a recovery in prices during 2009 to end the year at US\$75pb and averaging US\$62pb, down 36% from the 2008 average. The price recovery continued in early 2010, reaching US\$85pb in April before slipping back to US\$70pb in May.

In real terms, having been at historically low levels throughout the 1990s, oil prices climbed sharply from 2003 onwards to set new record highs in the second quarter of 2008, finally getting back to the levels seen in 1979 and 1980 that resulted from the disruption to global supplies caused by the Iranian revolution and the outbreak of the Iran-Iraq war. Despite the sharp dip in the second half of 2008, the real price of oil remains comfortably above the levels seen during the 20-year period from 1985 to 2005.

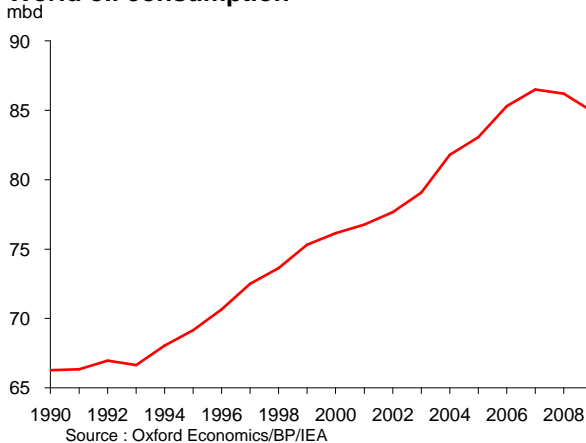


Oil demand subdued in near term...

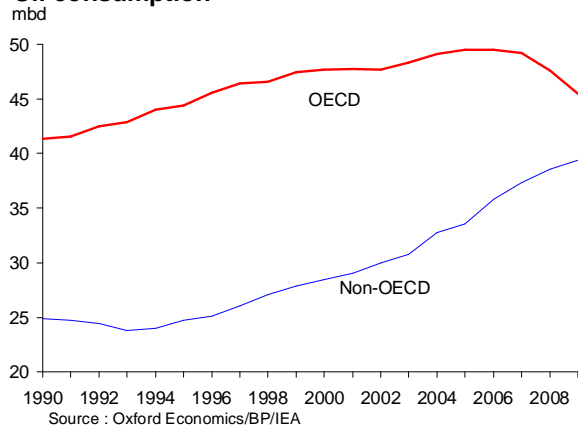
The key driver behind the strong rise in demand for oil, and hence the accelerating rise in oil prices, during 2002-08 was the pace of world GDP growth, which averaged close to 4% pa on a purchasing power parity (PPP) basis, well above the average of 2.7% pa during the 1990s. In addition, an increasing share of world growth was accounted for by the emerging markets, in particular China and India, where oil demand is significantly more sensitive to fluctuations in GDP growth than in advanced economies, which are more service oriented. Indeed, academic studies suggest that the income elasticity of demand for oil in emerging markets is greater than 1¹. As the emerging markets grew at over 6% pa on a PPP basis for much of this period, this meant that their demand for oil was growing exceptionally rapidly.

The slowdown in world growth to 3% in 2008 and then the move into recession in 2009, with world GDP (in PPP terms) falling 1%, saw world oil demand falling continuously for five consecutive quarters. According to the International Energy Agency (IEA), global oil demand in 2009Q2 was down to 84.1 million barrels per day (mb/d), almost 4% lower than in 2008Q1. The weakness was particularly marked in the Americas and Europe, where demand was down 5.2% and 6.8% respectively over the period, while demand in Asia/Pacific was down just 2.6% and in the Middle East it actually rose 9%. Data for the second half of 2009 show demand picking up slowly in all regions, with world demand up to 85.9 mb/d in the final quarter of the year and then to 86.3 mb/d in Q1 2010. But for 2009 overall global demand averaged 84.9 mb/d, a drop of 1.5% from 2008 and the second successive annual decline. Non-OECD demand is estimated by the IEA to have risen 2% from the 2008 level, but OECD demand fell again, down 4.4% from 2008.

World oil consumption



Oil consumption



...as world recovery will remain sluggish

Oxford Economics' central scenario sees the world economy recovering only slowly in the near term, with GDP growth on a PPP basis expected at around 4% in 2010. Growth will be faster in the emerging markets, especially in emerging Asia where it is forecast at 7¼% compared with 5% in 2009. But growth

¹ The income elasticity of demand for oil measures the % change in demand associated with a given % change in GDP. So an elasticity greater than 1 implies that a 1% rise/fall in GDP will lead to a rise/fall in oil demand (other things being equal) of greater than 1%.

will be more subdued in North America and the EU, which accounted for some 25% and 18% respectively of world oil consumption in 2008. The OECD countries overall are forecast to grow by a little over 2% this year, while non-OECD countries could grow by a little over 6%.

As a result of this expected pattern of economic growth, the main rise in demand for oil in 2010 will again come from the non-OECD countries. The IEA sees oil consumption in non-OECD countries rising 4.1% this year to 40.8 mb/d, continuing to increase its share of total world oil demand to 47.3% (from 44.5% in 2008). But despite the pick-up in growth in the OECD region, it is expected that several factors will prevent any increase in oil demand, including tightening fuel economy standards, restructuring in industry and substitution into other sources of energy, in particular gas. OECD oil consumption is seen falling 0.1% to 45.4 mb/d in 2010. As a result, world oil demand is forecast at 86.4 mb/d, a rise of 1.9% from 2009 and 0.5% higher than in 2008. The IEA says that six large emergers – China, Saudi Arabia, Russia, Brazil, Iran and India – will account for almost 75% of the increase in world oil demand this year.

Global Oil Demand Forecasts (May 2010)								
	EIA		IEA		OPEC		Oxford Economics	
	mb/d	growth	mb/d	growth	mb/d	growth	mb/d	growth
OECD								
2008 actual	47.6	-3.2	47.6	-3.3	47.6	-3.3	47.6	-3.5
2009 actual	45.4	-4.7	45.5	-4.5	45.5	-4.4	45.5	-4.4
2010 forecast	45.3	0.0	45.4	-0.1	45.3	-0.4	45.5	0.0
Non-OECD								
2008 actual	38.2	3.9	38.4	3.2	38.3	3.5	38.6	3.5
2009 actual	38.7	1.2	39.3	2.3	38.9	1.6	39.3	1.8
2010 forecast	40.2	4.1	40.9	4.1	40.1	3.1	40.8	3.8
Total								
2008 actual	85.8	-0.1	86.0	-0.5	85.9	-0.3	86.2	-0.2
2009 actual	84.0	-2.1	84.8	-1.4	84.4	-1.7	84.8	-1.6
2010 forecast	85.6	1.9	86.4	1.9	85.4	1.2	86.3	1.8

Source: Oxford Economics/EIA/IEA/OPEC

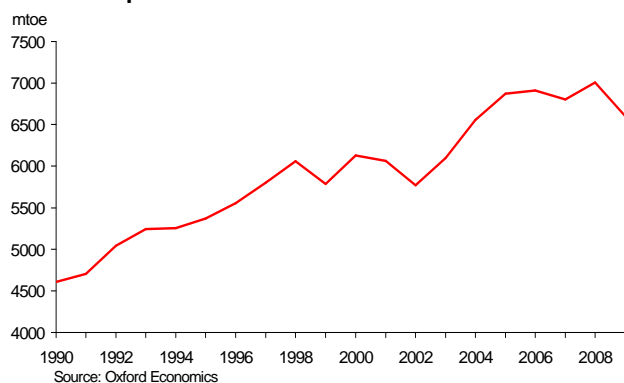
Rising oil output to restrain further price rises in 2010...

Supply factors appear to have played a more modest role than demand in the swings in oil prices in recent years, although they certainly contributed to the run-up in prices to mid-2008. Although OPEC production rose steadily from 2002 onwards, this was partly offset by falling production in the OECD countries and lower than expected increases in capacity in the former Soviet Union (FSU) countries, together with specific output setbacks in a number of important oil producers such as Nigeria. As a result, world oil supply increased by just 1.3% pa during the period 2002-08, slower than the 1.4% growth in oil consumption over the same period, leading to a rundown in world stocks.

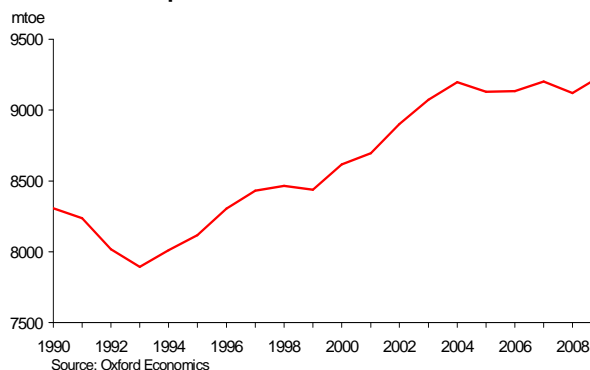
The sudden collapse in oil demand in the second half of 2008 and the subsequent plunge in oil prices, with the threat of a collapse back to pre-2002 levels, prompted a much more coordinated and disciplined output response from OPEC. A series of quota cuts at the end of 2008 and in the opening months of 2009 saw output being reined in and much higher adherence to quotas than before – OPEC's overall compliance rate with agreed quota cuts was 83% in March 2009. This supply response, together with

ongoing production problems in countries such as Nigeria and in the FSU, helped to stabilise and then push up prices in the first half of 2009, although the average for 2009 was still 36% down from 2008.

OPEC : Oil production



Non-OPEC : Oil production



But the rise in oil prices since the low point at the end of 2008 has led to renewed production rises from OPEC members, whose collective compliance rate with quota cuts was close to 60% in December 2009 and then slipped further to 55% in March 2010. Total OPEC production at end-2009 and in Q1 2010 was running around 29 mb/d, close to its highest in over a year, with Nigeria's output recovering strongly from its lowest level in two decades in August as its ceasefire with rebel forces operating in oil-producing areas proved durable. In addition, Iraq and Angola are still looking to raise output. As a result, OPEC oil production in 2010 is seen remaining at relatively high levels, with member countries' recent statements suggesting that they are comfortable with current production levels and prices. Non-OPEC production is seen rising only very modestly, with higher output in FSU countries being broadly offset by further falls in OECD countries, notably Norway, the UK and Mexico.

Global Oil Supply Forecasts			
(May 2010)			
	EIA	IEA	OPEC
	mb/d	mb/d	mb/d
Total supply			
2008 actual	85.8	86.0	86.0
2009 actual	85.6	84.8	84.8
2010 forecast	87.2	86.4	86.3
Non-OPEC			
2008 actual	49.7	50.8	50.8
2009 actual	50.4	51.5	51.5
2010 forecast	51.0	52.2	52.0
OPEC NGLs			
2008 actual	4.5	4.4	4.4
2009 actual	4.8	4.7	4.7
2010 forecast	5.4	5.4	5.4
OPEC call			
2008 actual	31.7	30.8	30.8
2009 actual	28.9	28.6	28.6
2010 forecast	29.2	28.8	28.9

Source: EIA/IEA/OPEC

The near-term balance of supply and demand, as forecast by the leading energy market commentators, suggests that there will be only a modest rise in prices in 2010 overall. On the assumption of a steady recovery in the global economy led by the emerging markets, Oxford Economics' central forecast is for Brent crude to average about US\$80pb in 2010, a 30% rise from 2009. Although prices have fallen back from the US\$85pb seen in April as market confidence has been hit by the Greek financial crisis, there is a risk of a short-term spike to over US\$100pb – this is explored later in the paper.

Medium-term demand prospects, 2011-2020

An increasing number of factors affecting the world oil market will come into play over the next ten years, including the success or otherwise of global efforts to reduce greenhouse gases and associated regulatory changes, the growing importance of gas, in particular in North America, the growth of biofuel usage, the development of alternative energy sources, mainly nuclear power, the level of investment in oil resources in areas such as the FSU and Africa, and rising levels of energy efficiency.

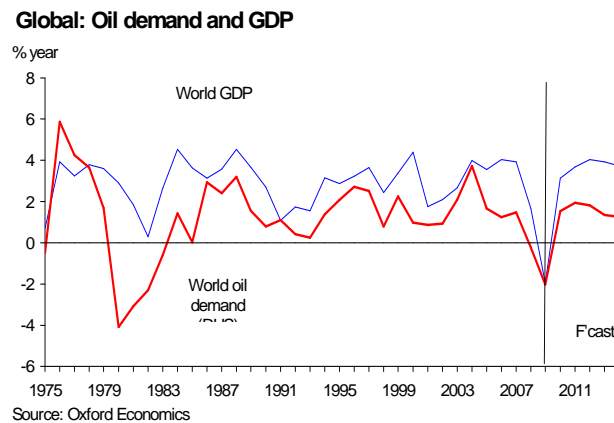
But the major driving force in the near term will still be the pace of the world economic recovery after the expected rebound from last year's recession and the associated supply capacity response from the leading oil producers, in particular OPEC. After the pick-up to 4% growth in 2010 from the 1% drop in 2009, the Oxford Economics' central scenario sees world GDP growth accelerating to 4½% in 2011 and nearly 5% in 2012 but then slowing to around 4½% pa in the second half of the decade. As noted above, the recovery will be led by the emerging markets, in particular those in Asia, which are forecast to grow by around 7% pa over the period 2011-20. And the previously under-performing Africa will post impressive growth, at around 5% pa over the period, while Latin America will start the period strongly before slowing to around 3.5%.

The main drag upon world growth will be exerted by some of the developed economies, as the massive fiscal and monetary boosts implemented in the last two years are wound back, commencing later this year or in 2011; this will inevitably produce a period of slower than normal growth. Countries where this factor will come into play most forcibly are in Europe, such as the UK, Italy, Spain, Greece and some Eastern European states, and Japan. Growth in the EU, for example, is forecast to pick up very slowly over the coming years before trending down towards 2% by the end of the period.

World GDP Growth Forecasts											
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Africa	4.0	5.3	5.5	5.2	5.1	4.8	4.8	4.8	4.8	4.8	4.8
AsiaPacific	4.8	5.3	5.5	5.6	5.4	5.1	5.0	5.0	5.1	5.2	5.2
Emerging Asia, excl Japan	7.7	7.3	7.9	7.7	7.4	7.2	7.1	7.0	6.9	7.0	7.0
Eastern Europe	3.3	4.5	5.5	5.8	5.0	4.7	4.6	4.6	4.6	4.5	4.5
EU	0.9	1.7	2.3	2.6	2.5	2.5	2.3	2.2	2.1	2.0	2.0
Latin America	3.8	4.7	4.9	4.4	3.9	3.6	3.4	3.4	3.4	3.3	3.2
US	3.4	3.8	3.6	3.0	2.5	2.2	2.5	2.8	2.9	2.9	3.0
World (2005PPP)	3.9	4.4	4.9	4.8	4.5	4.3	4.3	4.3	4.3	4.4	4.4

Based on this growth profile, Oxford Economics expects world oil demand to increase by 1.2% pa over the next ten years, rising from some 86 mb/d in 2010 to 97.5 mb/d in 2020, somewhat lower than projected prior to the onset of the global downturn. As indicated by the GDP growth assumptions noted above, much of the increase in demand will be in the emerging markets, led by China and the rest of emerging Asia, although the assumed recovery in growth in the US to around 3% pa over the period will

also support demand for oil. The transport sector will account for much of the increase in world oil demand, while likely faster rise in demand for coal and gas will be driven by the rising need for power generation – the IEA estimates that world electricity demand will grow at 2.5% pa over the period to 2030. As a result, it is likely that oil as a percentage of GDP will continue to decline globally, with the largest falls in this ratio being seen in some of the leading developing countries as their economies continue to mature and start to shift from manufacturing and heavy industry towards services.



Leading commentators raise demand forecasts

Medium-term oil demand forecasts by leading commentators have been revised up in the last nine months as a result of the better than expected growth in the leading emerging markets and the start of what appears to be a reasonably solid, albeit sluggish, recovery in much of the developed world. In its latest medium-term oil market scenario, the IEA included two scenarios, the first of which saw oil demand rising by 1.4% pa or 1.2 mb/d pa over the period 2009-2014. As well as the stronger growth expectations than in mid-2009 (the IEA's higher-growth scenario oil demand figures are based on world GDP growth accelerating to 3.1% in 2010 and then to 4.5% in 2014, above the Oxford Economics forecasts), the stronger demand forecast is due to baseline revisions, mainly in China and non-OECD Asia, and stronger than expected oil demand growth in 2009 as a result of the massive fiscal and monetary stimulus programmes in many countries.

The IEA also has a lower-growth scenario, which sees growth of just 2.1% in 2010 and then rising to around 3% pa for the period 2011 to 2014, weaker than the Oxford Economics central projection. In this scenario, world oil demand is projected to rise by just 0.5% pa, or some 0.43 mb/d, over the five-year period.

In its latest World Oil Outlook, OPEC noted that demand fell in both 2008 and 2009, the latter to 84.2 mb/d, but expected world demand to recover in 2010 and thereafter. OPEC expects policies that are being introduced to improve fuel efficiency, particularly in the transport sector, as well as to encourage alternative fuels such as biofuels, will dampen longer-term demand potential. But its assessment is that the key impact on medium-term demand prospects will come from lower economic growth in the wake of the global recession. The OPEC medium-term forecasts show world oil demand recovering to 87.9 mb/d in 2013, a rise of 4.4% from the 2009 level, but with the non-OECD countries accounting for all of this increase. OECD oil demand is seen unchanged over the period.

Long-term supply factors – call on OPEC to rise

The projected GDP growth profile to 2020 and the associated rise in energy demand has implications for oil production trends. Although non-OPEC production looks set to rise in 2010 and 2011, helped by higher than expected output in Russia, the medium-term prospects are less promising. Output by major producers such as Mexico, Norway and the UK is likely to continue in trend decline, and many smaller producers face problems with ageing fields and a lack of investment in recent years. Indeed, the lengthy period of low oil prices since the end of the 1980s has clearly had an adverse impact on the oil industry in terms of investment in new capacity. In addition, with much of the world's "easy" sources of oil probably known, the advance of technology has meant that oil industry workers are now less skilled in the techniques required to exploit many of the new oil finds, which tend to be in more challenging conditions and in more remote areas and less hospitable climates, thereby adding to the problems not only of exploration but also of extraction and shipment. Examples of the more difficult sources of oil are in deep-water areas, parts of the FSU and Africa and in the Arctic and Antarctic.

The tar sand or bitumen reserves around the world may become an increasingly important source of oil over the next 20 years, but this is a very expensive means of producing oil and hence requires world oil prices to remain high for a lengthy period to justify the huge investments involved. Tar sands produce very heavy, viscous oil, which requires considerable refining for normal usage, meaning that they need much larger amounts of energy to produce than conventional oil resources. Tar sands are located in many countries, but the two main sources currently are Canada and Venezuela, both of which have massive reserves and have been producing for a number of years. Production of tar sands currently accounts for some 45% of Canada's total oil output, which in turn supplies a fifth of US oil requirements, but since the onset of the financial crisis and global recession there have been large cutbacks in capital spending on oil sand projects. There are also serious environmental issues about tar sands' production.

Despite the long-term potential of non-conventional oil resources such as tar sands, oil production by non-OPEC countries is expected to turn down from about 2012 onwards. As a result, after the sharp dip in output in 2009, the call on OPEC is expected to increase steadily, enabling some producers to expand production in line with their long-term potential. A number of the major Middle East producers such as Saudi Arabia, Kuwait and the UAE are unlikely to raise output strongly given their fairly low domestic needs. But two major producers, Iraq and Nigeria, are expected to seek to raise their output significantly. Iraq has very ambitious plans to expand output, to 12 mb/d by 2020, which would make it one of the world's largest producers, to fund its reconstruction. Nigeria initially wants to "catch up" for its period of lost output over the last couple of years, when it believes its quota was set too low, and then to boost output to meet the needs of its massive population. Other OPEC members also likely to press for higher quotas in the future are Venezuela, Algeria and Angola; some of these countries are likely to raise output levels regardless of actual quotas as long as they can do so without leading to a collapse in world oil prices.

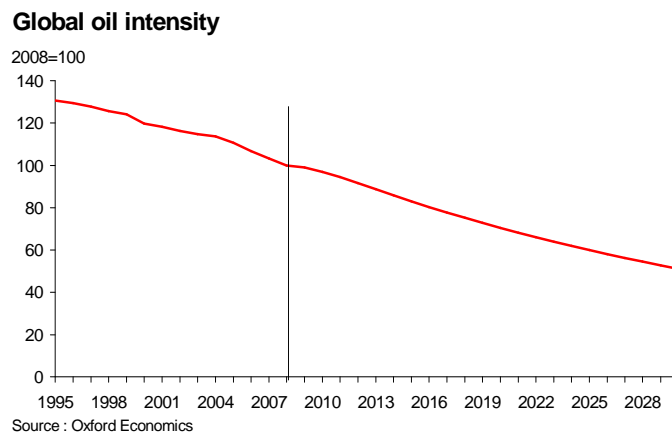
As a result, the IEA sees OPEC crude capacity growing by 2.8 mb/d over the period to 2014, taking its capacity to 36.9 mb/d, rather higher than envisaged previously as a result of the stronger world demand for oil and the poor medium-term prospects for non-OPEC producers. And the call on OPEC crude (plus any stock changes) is forecast to rise to just over 32 mb/d by 2014, up from 28.5 mb/d in 2009.

...but “peak oil” concerns still appear misplaced

The absence of recent large oil finds has again led to fears of “peak oil”, which in turn could lead to ever-higher oil prices as conventional supplies of oil dwindle. The long period of very low real oil prices through the 1990s discouraged the necessary investment to ensure continued rising supply, and recent investment will take some years to come to full fruition. But with world oil reserves still rising and supplies of unconventional hydrocarbons largely untapped, there seems little danger that oil output is close to a peak. Notwithstanding the increase in demand during the 2000s, proven oil reserves have continued to climb. According to BP data, proven reserves at end-2008 were 1.26 trillion barrels, slightly below the 2007 level but up 18% from ten years earlier. As such, talk of “peak oil” still appears misplaced, although geological and technological factors mean that supply rigidities may not improve significantly until oil prices have stayed at high levels for a sustained period of time.

Oil price forecast to 2020

As a result of the expected supply and demand factors, it is likely that the world price of oil will continue to rise steadily over the years to 2020, despite the shift to alternative sources of energy that will gather pace over the forecast period as a result of political pressure and taxation policies. The rise in prices is likely to be stronger over the next couple of years as the world economy recovers from recession, energy demand picks up and as stocks are replenished. In addition, the expected weakness of the US dollar, which appeared to be a factor in the sustained climb in oil prices in the mid 2000s, may reinforce the upward move in the short term, but this is expected to go into reverse from 2011 as the US economy grows more strongly than other developed economies, thereby bringing the prospect of earlier interest rate rises than elsewhere.



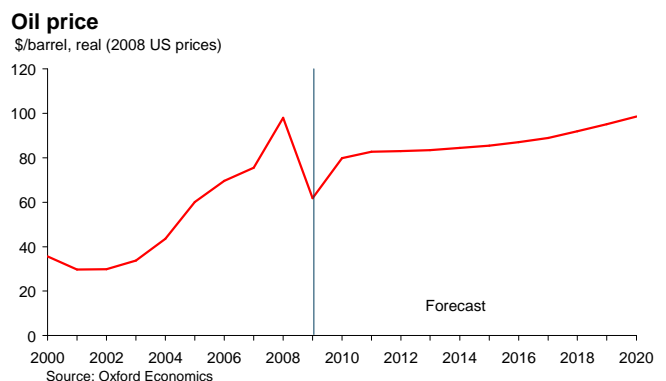
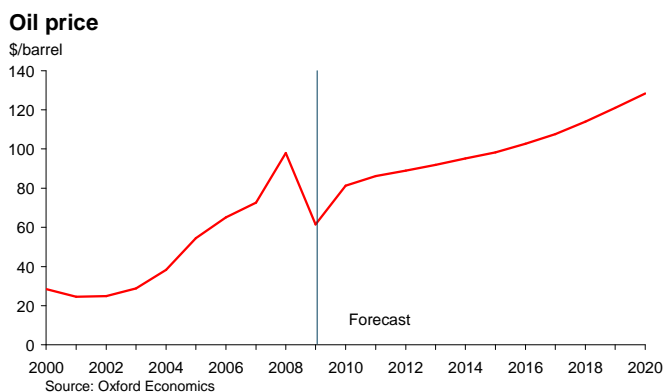
On the other hand, the level of global oil intensity, the amount of oil needed per unit of GDP, will continue to fall as governments in developed countries implement carbon tax policies and other measures to discourage the demand for hydrocarbons. But the emerging economies are more energy intensive than developed economies, with China and India particularly energy intensive, so the continued faster growth in the developing world will partly offset the gains elsewhere.

Over the next ten years, the use of nuclear power and other alternative energy sources will become an increasingly important factor in the demand for, and hence the price of, oil. Despite the failure of the

December 2009 Copenhagen climate change summit to deliver the hoped-for commitments by countries to cut greenhouse gas emissions by 50% by 2050 (and hence use less hydrocarbon fuels) to limit the rise in global temperatures to 2 degrees Celsius above the temperature when industrialisation began, the move to combat global warming will inevitably gather momentum in the years ahead. Many countries are implementing measures to cut emissions but the focus is on the major economic powers – the US, the EU, Japan and the two leading BRIC countries, China and India – which between them account for 65% of the world's greenhouse gases. The US and the EU (the latter under the Kyoto agreement to 2012) have programmes that require an increasing percentage of energy demand to be met from a combination of energy efficiency savings and renewable energy, together with an increasing use of biofuels. But China and India, plus many other emerging markets, remain reluctant to agree to any binding commitments to reduce emissions or the growth of demand for hydrocarbon fuels.

The growing use of carbon taxes looks certain to curb some demand for oil and coal in the years ahead, although the main impact may initially be on the use of coal. But in the absence of coordinated global action to stem the rise in carbon emissions, rising carbon prices and carbon cap and trade schemes in developed countries may increasingly result in either the relocation of industry (and pollution) to other countries or industry paying other countries to reduce their pollution. It will be more economically efficient for companies to pollute where it is cheaper, which tends to be in the lower-income countries where a lower price is placed on environmental quality. In turn, this is likely to erode the impact of carbon taxes on global demand for oil over the period to 2020.

Taking all these factors into account, the Oxford Economics central scenario sees the price of Brent crude climbing from US\$62pb in 2009 to almost US\$100pb in 2015 (or US\$85pb at constant 2008 prices) and to nearly US\$130pb in 2020 (US\$99pb in 2008 prices). This corresponds to an average annual real increase in oil prices of about 2.5% pa over the period.



Oil market forecasts to 2030

The Oxford Economics central scenario sees world GDP growth in 2021-30 accelerating somewhat from the pace in 2011-2020 as the adverse after-effects of the 2008-09 global recession fully unwind and faster growing countries make-up a larger share of the world economy. But overall the pace of growth in the period is not expected to return to the rate of expansion seen in the ten years to 2008. Again, growth is likely to be led by the larger emerging markets, which will continue to grow in importance and with

China set to overtake the US in terms of GDP on a PPP basis soon after 2020. The rise in power of the emerging markets will mean that demand for primary fuel sources such as oil, coal and gas will continue to climb notwithstanding likely further moves to curb greenhouse gases; by 2030, China is expected to be the second largest oil consumer in the world after the US. But the ongoing efforts to reduce emissions by developed countries, and by some developing countries, will see a lower rate of growth of demand for oil, especially if the move to electric powered cars really takes off as transport remains the key driver of demand for oil.

In its November 2009 study of energy demand prospects to 2030, the reference scenario (or base case) presented by the IEA sees world primary energy demand increasing by 1.5% pa between 2007 and 2030, equal to an overall rise of 40% from 12,000 million tonnes of oil equivalent (Mtoe) to 16,800 Mtoe, driven mainly by Asia followed by the Middle East. The breakdown shows that fossil fuels will remain the dominant source of primary energy, accounting for over 75% of the overall increase in energy use over the period to 2030. Demand for coal is projected to show the biggest absolute increase over the period, while oil remains the single largest fuel, albeit its share dropping from 34% currently to 30%. The IEA figures show demand for oil (excluding biofuels) growing by 1% pa over the period, rising from 85 mb/d in 2008 to 105 mb/d in 2030, with all of the increase in demand coming from non-OECD countries, while OECD demand actually declines.

Long-term oil demand forecasts

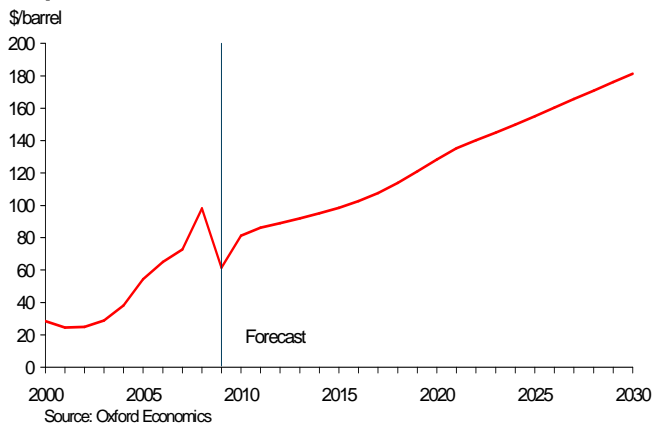
	EIA mb/d	IEA mb/d	OPEC	OE mb/d
World				
2010	85.2	86.3	85.1	86.3
2020	95.9	-	95.4	97.5
2030	106.6	105.2	105.6	107.2
Growth % pa				
2010-2030	1.1	1.0	1.1	1.1
2010-2020	1.2	-	1.1	1.2
2020-2030	1.1	-	1.0	1.0

The Oxford Economics forecast of long-term oil demand is similar to the IEA's, showing a rise of 1.1% pa over the period 2010-30 to 107.2 mb/d. The US Energy Information Administration and OPEC also forecast oil demand to grow by 1.1% pa over the period 2010-30.

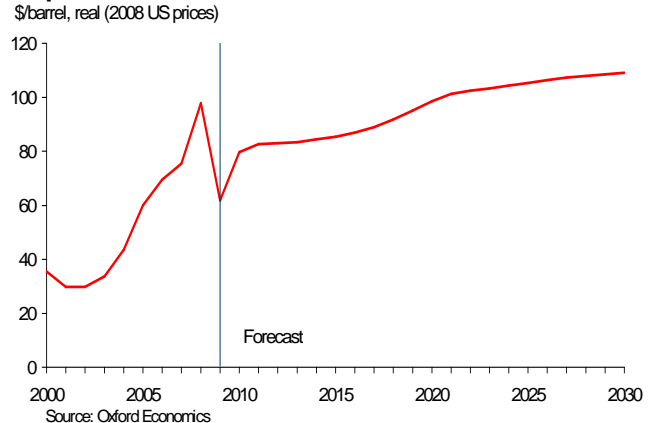
On the basis of the long-term oil demand profile noted above and the projected growth of the world economy, Oxford Economics expects oil prices (Brent, nominal terms) to rise to US\$180pb in 2030, a little below both the IEA projection of US\$190pb in 2030 and the EIA's forecast of US\$186pb. But with increasing efforts in the developed world to reduce the use of hydrocarbon fuels and develop alternative energy sources, the pace of increase in real oil prices is forecast to slow to about 1½% pa in the period 2020-30 from 2½% pa in 2010-20. We forecast the price of oil in constant 2008 US\$ terms at US\$110pb.

This would take real oil prices well above the record highs seen in the late-1970s and early-1980s, in turn reflecting the lack of investment in the oil sector in recent years – largely due to the long period of low world oil prices in the 1990s and early-2000s and then the impact of the financial crisis just at the time when investment was beginning to pick up again.

Oil price



Oil price



Slow growth presents downside risk to the forecast...

There are obvious risks to this forecast. In the near term, the main danger is that the global economic recovery proves to be weaker than generally expected, with a dip back into mild recession still possible as the temporary factors that are supporting growth – such as restocking and monetary and fiscal policy – go into reverse over the next year or two. In addition, world stocks are also quite high – inventories held by OECD countries were 2.7bn barrels in Q1 2010, equal to 58 days of forward cover and some 95m barrels more than the 5-year average for the time of year. These factors could weaken oil demand, meaning even weaker prices in the near term; but lower prices would act as a dampener on investment, thereby potentially adding to long-term capacity problems and upward pressure on prices. There are also downside risks from the output side. Some OPEC countries such as Nigeria and Iraq are looking to lift output sharply, which if successful would weigh on prices over the next few years, while Saudi Arabia currently has some 3.75 mb/d of unused capacity that could start to come onstream fairly quickly.

...but there are also significant upside risks

On the other hand, the recent rise in oil prices to US\$85pb seen as recently as April – despite much lower OPEC adherence to quota cuts – suggests that the strength of oil demand may be rather stronger than currently estimated. Since mid-2009, the pace of growth in the emerging markets, and in particular Asia, coupled with the upturn in North America, has proved stronger than expected and may continue to surprise on the upside. The very severe winter in the northern hemisphere boosted energy demand in Q1 2010 and as such there is little evidence that this demand is slackening significantly in Q2. The IEA expects oil demand to ease back to 86 mb/d in Q2 from 86.3 mb/d in Q1 before starting to climb again in the second half of the year, but if in fact demand continues to climb then overall demand for 2010 could be quite a bit higher than currently projected. At the same time, there are uncertainties about the pace of output rises in Iraq. With electoral uncertainties there persisting, there is an increasing risk of the emergence of a weak coalition government that is unable to deliver the reforms and security needed to

ensure that the planned foreign investment in the oil sector proceeds in the near term, thereby setting back its planned sharp production increases. In these circumstances, it is possible that there could be a further short-term spike in oil prices, perhaps to over US\$100pb.

Looking further ahead, there are other important upside risks to the central oil price forecast, including the potential for further tensions in the Middle East, which currently appear most likely to be linked to the situation in Iran and its nuclear ambitions. With Iran under its current leadership seemingly on a collision course with the West, further sanctions are possible, while there remains the risk that Israel might take military action against Iran's nuclear facilities if it believes that the UN sanctions regime is not tough enough. In this situation, there is the risk not only that Iran's 2.4m b/d of oil exports could be halted, which on its own would be a major blow to world supplies as it is the world's fourth largest oil exporter (after Saudi Arabia, Russia and Norway), but also that Tehran might respond by blocking shipping in the Gulf. Some 40% of all sea-borne oil trade (20% of total oil trade) passes through the 21-mile wide Strait of Hormuz, just off the coast of Iran, an easy target for disruption.

Additional upside risks include the possibility of more general Middle East conflict, political upheaval in a major African producer such as Nigeria (which faces elections in April 2011) or Angola, or heightened tensions between the current leadership in Venezuela and the US. Higher prices induced by such tensions would inevitably curb demand and lead to greater energy switching, ultimately driving down prices over the longer term.

Another significant factor over the next few years will be the impact of currency movements, in particular trends in the US dollar. In the period from 2003-2008, the price of oil (as well as some other commodities) rose strongly when measured in US\$ terms but it was more stable when measured in terms of gold or euros, both of which were a better store of value over the period. IMF analysis suggested that 40-50% of the climb in the oil price in this five-year period was the result of US\$ weakness and the recovery of the US\$ in 2009 probably played a part in the fall in oil prices from 2008. After a slight decline in 2010, the Oxford forecast sees the US\$ strengthening – but any extended period of US\$ weakness in the years ahead could see oil prices rising faster than in the central scenario.