

# Oil Market Report



International  
Energy Agency

13 December 2011

## HIGHLIGHTS

- **Crude futures prices moved higher in November and early-December on seasonal demand strength and tight supply.** Bullish impetus also came from news of a potential EU ban on Iranian crude imports. These factors outweighed escalating economic risks, but resulted in uneven price gains among the key benchmarks. At writing, Brent stood near \$107/bbl, with WTI around \$98/bbl.
- **A more precarious economic backdrop and weaker 4Q11 data – particularly for OECD Europe – curb oil demand projections for 2011 and 2012 by around 0.2 mb/d.** Global oil demand is expected to average 89.0 mb/d by 2011, a rise of 0.7 mb/d on 2010, before gaining a further 1.3 mb/d in 2012 to reach 90.3 mb/d.
- **Global oil supply rose by 0.9 mb/d to 90.0 mb/d in November from October,** driven by lower non-OPEC supply outages. A yearly comparison shows similar growth, with OPEC supplies standing well above year-ago levels. Non-OPEC supply growth averages 0.1 mb/d for 2011 but rebounds to 1.0 mb/d in 2012, with strong gains expected from the Americas.
- **OPEC crude oil supply in November rose to the highest level in more than three years, up by 620 kb/d to 30.68 mb/d,** with Saudi Arabia and Libya accounting for 80% of the increase. OPEC ministers will meet on 14 December in Vienna to review the market outlook. The 'call on OPEC crude and stock change' for 2012 stands at 30.2 mb/d, near recent OPEC output levels.
- **Global refinery crude throughputs fell by close to 1 mb/d in October,** as OECD autumn maintenance hit its seasonal peak and Chinese runs remained weak. Preliminary data show runs rebounding sharply in November, despite poor margins, to meet higher winter demand. 4Q11 estimates are largely unchanged at 75.1 mb/d, rising to 75.8 mb/d in 1Q12.
- **OECD industry oil stocks declined in October by a steep 36.3 mb to 2 630 mb,** or 57.2 days of forward cover. The inventory deficit versus the five-year average widened to 61.9 mb, from 40.0 mb in September, and crude and middle distillates dominated the October decline. November preliminary data show a counter-seasonal, 6.9 mb build in OECD industry stocks.
- **Updated medium-term projections show global oil demand rising from 88.3 mb/d in 2010 to 95.0 mb/d in 2016,** growth of 1.1 mb/d per year on average. A stronger global liquids supply outlook now sees upstream capacity attain 101.5 mb/d by 2016, average yearly growth of 1.3 mb/d, with the outlook for Iraq, Libya and the Americas stronger than in June. Meanwhile, global crude distillation capacity additions for 2010-2016 are trimmed by 0.9 mb/d, but remain a substantial 8.7 mb/d.

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# TABLE OF CONTENTS

HIGHLIGHTS.....	1
THE LONG AND SHORT OF IT .....	3
Easier balances for the medium term.....	3
...after a year of supply disappointments in 2011 .....	4
DEMAND.....	5
Summary.....	5
One Minute to Midnight & the Clock Ticks.....	6
Global Overview.....	7
Lower Global Demand Profile Seen Over the Medium Term.....	8
OECD.....	9
North America.....	10
Europe.....	11
Pacific.....	13
Non-OECD.....	13
China.....	14
Other Non-OECD.....	15
OECD Ethylene Producers Enjoy Temporary Respite.....	16
SUPPLY.....	17
Summary.....	17
OPEC Crude Oil Supply.....	18
Intensified International Sanctions Target Iranian Oil Industry.....	20
Medium-Term Update: Iraq Propels OPEC Crude Oil Production Capacity Higher.....	21
Non-OPEC Overview.....	23
OECD.....	23
North America.....	23
Medium-Term Update: US Leads the Way.....	24
North Sea.....	26
Non-OECD.....	26
Latin America.....	26
Former Soviet Union.....	27
Africa.....	28
Planned and Unplanned Outages Dent 2011 Non-OPEC Supply.....	28
OECD STOCKS.....	31
Summary.....	31
OECD Inventories at End-October and Revisions to Preliminary Data.....	31
Diesel Tightness; Will This Continue?.....	32
Analysis of Recent OECD Industry Stock Changes.....	33
OECD North America.....	33
OECD Europe.....	34
OECD Pacific.....	35
Recent Developments in Singapore and China Stocks.....	35
PRICES.....	38
Summary.....	38
Market Overview.....	38
Futures Markets.....	40
Activity Levels.....	40
Market Regulation.....	41
Seeking Common Ground on Oil Market Drivers.....	42
Freight.....	49
REFINING.....	51
Summary.....	51
Global Refinery Overview.....	51
Medium-Term Capacity Update – OECD Rationalisation Picking up Speed.....	52
OECD Refinery Throughput.....	54
Non-OECD Refinery Throughput.....	57
OECD Refinery Yields.....	60
TABLES.....	61

# THE LONG AND SHORT OF IT

## Easier balances for the medium term...

December customarily sees an interim update of the medium term projections generated the prior June. This year is no exception, and following an eventful November also for the short-term market, this month's *OMR* has filled out to become something of a bumper, pre-holiday issue. Our preliminary medium-term update suggests a more comfortable market outlook than looked likely six months ago. The demand baseline has come in lower for 2011 and a marginally weaker economic prognosis persists into 2012, even if this is countered by slightly weaker assumed prices. Nonetheless, middle distillates, and diesel in particular, continue to drive demand growth in coming years, with significant increments in the transportation, industrial and, increasingly, the power generation sectors. Oil supply prospects look slightly stronger, with recovery from Iraq and Libya coming in at a faster pace, and a game-changer in the making in the form of US light tight oil from shale. On a net basis, potential OPEC spare capacity remains tight in 2011 and 2012, but then eases back into a range between 5-6% of global demand thereafter. This is hardly suggestive of a sloppy market, but it does hint that the supply side of the equation, barring major outages, is capable of matching trend demand growth at, or slightly above, 1 mb/d per year.

A lower GDP scenario, with economic growth 30% weaker than in the base, generates more modest annual demand growth of 0.7 mb/d which, assuming continued upstream capacity growth, leaves the world with 6-8 mb/d of spare capacity during 2013-2016. Greater supply side flexibility is welcome, although it would be a pity for it to come about largely because of suppressed economic activity.

### Global Balance Summary (Base Case)

(million barrels per day)

	2010	2011	2012	2013	2014	2015	2016
<b>GDP Growth Assumption (% per year)</b>	<b>5.00</b>	<b>3.85</b>	<b>3.91</b>	<b>4.39</b>	<b>4.61</b>	<b>4.72</b>	<b>4.78</b>
<b>Global Demand</b>	<b>88.27</b>	<b>89.00</b>	<b>90.27</b>	<b>91.53</b>	<b>92.70</b>	<b>93.85</b>	<b>94.99</b>
Non-OPEC Supply	52.61	52.68	53.68	54.07	54.50	55.58	55.98
OPEC NGLs, etc.	5.35	5.80	6.35	6.69	6.88	7.22	7.37
<b>Global Supply excluding OPEC Crude</b>	<b>57.97</b>	<b>58.47</b>	<b>60.04</b>	<b>60.76</b>	<b>61.38</b>	<b>62.80</b>	<b>63.35</b>
<b>OPEC Crude Capacity</b>	<b>35.74</b>	<b>34.65</b>	<b>35.48</b>	<b>36.39</b>	<b>37.04</b>	<b>37.82</b>	<b>38.07</b>
<b>Call on OPEC Crude + Stock Ch.</b>	<b>30.31</b>	<b>30.53</b>	<b>30.23</b>	<b>30.76</b>	<b>31.32</b>	<b>31.05</b>	<b>31.64</b>
Implied OPEC Spare Capacity <sup>1</sup>	5.43	4.12	5.25	5.62	5.72	6.77	6.43
Effective OPEC Spare Capacity <sup>2</sup>	4.43	3.12	4.25	4.62	4.72	5.77	5.43
<i>as percentage of global demand</i>	<i>5.0%</i>	<i>3.5%</i>	<i>4.7%</i>	<i>5.1%</i>	<i>5.1%</i>	<i>6.1%</i>	<i>5.7%</i>
<b>Changes since June 2011 MTOGM</b>							
<b>Global Demand</b>	<b>0.25</b>	<b>-0.29</b>	<b>-0.36</b>	<b>-0.39</b>	<b>-0.43</b>	<b>-0.39</b>	<b>-0.27</b>
Non-OPEC Supply	-0.10	-0.60	-0.49	-0.15	0.17	0.47	0.62
OPEC NGLs, etc.	0.01	-0.08	0.02	0.01	-0.09	-0.09	-0.04
<b>Global Supply excluding OPEC Crude</b>	<b>-0.10</b>	<b>-0.68</b>	<b>-0.47</b>	<b>-0.14</b>	<b>0.08</b>	<b>0.39</b>	<b>0.58</b>
<b>OPEC Crude Capacity</b>	<b>0.02</b>	<b>0.36</b>	<b>1.04</b>	<b>0.49</b>	<b>0.11</b>	<b>0.14</b>	<b>0.23</b>
<b>Call on OPEC Crude + Stock Ch.</b>	<b>0.35</b>	<b>0.39</b>	<b>0.11</b>	<b>-0.25</b>	<b>-0.51</b>	<b>-0.78</b>	<b>-0.85</b>
Effective OPEC Spare Capacity <sup>1</sup>	-0.33	-0.03	0.93	0.75	0.62	0.92	1.07

<sup>1</sup> OPEC Capacity minus 'Call on Opec + Stock Ch.'

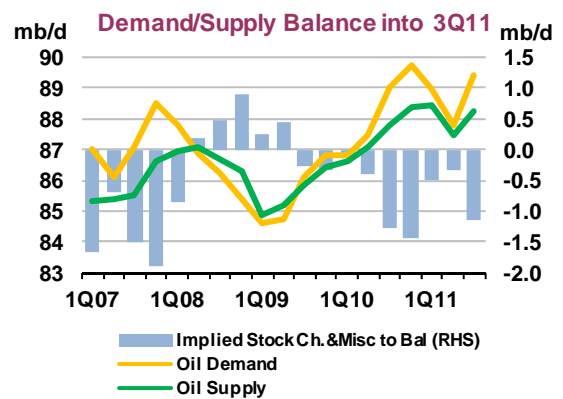
<sup>2</sup> Historically effective OPEC spare capacity averages 1 mb/d below notional spare capacity.

Weaker demand prospects have also led to a slight scaling back of expected refining capacity growth. However, this still amounts to 8.7 mb/d during 2010-2016 for primary distillation, fully 2 mb/d higher than expected demand growth. All of this net capacity growth derives from the non-OECD, and notably Asia. With increasing quantities of the demand barrel being met from liquids sourced outside the refining system (biofuels, NGLs), this suggests that competitive pressures on OECD European operators in particular will remain intense.

All told, the intense tightening in market fundamentals evident during 2009-2011 could ease over the next five years, the more so if 2012 economic growth takes a sharper downturn than our base case suggests. That doesn't detract, however, from the imperative to sustain investment for the future. Developments in the Chinese and Japanese power sectors in the last year have illustrated that oil demand can at times surprise to the upside too. With an upstream sector grappling to replace 2-3 mb/d of mature field decline each year over the longer term, there is scant room for complacency just because mid-term balances now look slightly more benign.

### ...after a year of supply disappointments in 2011

Indeed the magnitude of supply side challenges has been amply demonstrated in 2011. The loss of 1.6 mb/d of Libyan supply for more than half the year (which to date has cost the market nearly 400 mb) has been exacerbated by the worst level of unplanned non-OPEC stoppages since 2005. Anticipated non-OPEC supply growth for 2011 has been wiped out as a result. Global oil demand has been running ahead of supply since economic recovery began in 2009, but has been doing so in a more pronounced fashion since mid-2010. There may therefore be a way to go before the sunny uplands of comfortable medium term supply are reached. Any sign of the mechanical outages which have bedevilled OECD supply in 2011 persisting could lead to further downgrades to our 2012 outlook. A deteriorating geopolitical and supply-side backdrop hangs over Syria, Yemen and Sudan, even if ultimately supply disruptions there might prove short-lived. The spectre of an embargo on Iranian oil exports has also emerged, and although precise market reaction is difficult to predict, added tensions on the supply side are likely to have a bullish impact, notably on inter-regional and sweet-sour price spreads. As ever, policy choices can involve unintended consequences.



This applies just as much to moves to regulate commodity derivatives markets as it does in the physical sphere. The IEA, IEF and OPEC held the second of their joint workshops on physical/financial market linkages and regulation in Vienna during November. Opinions remain diverse on the role of the relative contributors to oil price formation, but there was heartening agreement on the need to coordinate regulatory efforts internationally to ensure markets continue to function seamlessly and that physical price risks can continue to be hedged economically.

In the shorter term, we note the convergence of our own expectations for the 2011/2012 market balance with those generated by colleagues at the OPEC Secretariat. Month-to-month fluctuations aside, both reports point towards an average underlying 'call on OPEC crude and stock change' that lies above 30 mb/d for 2012. With OECD company inventory having trended below the five-year average since July, our own estimation is that stocks would oscillate in a fairly narrow range around the five-year 'norm' if OPEC output were sustained at November levels over the course of 2012. There is always plenty of money to be lost indulging in punditry ahead of an OPEC Ministerial meeting. Nonetheless, there seem to be growing analyst expectations that ministers might converge around expected 2012 crude demand as an aggregate production target for the year ahead. For our part, we will wait and see.

# DEMAND

## Summary

- **A combination of the worsening global economic backdrop and persistently heightened oil prices has resulted in lower forecasts for global oil demand in 2011 and 2012**, with projections trimmed by 0.16 mb/d and 0.20 mb/d respectively. Uncertain prospects for the single European currency continue to provide added downside risk to current economic growth estimates.
- **Emerging markets will continue to outperform their OECD counterparts** – a consequence of more robust economic prospects and lower underlying price elasticity. Having risen by 1.18 mb/d in 2011, non-OECD demand growth will accelerate to 1.58 mb/d in 2012, outweighing OECD declines of 0.45 mb/d in 2011 and 0.31 mb/d in 2012. Global oil product demand now averages 89.0 mb/d in 2011 (+0.73 mb/d versus 2010), rising to 90.3 mb/d in 2012 (growth of 1.26 mb/d).
- **A low GDP sensitivity, one third weaker than the base case**, generates growth of a more modest 0.6 mb/d in 2011 and just 0.2 mb/d for 2012, with the bulk of the downgrade accruing in the non-OECD markets.

### Global Oil Demand (2010-2012)

(million barrels per day)

	1Q10	2Q10	3Q10	4Q10	2010	1Q11	2Q11	3Q11	4Q11	2011	1Q12	2Q12	3Q12	4Q12	2012
Africa	3.3	3.4	3.4	3.4	3.4	3.4	3.3	3.2	3.4	3.3	3.5	3.5	3.5	3.5	3.5
Americas	29.5	30.0	30.5	30.2	30.1	30.0	29.8	30.2	30.0	30.0	29.9	29.8	30.3	30.2	30.1
Asia/Pacific	27.2	26.9	26.7	28.3	27.3	28.6	27.3	27.3	28.7	28.0	29.5	28.5	28.2	29.3	28.9
Europe	15.0	14.9	15.6	15.5	15.3	14.9	14.8	15.4	15.1	15.0	14.6	14.5	15.2	15.0	14.8
FSU	4.4	4.3	4.6	4.6	4.5	4.5	4.6	4.8	4.8	4.7	4.6	4.6	4.9	4.9	4.7
Middle East	7.4	7.8	8.3	7.7	7.8	7.6	8.0	8.4	7.8	8.0	7.9	8.3	8.7	8.1	8.2
<b>World</b>	<b>86.8</b>	<b>87.5</b>	<b>89.0</b>	<b>89.8</b>	<b>88.3</b>	<b>88.9</b>	<b>87.8</b>	<b>89.4</b>	<b>89.8</b>	<b>89.0</b>	<b>90.0</b>	<b>89.2</b>	<b>90.8</b>	<b>91.1</b>	<b>90.3</b>
Annual Chg (%)	2.6	3.2	3.4	3.4	3.2	2.5	0.4	0.4	0.1	0.8	1.2	1.6	1.5	1.4	1.4
Annual Chg (mb/d)	2.2	2.7	2.9	3.0	2.7	2.1	0.4	0.4	0.1	0.7	1.0	1.4	1.3	1.3	1.3
Changes from last OMR (mb/d)	0.01	0.01	0.01	0.01	0.01	0.01	-0.10	-0.17	-0.37	-0.16	-0.19	-0.17	-0.17	-0.25	-0.20

- **Final monthly data submissions indicate that 3Q11 global growth slipped back to 0.36 mb/d** (+0.4% year-on-year), largely driven by the weakening non-OECD demand trajectory (+2.5% y/y) – although this still far outweighed the strongly declining OECD region (-1.5% y/y). Non-OECD growth is now at its weakest since the depths of the global credit crunch, specifically 2Q09. Gasoil dominates 3Q11 growth, offsetting declines from gasoline and residual fuel oil.
- **Medium-term global oil product demand is now expected to be some 0.3 mb/d lower over 2010-2016** when compared with the June *Medium-Term Oil & Gas Markets* report, with the changes related to a combination of baseline revisions and the now lower near-term economic underpinnings (through to 2013). Overall, global oil product demand rises from 88.3 mb/d in 2010 to 95.0 mb/d in 2016, equivalent to +1.2% or +1.1 mb/d per year on average. Growth will derive solely from non-OECD economies, which will account for more than half of global demand as soon as 2013, with the gap broadening sharply by 2016 (50.6 mb/d versus 44.4 mb/d for the OECD). Given the heightened state of concern regarding the global economy at present, the 'lower GDP' scenario warrants additional attention, whereby demand would rise by a more modest 0.8% per annum or 0.7 mb/d annually, through to 2016, generating a difference of 2.4 mb/d for 2016 demand versus the base case.



## One Minute to Midnight & the Clock Ticks

Recent months have seen a definite deterioration in the economic outlook for Europe, and accordingly the world. Not only has the prospect of a break-up of the European single currency become a very real possibility but also the realisation has increased that heightened debt problems in many countries are unsustainable. Rarely has a week gone by without one of the big three credit rating agencies downgrading a country; the past month's culprits include Hungary, Portugal and Belgium. How events unfold remains clouded in uncertainty, although what is clear is that the indebted economies of the developed world are in for a sustained period of slow growth. The evolution of this report's demand projections reflects, to a degree at least, the worsening economic backdrop evident over recent months.

Projections vary greatly between macroeconomic forecasters, with the OECD currently amongst the most bearish, predicting real GDP growth for the combined OECD region of only 1.6% in 2012, while the IMF maintains a more optimistic 1.9% track. Looking at developed world aggregates, however, hides particularly stark concerns regarding Europe, with the OECD for example projecting an anaemic 0.2% growth rate for Europe in 2012. Not only does such a poor growth estimate almost certainly entail a double-dip recession in many European economies, but it also conceals particularly severe downgrades in many individual nations, particularly those around the Mediterranean.

An example of just one country, the UK, outlines the wide degree of variance that exists between economic forecasters. The OECD has just lowered its forecast for UK GDP growth to 0.5% for 2012, dramatically reducing its projection of 1.8% made just six months earlier. Looking through the estimates of 25 of the world's leading macroeconomists, projections vary from Schroder's at -0.4% to Beacon Economics' +2.3%. Such discrepancies highlight the degree of mystery that clouds even the very near future, hence the OMR's adoption of both a 'low' and 'base case' GDP and oil scenario within its forecasting methodology.

One further caveat worth noting here is that although a degradation in the economic backdrop would clearly dampen demand prospects, it would also force down prices, counter-acting to some extent the downside pressures on demand. Furthermore, the complexities of the demand equation are heightened by the self-enforcing nature of the current economic malaise, as companies and individuals alike delay investment/purchasing decisions based upon the relentless wave of bad European economic news. This reinforcing mechanism could yet offer a glimmer of hope to the region, as robust co-operative action equally has the potential to reverse such confidence swings (late November's stock market rallies are an example). The total European public sector debt burden as a percentage of economic output still stands below that of both the US and Japan, it is just that at the time of writing a coherent strategy had yet to be agreed upon to deal with such debts.

### Oil Demand Sensitivity

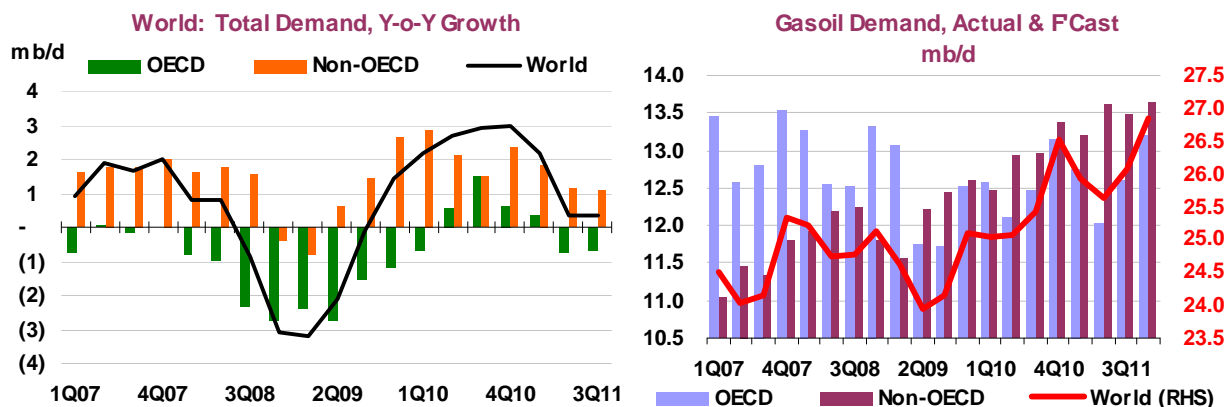
(million barrels per day)

	2010	2011	2012	2011 vs. 2010		2012 vs. 2011	
				%	mb/d	%	mb/d
<b>Base GDP &amp; 0% Avg. Yearly Efficiency Gains</b>							
Global GDP (y-o-y chg)	5.0%	3.8%	3.9%				
OECD	46.2	45.7	45.4	-1.0%	-0.45	-0.7%	-0.31
Non-OECD	42.1	43.3	44.9	2.8%	1.18	3.6%	1.58
World	88.3	89.0	90.3	0.8%	0.73	1.4%	1.26
<b>Lower GDP &amp; 0% Avg. Yearly Efficiency Gains</b>							
Global GDP (y-o-y chg)	5.0%	2.6%	2.6%				
OECD	46.2	45.7	45.1	-1.0%	-0.48	-1.3%	-0.60
Non-OECD	42.1	43.2	44.0	2.5%	1.03	1.9%	0.82
World	88.3	88.8	89.1	0.6%	0.56	0.2%	0.22

Even with the 'base case' scenario, which assumes a relatively benign economic backdrop, OECD Europe sees a demand reduction of 0.2 mb/d (or -1.4%) in 2012, whilst global growth attains 1.26 mb/d (or 1.4%). A significant deterioration in the macroeconomic environment, akin to that carried in the 'low-case' scenario, could see OECD European demand fall by as much as 0.3 mb/d (or -2.0%) in 2012, whilst global demand would then only inch up by 0.2 mb/d (or 0.2%). The true evolution of events will likely be an unpredictable hybrid of the 'base' and 'low' case scenarios. It is by no means inconceivable for the global economy, and hence oil demand prospects, to slow in 2012 akin to the 'low case' scenario, before returning to a more 'normal' growth trend, as outlined in the 'base case' over the medium term.

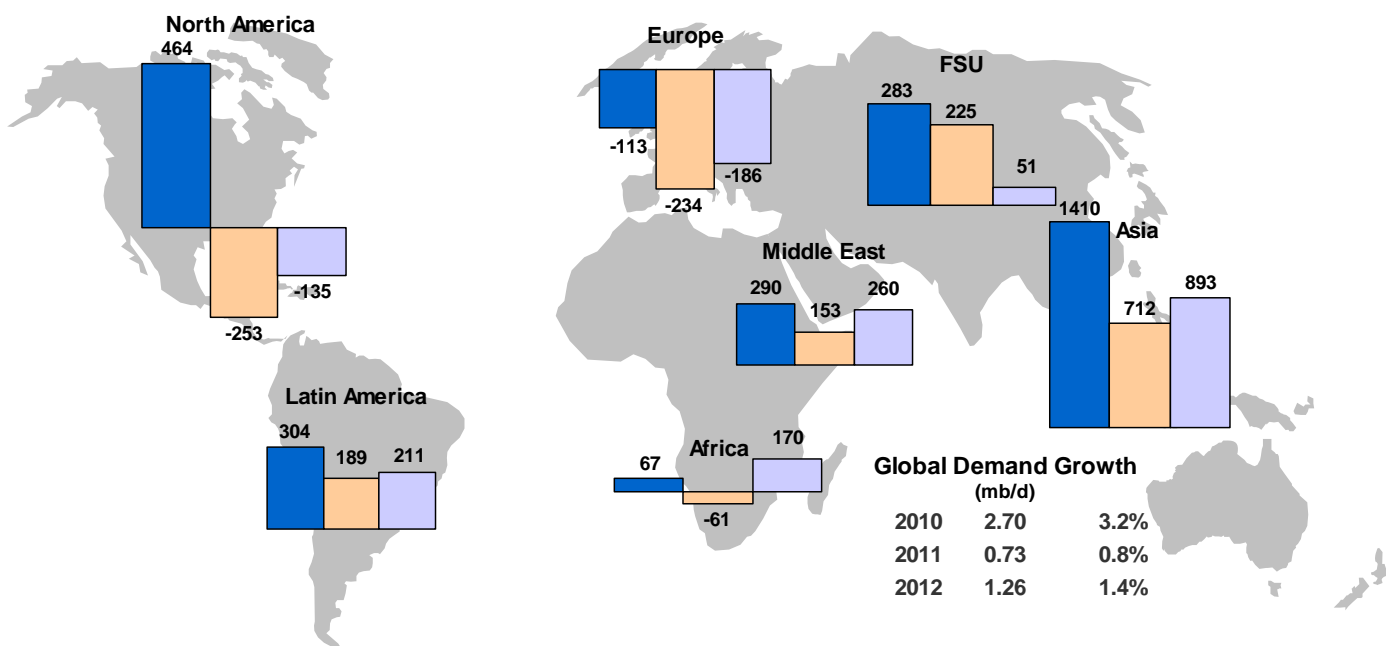
## Global Overview

Following official data submissions for September, the 3Q11 demand picture has become clearer. Global oil product demand increased by 360 kb/d on a year-on-year basis, some 180 kb/d less than the prior assumption. This is the slowest pace of expansion since the dog days of 2009, when the global credit crunch was still in full swing, as a combination of persistently heightened prices and the clearly decelerating global economic backdrop have taken their toll.



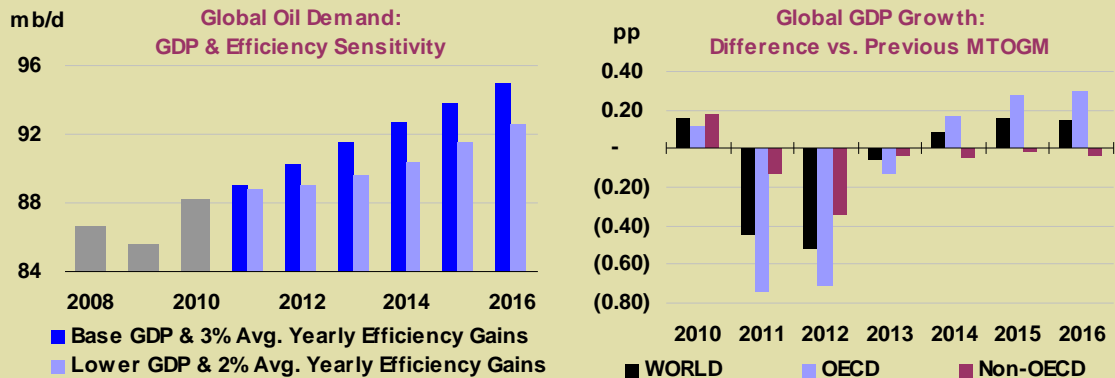
Gasoil is the dominant global growth product, as preliminary estimates for October show it to be the only strongly rising major product category. Not only is industrial gasoil demand maintaining a modest pace of growth globally, despite clear signs of an economic pullback (a factor that will increasingly come into play over the next six months), but the continued dieselisation of the vehicle fleet remains overwhelmingly supportive. So, at the margin, does diesel use in back-up power generators when non-oil capacity falls short. Moreover, the non-OECD economies are generating 80% of the total global gasoil demand growth.

Global Oil Demand Growth 2010/2011/2012  
thousand barrels per day

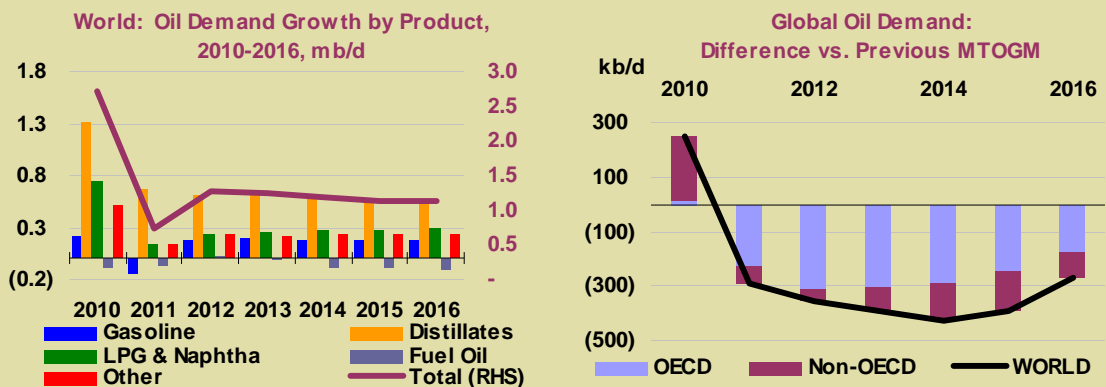


## Lower Global Demand Profile Seen Over the Medium Term

The December report customarily updates our medium-term demand outlook, last released mid-2011 (*Medium Term Oil & Gas Markets*, June 2011). Overall, compared with June's *MTOGM*, the global oil demand outlook for 2010-2016 has been reduced by 0.3 mb/d on average and is now seen rising from 88.3 mb/d in 2010 to 95.0 mb/d in 2016. Growth has also been trimmed, with global demand rising on average by 1.2% (+1.1 mb/d) per year, led by the non-OECD (+3.1% or +1.4 mb/d) while the OECD region continues to decline (-0.6% or -0.3 mb/d). In terms of products, middle distillates (gasoil + jet fuel/kerosene) account for over half of total global demand growth, while LPG and naphtha combined provide 20% of the total growth and gasoline constitutes only 10% of growth.



Ostensibly, this forecast change seems mild in light of recent downward adjustments to economic growth and lower-than-expected short-term oil demand. However, the headline downward revision is mitigated by three principal factors. First, this update incorporates a 2010 baseline that is some 250 kb/d higher than the *MTOGM* in June. Second, based on the IMF's September 2011 outlook, the pattern of global economic growth shows slower output in the short-term (3.9% in 2011/2012) before giving way to relatively stronger performance for the global economy through the remainder of the forecast period (growing by an average of 4.6% annually during 2013-2016). Finally, this update employs a crude oil price assumption that is some \$10 per barrel lower for 2016 than that assumed in our previous outlook, with nominal Brent crude falling from \$112/bbl in 2011 through to \$93/bbl in 2016, based on the futures strip.

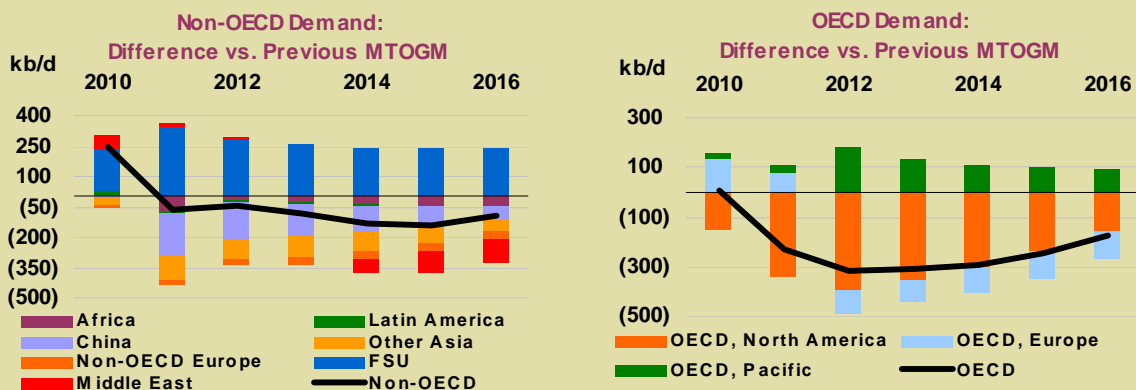


Nevertheless, the downside risks to the global economy have expanded since the *MTOGM* in June and, indeed, since the IMF's last forecast was published in September. Prospects for growth have slowed particularly in Europe, while North America and emerging markets have shown signs of further moderation. For this reason, we continue to employ an alternative demand case, based on lower underlying economic growth assumptions and slower efficiency gains; where economic growth averages some 3% on average from 2011-2016, versus 4.4% in the base case, and oil intensity diminishes by 2% per year instead of 3% in the base case. Under the illustrative lower case, global oil demand would increase by only 0.8% or 0.7 mb/d per annum on average, rising to 92.6 mb/d by 2016, 2.4 mb/d lower than generated by the base case.



### Lower Global Demand Profile Seen Over the Medium Term (continued)

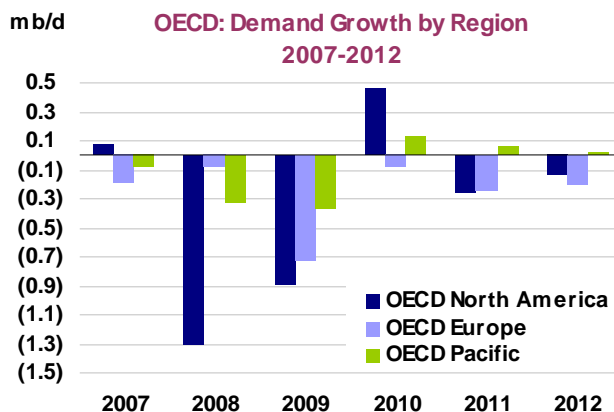
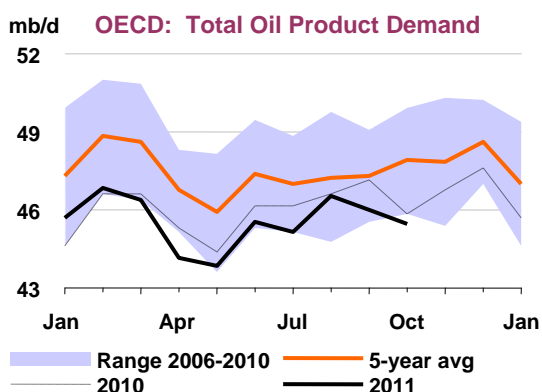
The changes to our base case vary according to region. In the OECD, North America and Europe will lead the downward revisions, as these two regions contain assumptions of slower economic growth and weaker-than-expected demand data in 2011-2012. In the case of North America, however, these revisions diminish over time with stronger expectations of economic growth for 2014-2016. Upward revisions to OECD Pacific demand stem largely from higher fuel oil and 'other products' (which includes direct crude burn) demand in Japan due to nuclear power shortfalls. While we still envisage the return of a significant portion of Japan's nuclear power in 2012, the long-term loss of plants damaged in March as well as uncertainty surrounding the policy environment suggests that oil-fired generation may remain structurally higher over the medium-term.



In the non-OECD, downward revisions to China and Other Asia nearly offset the upward revisions to the former Soviet Union, resulting in modestly negative adjustments for the non-OECD in the early years. However, slower-than-expected economic growth in the Middle East saps the non-OECD outlook from 2014-2016. Many of the revisions stem from baseline changes detailed elsewhere in this issue or previously. To wit, stronger 2010/2011 Russian demand, weaker-than-expected 2011 Chinese apparent demand, and downward 2011 adjustments to Thailand and Taiwan based on a reassessment of JODI data. Despite the China downgrade, caused by slower economic activity in 2011/2012, medium-term annual growth there remains robust at +4.8% (+490 kb/d).

### OECD

The OECD will continue to lead the pace of any demand declines over the coming years. Sharp economic headwinds have hit Europe hard, and although they will likely filter across the globe, the degree to which they slow consumption will be most pronounced in the OECD. European demand will likely fare worst in 2012, down by 1.4%, while the OECD overall declines by a more modest 0.7%. The OECD drop has been intensified by 90 kb/d for 2012, taking the projected OECD decline to 310 kb/d (220 kb/d previously), and OECD demand averaging 45.4 mb/d next year as a result.



Preliminary data for October point towards OECD inland deliveries (oil products supplied by refineries, pipelines and terminals) down by 0.8% on October 2010 (-370 kb/d), as concerns about the economy deepened whilst relatively mild early winter weather had little in the way of supportive impact. OECD Europe saw preliminary October demand down by 3.2% year-on-year, or -480 kb/d.

### OECD Demand based on Adjusted Preliminary Submissions - October 2011

(million barrels per day)

	Gasoline		Jet/Kerosene		Diesel		Other Gasoil		RFO		Other		Total Products	
	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa	mb/d	% pa
<b>OECD North America*</b>	<b>10.12</b>	<b>-4.5</b>	<b>1.65</b>	<b>1.4</b>	<b>4.37</b>	<b>11.9</b>	<b>1.03</b>	<b>11.1</b>	<b>0.67</b>	<b>-20.8</b>	<b>5.46</b>	<b>-3.52</b>	<b>23.29</b>	<b>-1.1</b>
US50	8.56	-5.1	1.45	0.7	3.76	13.1	0.54	20.2	0.30	-38.7	4.08	-4.0	18.69	-1.5
Canada	0.73	-1.6	0.10	2.7	0.23	3.7	0.32	1.1	0.09	-3.8	0.74	1.4	2.22	0.4
Mexico	0.76	-0.4	0.05	23.1	0.32	6.3	0.14	6.3	0.18	8.6	0.57	-6.9	2.02	0.3
<b>OECD Europe</b>	<b>2.09</b>	<b>-4.7</b>	<b>1.32</b>	<b>0.4</b>	<b>4.43</b>	<b>-1.3</b>	<b>1.83</b>	<b>-6.1</b>	<b>1.21</b>	<b>-6.7</b>	<b>3.54</b>	<b>-3.2</b>	<b>14.42</b>	<b>-3.2</b>
Germany	0.48	0.4	0.19	-6.0	0.70	-1.9	0.48	-3.1	0.15	-10.2	0.55	-7.0	2.55	-3.7
United Kingdom	0.34	-5.7	0.34	0.9	0.43	-5.3	0.11	-3.0	0.08	-2.6	0.33	6.9	1.63	-1.6
France	0.17	-3.7	0.16	17.5	0.70	-1.6	0.31	0.0	0.06	-15.0	0.38	-0.7	1.78	-0.4
Italy	0.20	-5.4	0.10	1.9	0.49	-1.3	0.13	-9.7	0.09	-19.7	0.42	-7.7	1.43	-5.7
Spain	0.12	-6.2	0.12	1.1	0.45	-4.8	0.15	-24.2	0.19	0.0	0.30	-5.2	1.33	-6.6
<b>OECD Pacific</b>	<b>1.51</b>	<b>-1.3</b>	<b>0.76</b>	<b>-1.0</b>	<b>1.15</b>	<b>5.7</b>	<b>0.50</b>	<b>-3.3</b>	<b>0.81</b>	<b>19.0</b>	<b>3.03</b>	<b>7.8</b>	<b>7.76</b>	<b>5.0</b>
Japan	0.94	-1.5	0.44	3.8	0.42	4.7	0.38	-0.9	0.55	49.6	1.67	9.7	4.41	8.5
Korea	0.19	-1.4	0.17	-13.4	0.29	0.7	0.12	-10.5	0.24	-13.8	1.20	7.7	2.21	0.2
Australia	0.33	0.0	0.12	2.8	0.39	11.3	0.00	0.0	0.02	10.7	0.15	-4.7	1.01	3.8
<b>OECD Total</b>	<b>13.71</b>	<b>-4.2</b>	<b>3.73</b>	<b>0.5</b>	<b>9.94</b>	<b>5.0</b>	<b>3.36</b>	<b>-1.0</b>	<b>2.70</b>	<b>-4.7</b>	<b>12.02</b>	<b>-0.8</b>	<b>45.47</b>	<b>-0.8</b>

\* Including US territories

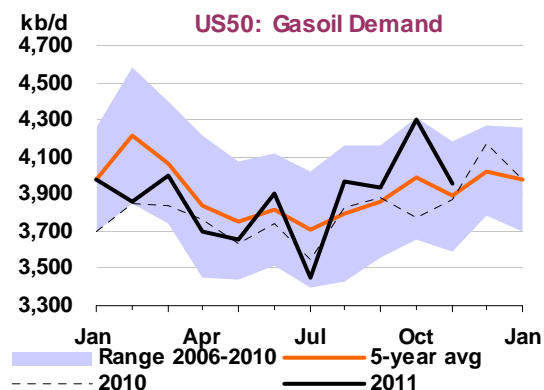
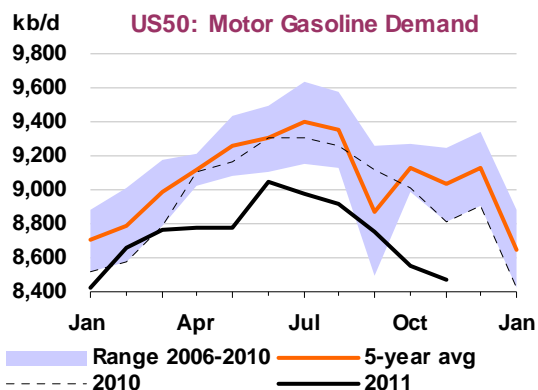
## North America

Preliminary data show North American demand declining at a slower pace of 1.1% year-on-year in October, following a 2.7% decrease in September. If maintained, the fragile October readings – which stemmed from LPG, motor gasoline and residual fuel oil demand in the US – would signal a notable slowdown through to the end of the year. Diesel bucked the general trend, with a particularly strong 11.9% gain seen in October amid supportive industrial indicators in the US, though the strength partially stems from comparisons to an unseasonably low prior-year reading. The economic outlook remains tenuous, with the regional recovery plodding along, though thus far largely avoiding knock-on effects from the slowdown in Europe. All the while, outside of a late October snowstorm in the US Northeast, autumn temperatures have remained mild.

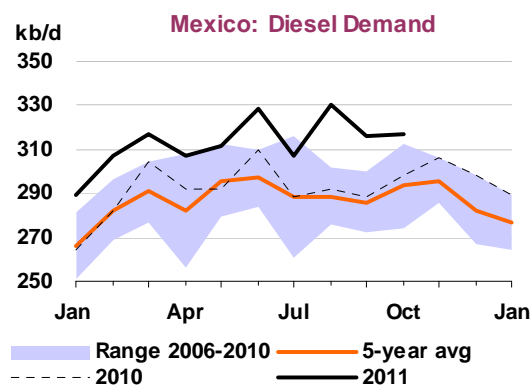
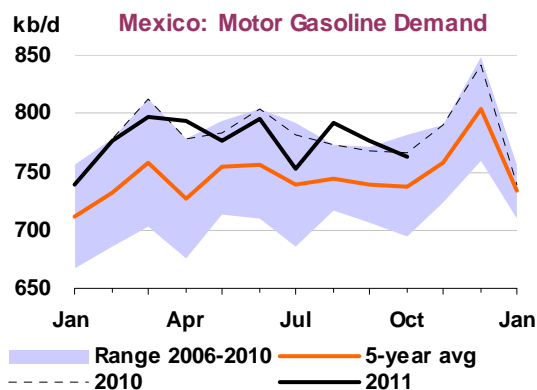
Revisions to September data were light, averaging -40 kb/d, and were driven by ‘other products’ (-90 kb/d) and residual fuel oil (-70 kb/d), which outweighed an upward adjustment to LPG (+90 kb/d). Weekly-to-monthly revisions in the US were negative for the third consecutive month, led by gasoline and partially offset by an upward adjustment to gasoil. Revisions to gasoil continue to be difficult to anticipate given elevated export levels, which reached an all-time high of 930 kb/d in September.

Adjusted preliminary weekly data for the US (excluding territories), up to 25 November, indicate that inland deliveries – a proxy of oil product demand – decreased by 1.8% year-on-year in November. The data featured a sharp year-on-year decline in residual fuel oil (-37.0%), encouraged by lower prices of substitutes like natural gas, while gasoline declined by 3.9%, as nominal gasoline prices 16% higher than last year provided a strong disincentive to US drivers. Gasoil demand growth retrenched to a still positive 2.2% year-on-year gain, versus October’s 14.0% gain. All the while, indicators show that diesel demand remains supported by slowly rising truck tonnage and rail freight. In October, total US rail freight, published by the Association of American Railroads, rose 1.7% year-on-year. The American Trucking Association published its October truck tonnage index, showing a 4.9% year-on-year gain. Part of the haulage increases, and indeed localised diesel shortages, have stemmed from the transport of shale oil,

whose production is booming in parts of the US Midcontinent lacking sufficient pipeline takeaway capacity.



**Mexican** oil demand grew marginally, up 0.3% year-on-year, in October, according to preliminary data, as strong readings for residual fuel oil (+8.6%), diesel (+6.3%) and jet/kerosene (+23.1%), offset weaknesses in LPG (-1.9%) and motor gasoline (-0.4%). The residual fuel oil market benefited from higher demand from the power sector, with some switching of feedstock due to lower natural gas deliveries. Jet/kerosene demand has excelled, following on from September's 14.3% gain, as the airline industry continues to recover from the bankruptcy of a major airline in August 2010. Diesel demand growth remains strong on the back of economic activity in the industrial and transport sectors.



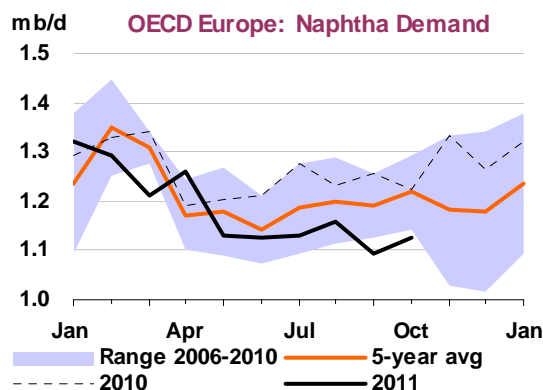
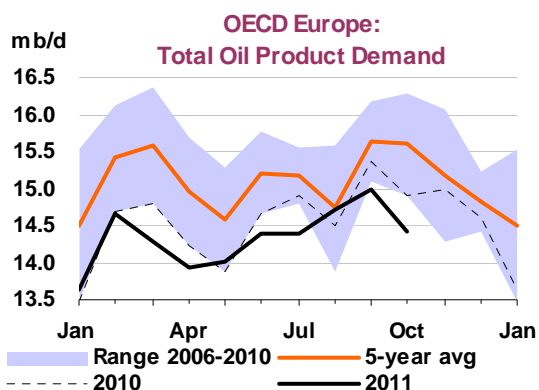
## Europe

Teetering on the verge of recession, the deteriorating economic backdrop has filtered through into weaker oil product demand in Europe. Preliminary data for October point towards a 3.2% year-on-year decline, as European demand averages out at 14.4 mb/d – 340 kb/d less than in last month's report. This follows on from updated estimates of September demand, falling by 2.5%, to 15.0 mb/d, a more modest revision of -50 kb/d.

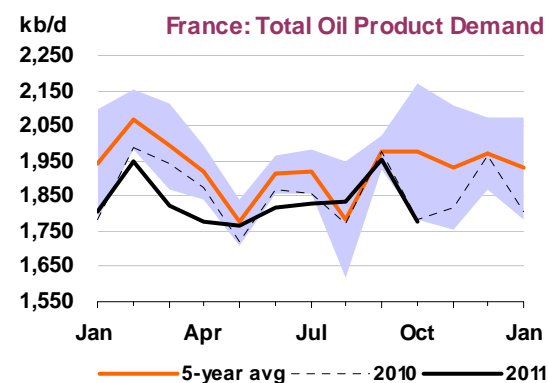
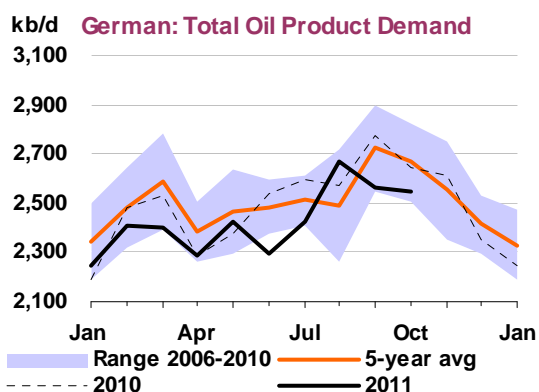
The bellwether industrial indicator products of naphtha and diesel saw downward revisions of 100 kb/d and 90 kb/d respectively for October. On a year-on-year basis, naphtha demand fell by 8.0% in October, followed by residual fuel oil (-6.7%) and motor gasoline (-4.7%). All of the major European product categories bar LPG (+2.9%) and jet/kerosene (+0.4%) saw demand fall in October.

**Spanish** demand fell by a weighty 7% in October versus last year. All of the major Spanish product categories bar jet/kerosene and naphtha declined. Major products motor gasoline and diesel fell by 6.2% and 4.8% on a year-on-year basis respectively. Demand in **Italy** similarly nose-dived, as preliminary

estimates imply a near-6% year-on-year contraction, reflecting the perilous state of its domestic economy. Indeed both Spain and Italy have seen recent economic woes force a change in government.



**Germany** saw a sharp October reversal, as preliminary data implied a contraction of more than 3% on the corresponding period a year earlier. Naphtha (-12.9%), fuel oil (-10.2%) and jet/kerosene (-6.0%) fared worst, while only LPG offered any serious compensation (+7.6%). The volte-face in German fortunes, as year-on-year gains were seen as recently as August (+3.7%), arose as the Purchasing Managers' Index (PMI) for October depicted the previously strong manufacturing sector contracting. October's reading of 49.1 broke below the key 50 threshold, which differentiates between contraction and expansion, the first time in more than two years that the Germany economy has suffered such a fate.



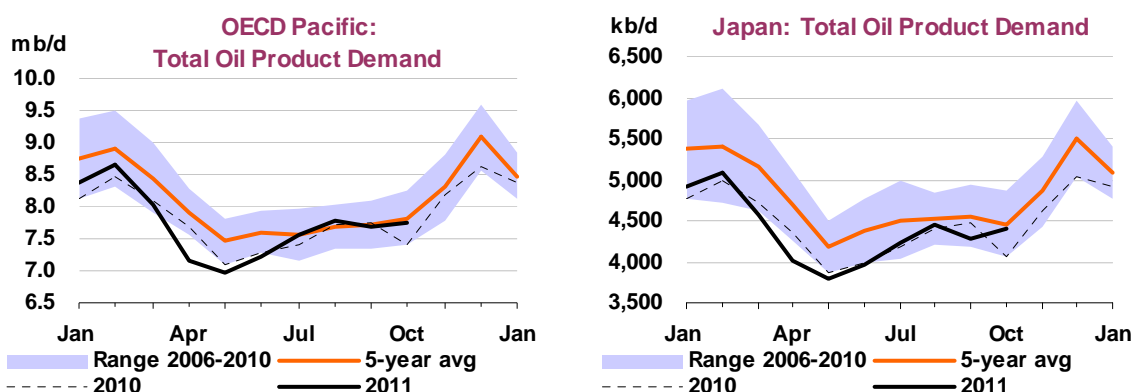
Preliminary October estimates for **French** demand imply that it held up relatively well – essentially remaining unchanged on a year-on-year basis – although this was largely just a consequence of last October's refining strikes. On the positive front the jet/kerosene (+17.5%) and other products (+3.5%) categories performed well, essentially cancelling out the poor performances that were seen in the fuel oil (-15.0%), LPG (-5.9%) and gasoline (-3.7%) markets. This overall flat lining in the French demand series is unlikely to be little more than a temporary aberration, as not only does France face an exceptionally testing macroeconomic environment but also the positive influence from last year's strike-hit low should dissipate through the remainder of the year. October's reprieve emerging on the back of an unexpected rise in the French manufacturing PMI – to 49.0 from 48.2 in September (note: still below the key 50 reading) – a trend that is likely to reverse looking ahead.

Although still only having submissions for September, both the **UK** and the **Netherlands** showed surprising strength, with respective year-on-year September gains of 2.0% and 2.3%. The relatively durable performance of both of these markets is a surprise as these economies are clearly depicting signs of fatigue. Resilient gasoil demand supported both of these markets – up by 4.5% in the

Netherlands and 2.6% in the UK – trends that looks certain to abate as the economic screws are tightened towards the end of the year and into the early months of 2012.

## Pacific

Preliminary data for October for the OECD Pacific region show 5% growth, augmented by the nuclear-related performance of **Japan** (as Japanese demand growth staged a dramatic 8.5% year-on-year gain in October). Ongoing Japanese nuclear closures following mid-March's tsunami/earthquake are stimulating demand from both the residual fuel oil (+49.6%) and 'other products' categories (+58.9% – largely through direct crude burn), as Japan uses fuel-fired power plants as an alternative to nuclear. The LPG (+21.9%), diesel (+4.7%) and jet/kerosene (+3.8%) sectors posted significant gains in October, as Japanese industrial output entered positive year-on-year territory for the first time in two months (up by 0.4% after falling by 3.3% in September).

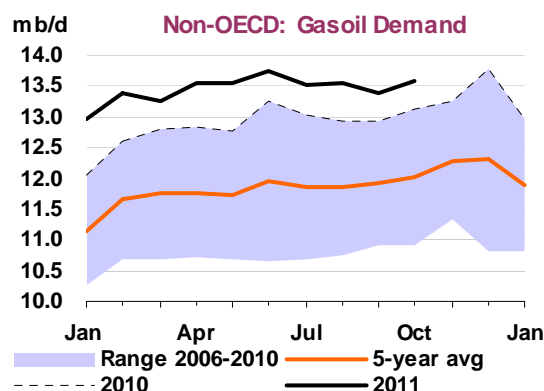
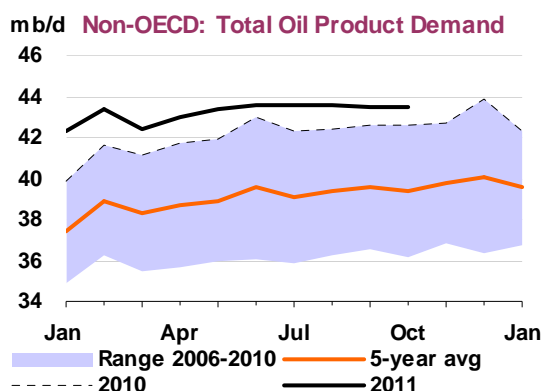


**South Korean** demand was largely flat versus October 2010, with growth dissipating to 0.2%, its weakest year-on-year trajectory since June 2011. Sharp reversals in the fuel oil (-13.8%), jet/kerosene (-13.4%) and heating oil (-10.5%) markets led the overall deceleration. October saw growth maintained in the South Korean naphtha (+5.3%), LPG (+2.7%) and diesel (+0.7%) markets. Although complete October statistics are not available, **Australian** demand should remain in positive territory, after rising by nearly 5% year-on-year in September. The diesel (+14.6%) and fuel oil (+13.5%) markets performed particularly strongly, reflecting reports that the Australian economy exceeded initial expectations in 3Q11, GDP gaining +1.0% on a quarter-on-quarter basis, ahead of consensus expectations for a 0.8% rise.

## Non-OECD

Amid economic storm clouds, the voracious appetite of the non-OECD consumer has kept overall demand from falling into a declining trend. According to preliminary data for October, non-OECD oil product demand rose by 2.1% on a year-on-year basis – an improvement on September's 1.9% gain – equivalent to 0.9 mb/d of additional consumption. Despite the darkening economic backdrop, October's non-OECD demand estimate has endured only around a 40 kb/d curtailment on last month's report, as economic prospects in the non-OECD remain relatively resilient thus far. Major negative data revisions to China, flood-hit Thailand, South Africa and Taiwan just outweigh big upside revisions in Russia and Saudi Arabia. Although most of these revisions derive from reassessments of JODI data, the weaker Chinese number has come about on the surprisingly flat recent demand trend, whilst Russian consumption estimates are up on higher than anticipated refinery throughput numbers.





Underpinning the persistent strength in the non-OECD region have been the particularly robust performances of LPG/ethane and gasoil/diesel, with respective year-on-year October increases of 5.3% and 3.5%. Although demand growth will likely ease towards the end of the year, the persistent strength in non-OECD diesel demand should underpin a relatively strong growth trend across the non-OECD region in general.

### Non-OECD: Demand by Product

(thousand barrels per day)

	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	Aug-11	Sep-11	Oct-11	Sep-11	Oct-11	Sep-11	Oct-11
LPG & Ethane	4,971	5,028	4,936	223	250	4.7	5.3
Naphtha	2,479	2,492	2,634	-158	-2	-6.0	-0.1
Motor Gasoline	8,488	8,447	8,436	257	259	3.1	3.2
Jet Fuel & Kerosene	2,773	2,784	2,761	74	53	2.7	1.9
Gas/Diesel Oil	13,552	13,378	13,567	447	455	3.5	3.5
Residual Fuel Oil	5,486	5,416	5,455	-108	-57	-2.0	-1.0
Other Products	5,779	5,906	5,666	84	-46	1.4	-0.8
<b>Total Products</b>	<b>43,528</b>	<b>43,451</b>	<b>43,456</b>	<b>820</b>	<b>911</b>	<b>1.9</b>	<b>2.1</b>

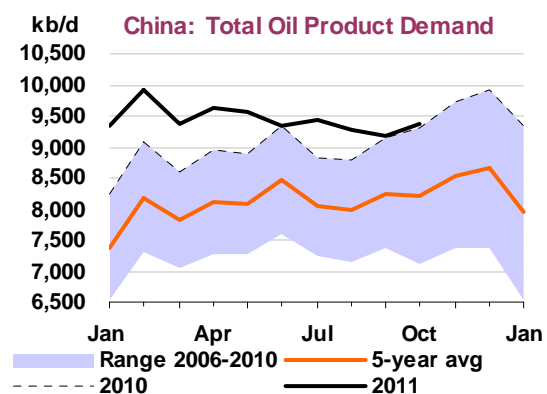
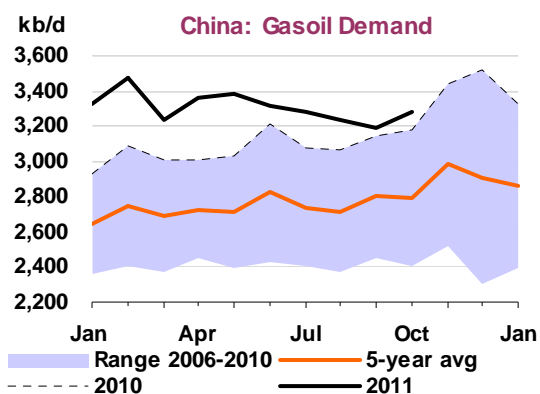
## China

China's monthly apparent demand (calculated as refinery output plus net product imports) rose by only 0.7% in October, as refinery runs were marginally higher than a year ago. Apparent demand in September was revised down by 150 kb/d, putting growth for that month at only 0.3%. China's economy has continued to slow – November's PMI moving into contraction territory for the first time in almost three years – prompting the government to reverse its previous course of monetary tightening.

### China: Demand by Product

(thousand barrels per day)

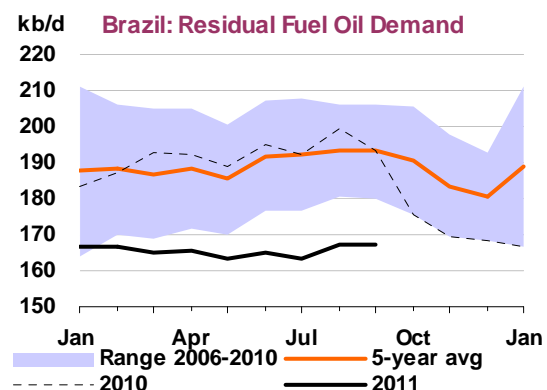
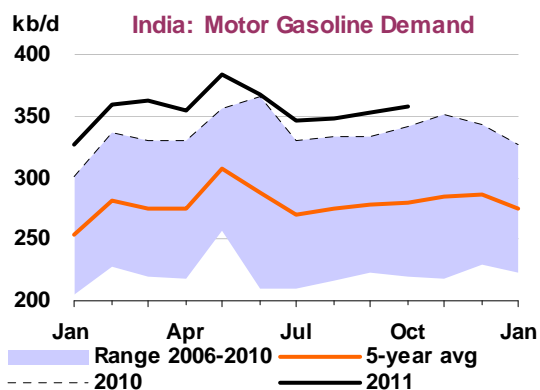
	Demand			Annual Chg (kb/d)		Annual Chg (%)	
	2010	2011	2012	2011	2012	2011	2012
LPG & Ethane	668	685	705	18	19	2.7	2.8
Naphtha	1,129	1,161	1,217	33	56	2.9	4.8
Motor Gasoline	1,546	1,655	1,730	109	76	7.1	4.6
Jet Fuel & Kerosene	368	398	417	29	19	8.0	4.8
Gas/Diesel Oil	3,142	3,318	3,483	176	165	5.6	5.0
Residual Fuel Oil	531	542	548	10	6	2.0	1.1
Other Products	1,685	1,738	1,895	53	157	3.2	9.1
<b>Total Products</b>	<b>9,069</b>	<b>9,497</b>	<b>9,996</b>	<b>429</b>	<b>498</b>	<b>4.7</b>	<b>5.2</b>



China still faces potential power shortages this winter, which may provide an upside boost to gasoil demand, though authorities recently raised industrial power and thermal coal prices in an effort to ease any electricity crunch. All the while, oil product stocks, particularly gasoil, continued to draw in November (the fifth consecutive month), suggesting that underlying diesel consumption may be stronger than our apparent demand calculation (which implicitly includes stock changes) indicates.

### Other Non-OECD

Preliminary October estimates show **Indian** demand grew by 3.3% year-on-year, as stronger growth in gasoil (+7.9%) and naphtha (+39.2%) outweighed heavy losses in residual fuel oil (-20.7%) and jet/kerosene (-4.0%). Rapid growth in the diesel market was encouraged by several factors, chiefly its subsidy-supported price advantage over gasoline. Additional support arose as disruptions to coal supplies boosted diesel demand in the power sector. Naphtha grew strongly, due to 2010's low base when Panipat Petrochemical's plant was shutdown. Downside risks to transport demand have emerged as vehicle sales have lingered since March's peak, while the economic backdrop looks precarious.



In **Brazil**, demand growth decelerated to 2.4% year-on-year in September (3.4% in August), as strong gains in jet/kerosene (+11.4%), gasoil (+8.3%) and LPG (+2.0%) chipped away at losses in fuel oil (-13.5%) and gasoline (-0.8%). Fuel oil is struggling as it suffered from displacement in the power sector, with heavy switching over to natural gas and hydro. Brazil's economic health is starting to show signs of fatigue, as industrial production collapsed in October (-2.2%) whilst persistent inflationary pressures weaken the central bank's ability to reduce interest rates should conditions deteriorate.

## OECD Ethylene Producers Enjoy Temporary Respite

During 1H11, ethylene and propylene producers enjoyed good margins, supported by strong demand, but weakened in 2H11. In North America and Europe, margins remained high on low feedstock prices and stable demand, while OECD Pacific margins turned negative on expensive naphtha and lower Chinese demand.

In the short term, US gas crackers (ethane-based) are enjoying cheap feedstock prices, while naphtha crackers have benefited from surplus naphtha from gasoline blenders. In the medium term, the US shale gas bonanza is revitalising interest in new ethane-based crackers, particularly near the Gulf Coast and the Marcellus/Utica basin. At present, three US Gulf Coast ethylene producers are tweaking their units to take more ethane and increase capacity by a cumulative 590 metric tonnes per year by 2014. In addition, ambitious plans are afoot to take advantage of expected abundant ethane, extracted from shale gas, with a couple of new world-scale gas crackers planned for 2015. Plans exist to lock-in almost 200 kb/d of ethane from the Marcellus/Utica producers to an Ontario cracker, while a major pipeline company is pushing a competing project to transport 125 kb/d of feedstock to the Gulf Coast. North American ethylene producers have the prospect of relatively cheap, gas-based feedstock persisting through the medium term horizon.

In Europe, healthy margins in the summer were more a consequence of relatively inexpensive naphtha than strong end-user demand. As 2011 draws to a close, the weight of weak underlying petrochemical demand, exacerbated by the debt crisis, is injecting a harsh dose of reality into the sector. The short-term breathing space afforded to European producers by cheap feedstock may dissipate in the longer term. Fundamentally, as is the case for the refining sector, OECD operators will come under increasing pressure from world-scale capacity expansions underway in the non-OECD. A combination of weak end-user demand and more expensive oil-related feedstock will likely leave OECD European capacity vulnerable to closure.

**Global Naphtha Cracking Capacity:**  
*Cracker Size and Feedstock Vulnerability*

	2011			2016		
	Crackers < World Avg.	Agg. Capacity < Avg. (kMT/y)	Vulnerable Capacity	Crackers < World Avg.	Agg. Capacity < Avg. (kMT/y)	Vulnerable Capacity
<b>OECD</b>	<b>37</b>	<b>13,315</b>	<b>60%</b>	<b>46</b>	<b>18,392</b>	<b>66%</b>
North America	2	365	1%	2	365	1%
Europe	22	7,515	28%	30	12,039	45%
Pacific	13	5,435	35%	14	5,988	38%
<b>Non-OECD</b>	<b>37</b>	<b>9,037</b>	<b>40%</b>	<b>38</b>	<b>9,270</b>	<b>34%</b>
Latin America	4	1,021	20%	4	1,021	14%
China	8	1,738	9%	8	1,738	7%
Asia	4	1,165	6%	4	1,245	5%
Non-OECD Europe	3	624	50%	3	624	50%
Former Yugoslavia	1	200	69%	1	200	69%
FSU	15	3,463	70%	15	3,463	70%
Middle East	2	826	3%	3	979	3%

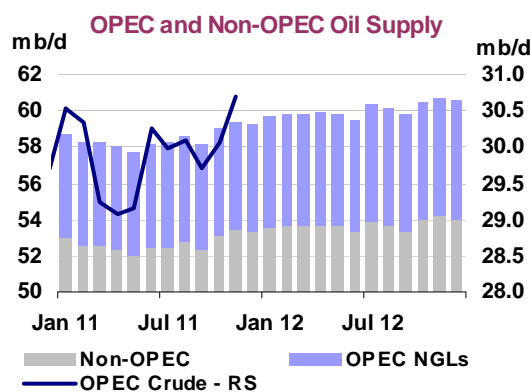
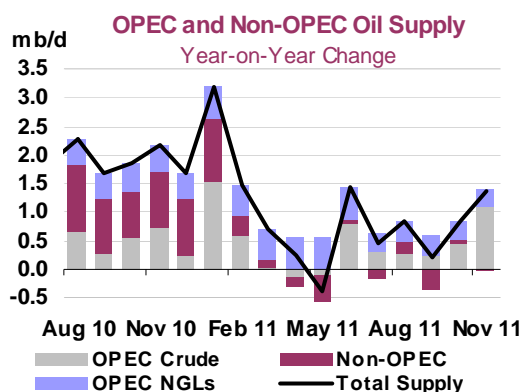
\* The world average ethylene cracker size is 523 thousand mt/y in 2011 and 593 mt/y in 2016.

We have constructed a table showing which regions are more inclined, or *vulnerable*, to see shutdowns, making the assumption that with all else being held equal smaller than average naphtha crackers are the least economical or vulnerable (see 'The Ethylene Market: A Tale of Two Feedstocks' in June's *Medium Term Oil and Gas Markets*). Therefore, we looked into our databases for crackers being smaller than the world average (i.e. 523 kmt/y of ethylene production in 2011) and cracking the most expensive feed, naphtha. This exercise allowed us to detect the most *vulnerable* crackers, in case of facing a scenario of expensive feedstock and/or weaker demand. In 2011, for example, our analysis shows that 60% of the most *vulnerable* crackers in the world are located in the OECD and it is expected, 'ceteris paribus', that in five years the region will hold 66% of the least competitive crackers. Going into the future, if capacity additions continue as scheduled, OECD Europe could see 45% of its ethylene capacity as vulnerable by 2016. Something has to give in the face of a tidal wave of new and more competitive capacity in the emerging markets: either expansions will fail to materialise, or there will be compensatory closures. Considering that, on the one hand, the feedstock cost advantage is in North America and the Middle East, while the strongest demand growth prospects are in Asia, Europe's vulnerability makes it the likeliest place to see rapid shutdowns in the foreseeable future.

# SUPPLY

## Summary

- **Global oil supply rose by 0.9 mb/d to 90.0 mb/d in November from October, driven higher by rebounding output from Saudi Arabia, Libya, and non-OPEC countries.** Compared to a year ago, global oil production stood 1.3 mb/d higher, all of which stemmed from increasing output of OPEC crude and NGLs.
- **Non-OPEC supply rose by 0.3 mb/d to 53.4 mb/d in November, largely due to the completion of maintenance in the North Sea, plus increased production in North America.** Unrest in the Middle East, unplanned shut-ins in the North Sea and Brazil, a transit revenue dispute in Sudan, and other unplanned outages reduce overall 4Q11 output by almost 700 kb/d. Compared to last year, 4Q11 production should grow by around 140 kb/d to 53.2 mb/d. Annual non-OPEC supply growth now averages less than 0.1 mb/d for 2011 but should post a 1.0 mb/d gain in 2012.
- **OPEC crude oil supply in November rose to the highest level in more than three years, up by 620 kb/d to 30.68 mb/d,** with Saudi Arabia and Libya accounting for 80% of the monthly increase. OPEC ministers will meet 14 December in Vienna to review the market outlook. The 'call on OPEC crude and stock change' for 2012 is pegged at 30.2 mb/d, broadly in line with current OPEC output but down 500 kb/d from 30.7 mb/d in 2011 due to now higher expectations for non-OPEC supplies.
- **An updated medium-term outlook sees global liquids supply capacity rising by 7.8 mb/d from 93.7 mb/d in 2010 to 101.5 mb/d by 2016.** The 6-year net increment is 0.9 mb/d higher than in the June *MTOGM*, largely due to improved non-OPEC supply prospects, while lower OPEC NGL capacity estimates offset slightly higher OPEC crude capacity projections. Light tight oil production growth in the US accounts for almost 40% of non-OPEC growth during this time period.



All world oil supply figures for November discussed in this report are IEA estimates. Estimates for OPEC countries, Alaska, and Russia are supported by preliminary November supply data.

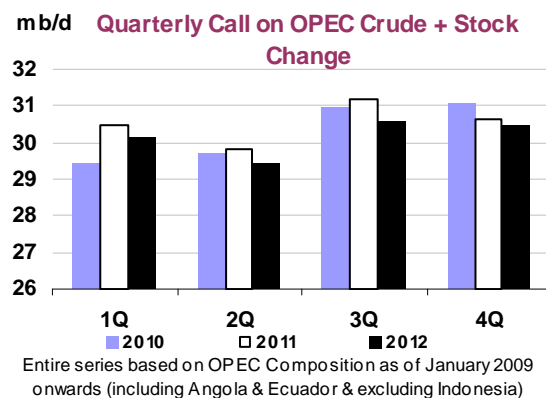
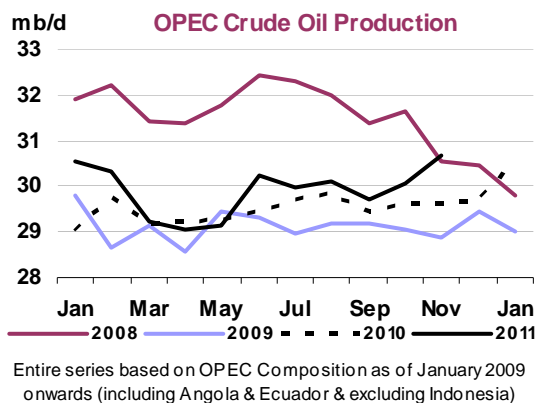
**Note:** Random events present downside risk to the non-OPEC production forecast contained in this report. These events can include accidents, unplanned or unannounced maintenance, technical problems, labour strikes, political unrest, guerrilla activity, wars and weather-related supply losses. Specific allowance has been made in the forecast for scheduled maintenance in all regions and for typical seasonal supply outages (including hurricane-related stoppages) in North America. In addition, from July 2007, a nationally allocated (but not field-specific) reliability adjustment has also been applied for the non-OPEC forecast to reflect a historical tendency for unexpected events to reduce actual supply compared with the initial forecast. This totals –200 kb/d for non-OPEC as a whole, with downward adjustments focused in the OECD.

## OPEC Crude Oil Supply

OPEC crude oil supply in November rose to the highest level in more than three years, up by 620 kb/d to 30.68 mb/d, with Saudi Arabia and Libya accounting for 80% of the monthly increase. Smaller increases were posted by Nigeria, Iraq, Kuwait, Iran, Qatar and the UAE.

OPEC-11 output, which excludes Iraq, increased by 595 kb/d to 27.97 mb/d in November. At writing, reports emerged that OPEC may consider raising its currently disregarded output target of 24.8 mb/d closer to current production levels of around 30 mb/d at its 14 December ministerial meeting in Vienna. Iran, which holds the group's rotating presidency, earlier said the current target should be maintained but now appears to also be endorsing the new higher level, reportedly joining the majority in a bid to avoid a repeat of the rancorous June meeting. Whether price hawks Venezuela and Algeria will also go along with replacing the existing obsolete target is unclear.

Latest OMR data peg the 'call on OPEC crude and stock change' for 2012 at 30.2 mb/d, down 300 kb/d from an average 30.5 mb/d in 2011 due to now higher expectations for non-OPEC supplies.



OPEC's 'effective' spare capacity is pegged at 3.16 mb/d compared with 3.58 mb/d in October. The lower estimate reflects higher OPEC supplies in November. However, this month we also adjusted spare capacity estimates for eight member countries resulting from a detailed review of production levels attainable within our definition of output that can be reached within 30 days and maintained for 90 days. Modest downgrades were posted for Algeria, Angola, Ecuador, Nigeria, and Qatar, collectively totalling 330 kb/d. By contrast, Kuwaiti and Iraqi capacity levels were raised a combined 390 kb/d, to 2.87 mb/d and 3 mb/d, respectively.

**Saudi Arabia** lifted output to 9.75 mb/d in November, up 300 kb/d over October levels. Tanker data indicate that the bulk of increased supplies are heading to Asia, in part due to higher winter demand needs. There have been reports that China may have also increased Saudi purchases in November to fill its newly constructed strategic storage reserves. Indeed, Saudi Arabia's Oil Minister Ali al-Naimi reported to the press production in November was an even higher 10 mb/d.

**Iraqi** supply rose by 25 kb/d to 2.72 mb/d in November, with higher output in the southern region offsetting reduced supplies from the north. Total exports averaged 2.14 mb/d last month, up around 45 kb/d over October levels. Exports of Basrah crude rose by around 85 kb/d to 1.71 mb/d while Kirkuk shipments from the Turkish port of Ceyhan on the Mediterranean fell by around 35 kb/d, to 425 kb/d.

**Iranian** production in November was also marginally higher, up 20 kb/d to 3.55 mb/d. Gibson's shipbrokers show Iranian floating storage fell from 34.3 mb to 28 mb at end-November. An escalation in tensions between Iran and the international community has focused market attention on the



increasingly likely potential for more far-reaching oil sanctions. (see '*Intensified International Sanctions Target Iranian Oil Industry*').

Fellow Gulf members **UAE** and **Qatar** each raised output by 10 kb/d, to 2.52 mb/d and 820 kb/d, respectively. **Kuwaiti** production rose for the seventh month in a row to 2.67 mb/d, which is up 250 kb/d since last April due to debottlenecking (see '*Medium-Term Update: Iraq Propels OPEC Crude Oil Production Capacity Higher*').

### OPEC Crude Production

(million barrels per day)

	Sep 2011 Supply	Oct 2011 Supply	Nov 2011 Supply	Sustainable Production Capacity <sup>1</sup>	Spare Capacity vs Nov 2011 Supply	1Q12 Sustainable Production Capacity	OPEC Targets Effective Jan 2009
Algeria	1.29	1.29	1.29	1.31	0.02	1.29	1.203
Angola	1.70	1.72	1.69	1.90	0.21	1.91	1.517
Ecuador	0.50	0.50	0.50	0.51	0.01	0.51	0.434
Iran	3.54	3.53	3.55	3.68	0.13	3.51	3.336
Kuwait <sup>2</sup>	2.65	2.65	2.67	2.87	0.20	2.84	2.222
Libya	0.08	0.35	0.55	0.55	0.00	0.99	1.469
Nigeria <sup>3</sup>	2.18	2.02	2.10	2.49	0.39	2.45	1.673
Qatar	0.82	0.81	0.82	0.90	0.08	0.90	0.731
Saudi Arabia <sup>2</sup>	9.40	9.45	9.75	12.04	2.29	11.88	8.051
UAE	2.55	2.51	2.52	2.74	0.22	2.74	2.223
Venezuela <sup>4</sup>	2.29	2.55	2.53	2.64	0.11	2.54	1.986
<b>OPEC-11</b>	<b>27.00</b>	<b>27.38</b>	<b>27.97</b>	<b>31.63</b>	<b>3.66</b>	<b>31.55</b>	<b>24.845</b>
Iraq	2.70	2.69	2.72	3.00	0.29	3.21	
<b>Total OPEC</b>	<b>29.70</b>	<b>30.07</b>	<b>30.68</b>	<b>34.63</b>	<b>3.95</b>	<b>34.76</b>	

(excluding Iraq, Nigeria, Venezuela and Libya

3.16)

<sup>1</sup> Capacity levels can be reached within 30 days and sustained for 90 days.

<sup>2</sup> Includes half of Neutral Zone production.

<sup>3</sup> Nigeria's current capacity estimate excludes some 200 kb/d of shut-in capacity.

<sup>4</sup> Includes upgraded Orinoco extra-heavy oil assumed at 460 kb/d in November.

**Libyan** production in November continued to rise, up a further 200 kb/d to 550 kb/d, or about one-third of its pre-war levels. By early December Libyan officials reported output had reached 900 kb/d, with almost all major fields now back online. Ramp-up of production from the 150 kb/d Elephant and 200 kb/d El Shararah fields is largely behind the steady increase in output. Modest production of 16 kb/d started up from the Waha fields but attaining 400 kb/d capacity will be delayed because of critical repairs needed at the Es Sider oil terminal. The 40 kb/d offshore Bouri field also started up at 10 kb/d.

Libya's National Oil Corporation (NOC) is set to award 2012 oil term contracts in early December, with about 80% of crude exports expected to be sold via term deals and the remaining 20% via spot sales. NOC expects exports to reach pre-war levels of about 1.3 mb/d by the end of 2012, in line with our latest projections for the medium term.

**Angolan** production eased again in November, down 30 kb/d to 1.69 mb/d. As a result, planned exports fell below scheduled volumes, though supplies are expected to rebound again in December, largely due to a steady climb in new output from the 220 kb/d Pazflor field.

**Nigerian** crude output rebounded in November, up 80 kb/d to 2.1 mb/d. Shell lifted a *force majeure* on loadings of Forcados crude early in the month. However, production was curtailed by the planned shutdown for maintenance work for several weeks in November of the 115 kb/d EA field. The steady increase in sabotage to the country's expansive pipeline network is also taking a financial toll on the country, with new government estimates pegging the cost of repairs from attacks in 2011 alone at \$2 bn.

## Intensified International Sanctions Target Iranian Oil Industry

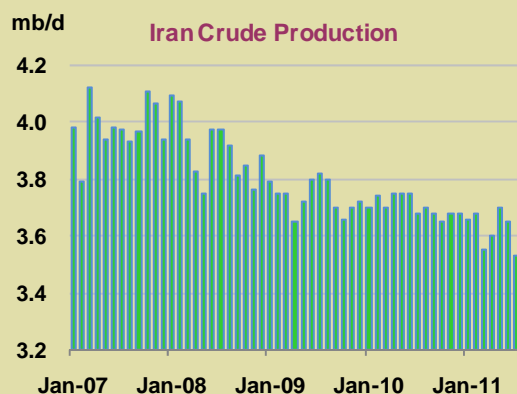
The EU is considering an embargo on nearly 600 kb/d of Iranian crude oil imports. Inclusion of other OECD sales would raise the total to 1.3 mb/d. It is considered unlikely that a further 1.2 mb/d of Iranian exports, largely to China and India, would be affected. The latest proposals also strengthen US and EU sanctions already in place that target Iran's upstream oil and gas sector by closing a loophole that will bar exports of oil-related equipment, drilling rigs or engineering services. As a result of tighter sanctions, Iranian production capacity is now forecast to decline by 890 kb/d to just under 3 mb/d by 2016.

There have also been market discussions about the potential for more far-reaching oil sanctions, including Japan and South Korea, while the US Senate has also voted in favour of sanctions against foreign and commercial banks that undertake business with the Central Bank of Iran (CBI). However, EU or broader measures may not be agreed until end-January, thus allowing operators time to source alternative supplies and coinciding with a seasonal fall in European refiner crude demand in the spring. A partial ban would nonetheless likely leave Mediterranean refiners confronting higher prices for replacement crude from producers such as Saudi Arabia, Iraq and Russia.

Moreover, Saudi spare capacity may not be a precise match for the significant volumes of Iranian Heavy crude involved. Mediterranean refiners are believed to have already approached Saudi Aramco to enquire about extra cargoes of Arab Light, the closest quality match for Iranian Heavy, although much of current Saudi spare capacity may instead be held in the form of less suitable Arab Medium or Arab Heavy.

Further competitive pressure may come to bear on European refiners if Asian buyers obtain incremental Iranian cargoes at discounted prices. European operators already confront negative margins nearing end-2011 as a rising tide of new-build refining capacity in Asia and the Middle East intensifies competitive pressures. A partial embargo is considered likely to affect sweet-sour and inter-regional price differentials more than prompt crude prices as a whole. A broader global embargo or wider-ranging restrictions on dealings with Iran's Central Bank might lead to a more significant rise in crude prices, but arguably might more effectively limit Iranian revenues.

Logistical and storage considerations may also make an abrupt cut in supplies from Iran more or less problematic for individual refiners. A late-January EU decision to impose an embargo would effectively begin to bite into March/April Iranian liftings, the typical low point for European seasonal crude demand. However, European crude demand then tends to increase again during the April to August period. In contrast, OECD Pacific crude demand tends to be on a declining trend between January and June, before habitually rising through end-year. Seasonality is less evident for refiner crude throughputs for China and India. Either way, given already very low European crude inventories, a spate of precautionary buying and escalating tensions surrounding the Iranian issue could sustain prompt prices at levels higher than otherwise, amid the growing concerns about the euro zone and weaker global economic activity for 2012.



### Estimated Jan-Sep 2011 Imports of Iranian Crude

IEA	kb/d	% Total 2011 Oil	
		Demand	Exports
Belgium	36	5%	1%
Czech Republic	5	3%	0%
France	58	3%	2%
Germany	15	1%	1%
Greece	103	30%	4%
Italy	185	13%	7%
Japan	327	7%	13%
South Korea	228	10%	9%
Netherlands	19	2%	1%
Poland	3	1%	0%
Spain	161	12%	6%
Turkey	196	29%	8%
UK	11	1%	0%
<b>IEA Pacific</b>	<b>555</b>	<b>8%</b>	<b>22%</b>
<b>IEA Europe</b>	<b>792</b>	<b>7%</b>	<b>31%</b>
<b>IEA Total</b>	<b>1347</b>	<b>7%</b>	<b>53%</b>
<b>Others</b>			
China	550	6%	22%
India	310	9%	12%
Other Asia	240	3%	9%
<b>Non-OECD Asia</b>	<b>1100</b>	<b>5%</b>	<b>44%</b>
<b>Total Asia</b>	<b>1655</b>		<b>65%</b>
South Africa	80	14%	3%
<b>Total</b>	<b>2527</b>		<b>100%</b>

Source: IEA databases, Lloyds/Apex

## Medium-Term Update: Iraq Propels OPEC Crude Oil Production Capacity Higher

Crude oil expansion plans in the medium-term are moving apace, with capacity now forecast to increase by 2.33 mb/d to 38.1 mb/d by 2016. Iraq accounts for 80% of the increased capacity, followed by the UAE and Angola. Capacity growth is 200 kb/d higher than our previous forecast for the 2010-16 period, with upward revisions to Iraq partially offset by delays to Iranian projects.

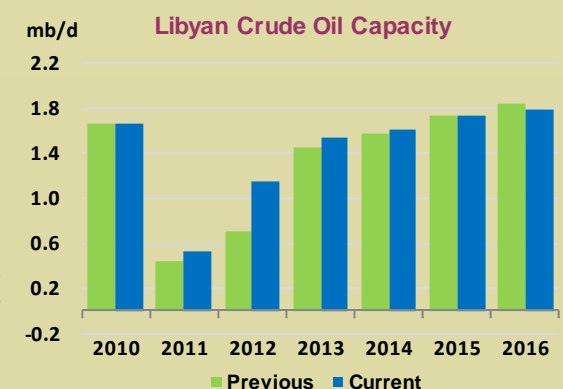
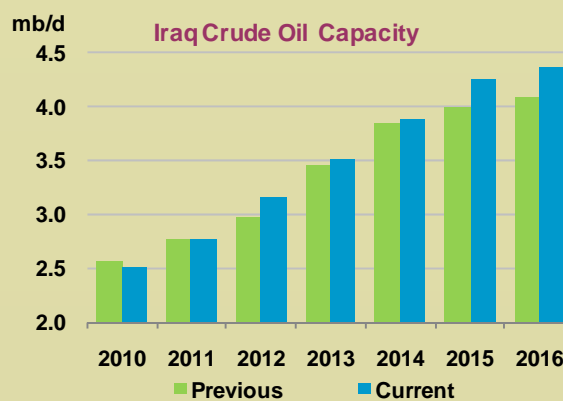
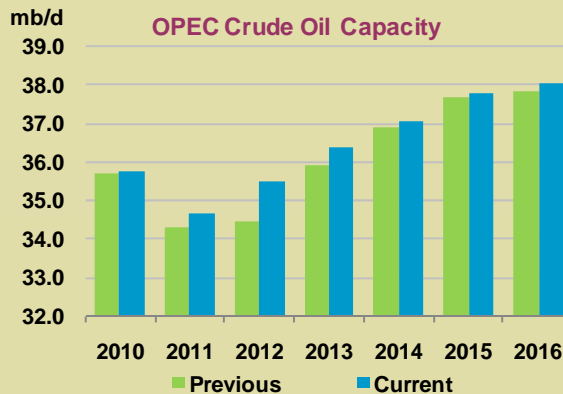
**Iraq's** crude oil production capacity is forecast to increase by a sharp 1.87 mb/d, to 4.36 mb/d on average by 2016. The outlook has been revised higher by 335 kb/d since our June report, largely due to steady progress at the country's 12 joint venture projects. Downside risks remain, with the end-2011 withdrawal of US troops uppermost on the list and fears of escalating instability as insurgency bombing increases. IOCs also report that continued bureaucratic, logistical and operational constraints are posing significant challenges and delays to project work, which we have already largely built into our forecast.

ExxonMobil's controversial inking of a production contract with the Kurdish regional government has led some analysts to conclude that the company sees the northern region as holding more long-term promise than the south, given the more attractive investment contract terms. The move by ExxonMobil sparked anger in Baghdad and put at risk the JV it already holds for the West Qurnah field. At the core is the lack of a broader legal framework for all IOCs signing contracts with Iraq, with government officials in Baghdad now reporting that a redrafting of the country's oil and gas law, which should include the disputed Kurdish region, will be finalised in 2012.

The recovery in **Libyan** output has exceeded expectations so far in 2011, with a faster-than-expected rebuilding of capacity seen for 2012. Overall, Libyan output is forecast to rise to pre-war levels of around 1.6 mb/d by 2014.

Aside from Iraq, the only other countries set to contribute significant growth are the UAE, Angola and Nigeria, which combined will add a further net 1.3 mb/d by 2016. Kuwait and Venezuela add smaller increments.

- The **UAE** has fast-tracked a number of projects, with capacity revised higher by 180 kb/d since our previous report. Total UAE capacity is now forecast to rise by 710 kb/d, to 3.41 mb/d by 2016.
- **Angola** is forecast to increase capacity by 360 kb/d to 2.4 mb/d by 2016. Despite the growth, the outlook for Angola has been trimmed by 340 kb/d for 2010-2016, largely due to steeper decline rates at the country's deep-water fields.
- **Nigerian** production capacity is expected to increase by a net 240 kb/d to 2.93 mb/d by 2016. More than a half a dozen mega projects plus several smaller ones are planned for the forecast period.
- **Kuwaiti** production has surprised to the upside, with capacity boosted 300 kb/d over the 2010-2011 period, though longer term there is a lack of new projects on the books. Kuwaiti capacity is forecast to rise just 100 kb/d over the 2010-2016 period, to 2.72 mb/d. Indeed, the latest rise in capacity levels reflects a marked increase in active drilling rigs and debottlenecking at the Mina al-Ahmadi oil terminal, which has enabled increased production from its giant Burgan oil field.



### Medium-Term Update: Iraq Propels OPEC Crude Oil Production Capacity Higher (continued)

Baker Hughes' data show Kuwaiti rig activity up 65% year-on-year in November, to 28 versus 17 rigs. Kuwait Oil Company (KOC) reported that 418 new wells had been drilled in 2010-2011 compared with an initial target of 255 wells. Better management of underperforming assets has proved a windfall for a country that otherwise has few new project developments in the pipeline, boosting the country's estimated crude oil capacity to 2.85 mb/d.

#### Estimated OPEC Sustainable Crude Production Capacity

(In million barrels per day)

	2010	2011	2012	2013	2014	2015	2016	2010-16
Algeria	1.35	1.33	1.34	1.40	1.41	1.36	1.32	-0.03
Angola	2.04	1.95	2.02	2.12	2.28	2.42	2.40	0.36
Ecuador	0.50	0.52	0.53	0.53	0.51	0.48	0.46	-0.04
Iran	3.87	3.70	3.53	3.46	3.30	3.12	2.98	-0.89
Iraq	2.50	2.76	3.16	3.51	3.88	4.25	4.36	1.87
Kuwait	2.62	2.86	2.84	2.80	2.77	2.75	2.72	0.10
Libya	1.67	0.44	1.15	1.54	1.61	1.74	1.79	0.12
Nigeria	2.69	2.71	2.69	2.65	2.62	2.67	2.93	0.24
Qatar	1.01	1.02	1.01	0.99	0.98	0.97	0.96	-0.05
Saudi Arabia	12.07	12.04	11.88	11.73	11.59	11.82	11.90	-0.18
UAE	2.70	2.72	2.78	3.02	3.22	3.32	3.41	0.71
Venezuela	2.71	2.61	2.57	2.63	2.89	2.92	2.84	0.14
<b>OPEC-11*</b>	<b>33.24</b>	<b>31.89</b>	<b>32.33</b>	<b>32.88</b>	<b>33.16</b>	<b>33.57</b>	<b>33.71</b>	<b>0.47</b>
<b>Total OPEC</b>	<b>35.74</b>	<b>34.65</b>	<b>35.48</b>	<b>36.39</b>	<b>37.04</b>	<b>37.82</b>	<b>38.07</b>	<b>2.33</b>
<i>Increment</i>	<i>0.52</i>	<i>-1.09</i>	<i>0.84</i>	<i>0.91</i>	<i>0.66</i>	<i>0.77</i>	<i>0.26</i>	

\* Excludes Iraq

#### OPEC NGL Growth Slows Again

OPEC NGLs capacity is forecast to increase by 2.0 mb/d to 7.37 mb/d by 2016 from 2010. The outlook has been trimmed by 60 kb/d, largely due to a weaker outlook for Iran on stiffer sanctions since our last report. As expected, the Middle East will provide the bulk of the increase.

The UAE is forecast to raise NGL capacity by around 480 kb/d to 1.03 mb/d by 2016 as the 240 kb/d Habshan NGL and condensate project steadily ramps up from the 2010 start-up, followed by the 140 kb/d Integrated Gas Development (IGD) launch in 2013. Qatari NGLs are on course to rise by around 350 kb/d to 1.8 mb/d following the start-up this year of all its planned LNG trains.

Meanwhile, Saudi Arabia, the largest Middle East NGL producer, will add a further 250 kb/d to capacity, bringing 2016 production to 1.8 mb/d.

#### Estimated OPEC Sustainable Condensate & NGL Production Capacity

(In thousand barrels per day)

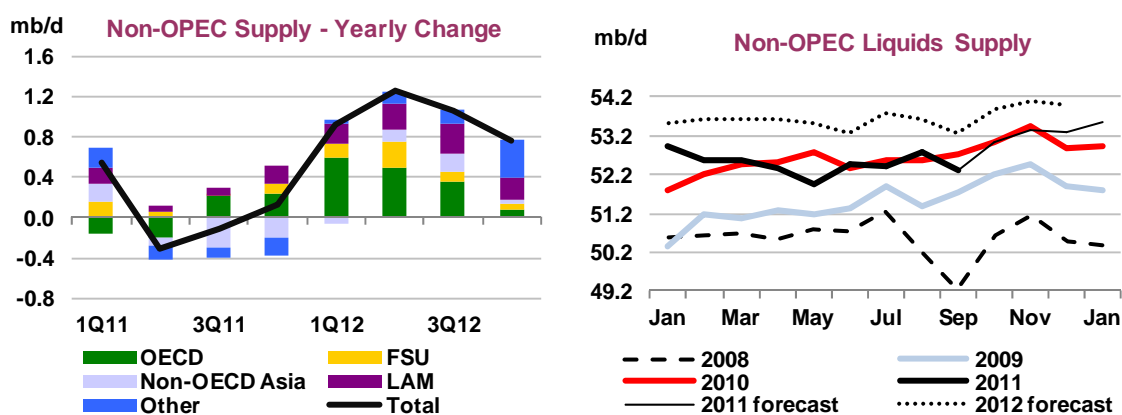
	2010	2011	2012	2013	2014	2015	2016	2010-16
Algeria	610	616	674	718	721	738	733	123
Angola	90	90	125	132	128	130	126	36
Ecuador	2	1	1	1	0	0	0	...
Iran	549	556	567	628	722	786	836	287
Iraq	56	70	79	83	88	94	94	38
Kuwait	200	210	238	328	345	350	345	145
Libya	111	27	49	82	94	152	196	84
Nigeria	412	414	447	461	443	441	451	39
Qatar	892	1,069	1,192	1,210	1,207	1,240	1,246	354
Saudi Arabia	1,550	1,599	1,655	1,665	1,683	1,789	1,801	251
UAE	555	809	886	918	979	992	1,031	476
Venezuela	211	213	213	214	215	216	216	5
<b>Total OPEC NGLs</b>	<b>5,238</b>	<b>5,674</b>	<b>6,126</b>	<b>6,438</b>	<b>6,625</b>	<b>6,929</b>	<b>7,075</b>	<b>1,837</b>
<b>Non-Conventional*</b>	<b>117</b>	<b>122</b>	<b>228</b>	<b>255</b>	<b>258</b>	<b>292</b>	<b>292</b>	<b>175</b>
<b>Total OPEC</b>	<b>5,355</b>	<b>5,797</b>	<b>6,354</b>	<b>6,694</b>	<b>6,884</b>	<b>7,221</b>	<b>7,367</b>	<b>2,012</b>
<i>Increment</i>	<i>428</i>	<i>442</i>	<i>557</i>	<i>340</i>	<i>190</i>	<i>338</i>	<i>146</i>	

\* Includes gas-to-liquids (GTLs).

## Non-OPEC Overview

Non-OPEC oil production is estimated to have risen by 0.3 mb/d to 53.4 mb/d in November, largely due to rising supply from North America and the completion of maintenance in the North Sea. Preliminary data show North Sea volumes increased by 0.2 mb/d from October levels. Unplanned outages in Yemen, Syria, and the North Sea partially reduced overall output by almost 0.7 mb/d in November. Non-OPEC supply in 4Q11 is expected to rise by 0.7 mb/d from the third quarter and is forecast to grow by 140 kb/d year-on-year.

The major source of a 160 kb/d downward revision to our estimate for 4Q11 non-OPEC supply is centred in lower output expectations in Yemen, Syria, Sudan, Brazilian biofuels, and the North Sea. Light tight oil production expectations in the Eagle Ford play in the US in the latter part of this year mitigates the downward revision. On balance, non-OPEC supply grows on an annual basis by only 70 kb/d in 2011, the third-lowest performance in the last decade (see *'Planned and Unplanned Outages Dent 2011 Non-OPEC Supply'* for a more detailed explanation of downward revisions for 2011).



For 2012, we have tempered supply growth expectations by around 120 kb/d to 1.0 mb/d in large part due to continued unrest in the Middle East and a downward revision to Global Biofuels (see *'With Dimmer Brazilian Prospects, Medium Term Biofuels Growth to Slow'*). We have also carried forward the upward revision to US Eagle Ford light tight oil production to 2012 and the medium term, which results in a 110 kb/d upwards revision to North American liquids production next year. As always, there are downside risks to the 2012 outlook, most especially with unplanned outages in the North Sea and with continued unrest in the Middle East. While it is impossible to forecast all of these contingencies, our 2012 outlook nonetheless includes a 200 kb/d field reliability allowance to reflect a historical tendency for unexpected outages to affect mature production facilities. However, shortfalls in 2011 have been of a higher order, something we assume is not repeated for 2012.

## OECD

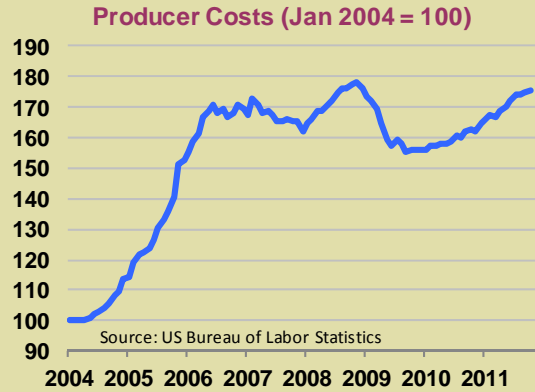
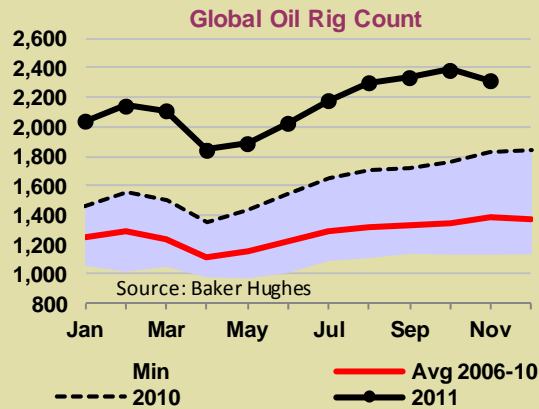
### North America

**US – November, Alaska actual, other states estimated:** Gulf of Mexico production rebounded in October to 1.4 mb/d, bringing total US liquids production to around 8.2 mb/d. Preliminary data for November suggest that US liquids supplies continued to grow to around 8.3 mb/d on rising output from light tight oil deposits and rebounding production from Prudhoe Bay in Alaska. We expect that a cold front in Texas and the onset of winter in North Dakota could dent light tight oil production in December and in 1Q12. As discussed below, supply from the Eagle Ford shale has exceeded our prior expectations, leading to a drop in demand for light sweet crude imports in the US Gulf Coast, and we have therefore upped the outlook for 2012 by around 120 kb/d in Texas to 1.4 mb/d. Production growth in these plays should continue despite ample pipeline takeaway capacity with the reversal of Shell's 360-kb/d Ho-Ho pipeline by early 2013 that gives Gulf Coast refiners easier access to the Eagle Ford crude, and the reversal of the Seaway pipeline that will allow refiners to access supplies from Cushing.



### Medium-Term Update: US Leads the Way

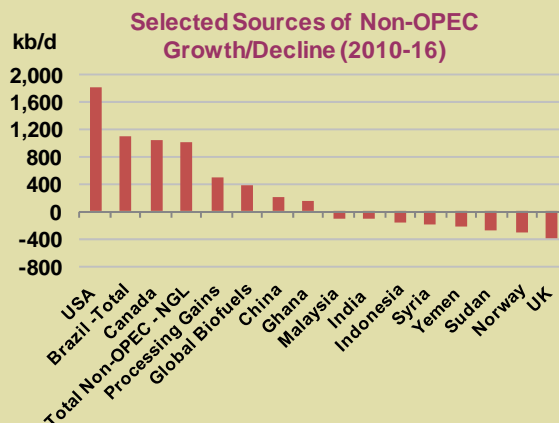
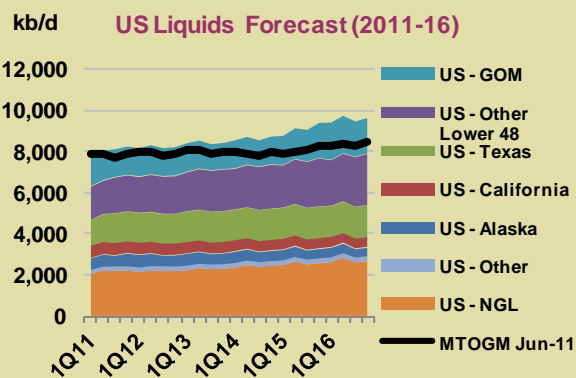
After several years of record prices and barring unforeseen outages, non-OPEC supply should post strong gains in upcoming years, rising by 3.4 mb/d, or around 500 kb/d per year, from 2010 to 2016. Almost 3 mb/d of growth comes from Canada and the US, 1.4 mb/d from Brazil and Colombia, while processing gains and biofuels add around 0.9 mb/d. North Sea production decline reduces robust non-OPEC growth by 0.8 kb/d, while continued investment uncertainty and mature field decline will curb output by almost 0.5 mb/d in non-OPEC Middle East.



Higher exploration and production spending have augmented rig counts, and companies have employed new technologies to boost recovery rates. JP Morgan estimates that exploration and production spending in 2011 will rise by 22% to a record \$408 billion. In 2012 in a separate survey, Barclays Capital expects E&P spending to increase by 10% to around \$600 billion. Rig counts show that oil-focused drilling has increased and they are at substantially higher levels than last year.

Since the June *MTOGM* was released, non-OPEC supply has been revised up by 130 kb/d on average for 2011-2016, discounting a 100 kb/d downward revision to the 2010 baseline estimate (see chart on next page). On balance, although non-OPEC supply is revised downwards for 2011-2013, new project announcements, especially in the Western Hemisphere are behind the upwards revisions for 2014-2016. Nonetheless, the spectre of rising producer costs has returned and has resulted in project slippage in some instances, especially in the North Sea, Brazil, and the deepwater Gulf of Mexico. For that reason, some delays to North Sea and Brazilian projects otherwise scheduled for 2012/2013 start-up are expected. However, most of these delays are offset by an annual average 600 kb/d upwards revision to North American supply.

**US:** US liquids production is expected to increase by 20% to reach 9.6 mb/d in 2016, on average 0.7 mb/d higher than our June estimate. First, **Natural Gas Plant Liquids (NGPL)** production forecasts in the June MTOMR were based on an assumption of mostly static liquids content of natural gas and only a moderate increase in natural gas production in the US. We now expect gas production, and thus NGPLs, to increase, in part as oil/gas price ratios continue to encourage producers to target liquids-rich prospects, increasing the liquids content of natural gas. Shale oil and gas development is also expected to increase field condensate production, which will be used in gas processing plants and fractionation capacity to meet petrochemical demand (rising strongly beginning in 2014) and for use as diluent in Canadian oil sands projects. In sum, NGPL and condensate production is forecast to grow by around 600 kb/d, reaching 2.7 mb/d in 2016.



## Medium-Term Update: US Leads the Way (continued)

### US Light Tight Oil Production

	(thousand barrels per day)						
	2010	2011	2012	2013	2014	2015	2016
Williston Basin (including Bakken)	270	400	580	730	800	840	880
Barnett	20	20	30	40	50	50	50
Eagle Ford	30	100	140	200	260	340	390
Monterey	10	10	10	20	30	40	50
Niobrara	30	40	60	70	90	100	120
Utica	0	0	0	0	10	50	90
Other Light Tight Oil	20	50	50	80	80	110	120
<b>Total Light Tight Oil</b>	<b>380</b>	<b>620</b>	<b>870</b>	<b>1,140</b>	<b>1,320</b>	<b>1,530</b>	<b>1,700</b>
Other Crude and Condensate	5,090	5,040	4,910	4,750	4,630	4,750	4,920
<b>Total US Crude and Condensate</b>	<b>5,470</b>	<b>5,660</b>	<b>5,780</b>	<b>5,890</b>	<b>5,950</b>	<b>6,280</b>	<b>6,620</b>

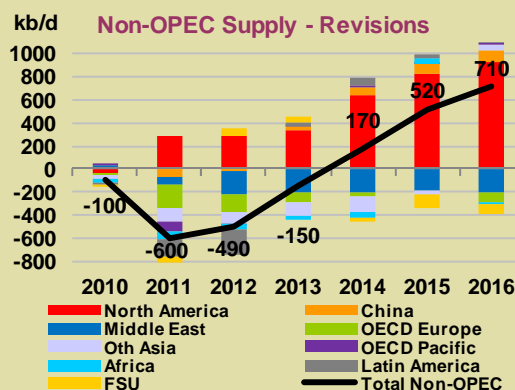
Second, **light tight oil** production in the US comprises almost a quarter of US crude supply by 2016, adding around 1.3 mb/d from 2010, roughly 300 kb/d higher than our June forecast. Increased drilling activity in the Bakken and Eagle Ford plays is the main reason for the more optimistic expectations in these regions. See 'Eagle Ford and Bakken Bonanza to Transform US Oil Production Outlook' in last month's outlook.

Finally, for the **Gulf of Mexico**, our projections have evolved as more information has become available since the drilling moratorium that followed the Macondo disaster. Production for 2010 and 2011 at 1.6 mb/d and 1.4 mb/d respectively is around 0.1 mb/d lower than we estimated a year ago. However, with drilling activity now increasing, and incorporating what now looks like stronger growth from new projects, 2016 production reaches 1.8 mb/d, around 70 kb/d higher than our expectation a year ago.

**North Sea:** In **Norway**, we have revised our estimates downwards by around 40 kb/d excluding the baseline revisions that were discussed in last month's report. Based on last year's performance, we assume a slightly steeper decline rate (ranging from 10-19%), which is only offset in part by increasing recovery rates at Norway's Ekofisk, Eldfisk, Gjøa, Gullfaks, and Kvitebjørn. Appraisal drilling is underway at Avaldsnes and Aldous Major South discoveries, which combined could be the third largest discovery ever in Norway, but these fields are not expected to contribute materially to Norway's output by 2016. In sum, Norway's liquids production should decline by around 14% (around 3% annually) to 1.8 mb/d. In the **UK**, a steeper decline rate and project slippage at the Bacchus and Rochelle fields has resulted in a 60 kb/d lower outlook than in June. UK producers are also extending field production with new wells at Alma, Callanish, Burghley, Schiehallion, and Franklin, among others. New field developments in the West of Shetlands area will mitigate steep decline rates in the UK, but production is still projected to fall by 30% from 2010 to reach levels of 990 kb/d in 2016.

**Brazil:** A leak at the Chevron-operated Frade concession has resulted in a shut in well, but it will likely have longer-term implications. Petrobras was reported to have leaked during 2010 twice the amount that Chevron did, so the government is likely to ensure that all companies invest more in environmental safety measures. Rising costs, logistics constraints, and local content restrictions are likely to slow Petrobras' ambitious oil expansion plans. Nor is the success from the pre-salt Tupi/Lula field necessarily transferable to other pre-salt acreage, especially after the Frade leak. Despite these caveats, our outlook still expects projects targeting the pre-salt to grow by almost 900 kb/d from 2010-2016 at the Guar, Lula, Parque des Baleias, and Baleia Azul fields, supporting an increase of over 1 mb/d in crude and condensate output from Brazil.

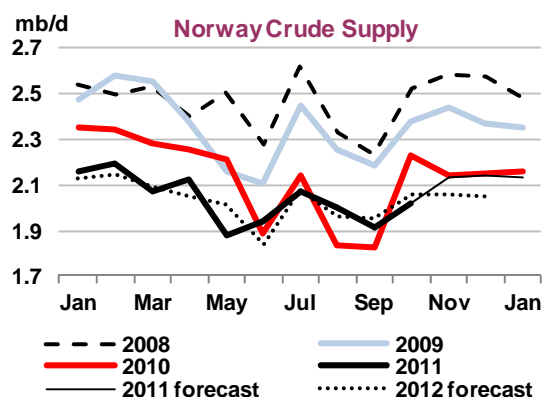
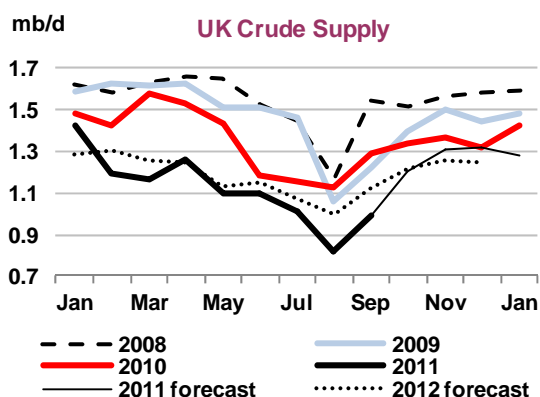
**Canada:** Strong growth from Canadian oil sands projects increases liquids output by 1.1 mb/d to reach 4.4 mb/d by 2016, of which 1.3 mb/d are mined synthetics. Tight oil projects, while in their early stages, will also marginally add to output by 2016. Fires at oil sands facilities (Syncrude and Horizon) and other unplanned maintenance dented production in 2011. Rising costs and project slippage have tempered expectations especially during 2014-2016 for multi-stage projects like Christina Lake, as well as mining projects at Fort Hills, and Joslyn. This is offset by incorporating Cenovus' fast-tracked Narrows Lake project and CNRL's Horizon project.



**Canada – September actual:** Rising output from the oil sands brought Canadian oil production to 3.5 mb/d, a slight decrease from August. In October planned maintenance at Terra Nova’s FPSO, declining production at Hibernia (both offshore Newfoundland/Labrador), and planned maintenance at Canadian Oil Sands’ Syncrude project kept Canada’s output relatively level. A coker fire at the latter project has kept production at rates below 75% during 22 November to 6 December, and the operator has warned that it may bring the unit down for a turnaround if full production rates cannot be achieved. The Canadian outlook for 2012 is largely unchanged from last month and total output should grow by around 200 kb/d to average 3.6 mb/d.

## North Sea

Crude and condensate production in the North Sea<sup>1</sup> is expected to rebound by almost 400 kb/d to 3.2 mb/d in 4Q11. On a monthly basis, production should increase by around 20 kb/d to 3.3 mb/d in December based on preliminary loading schedules. Loadings of Brent, Forties, Oseberg, and Ekofisk blends are expected to increase by around 2% this month, but the potential for delayed loadings from field problems remains. Specifically in **Norway**, total liquids production fell by around 80 kb/d from August to September. Crude production dropped to 1.5 mb/d in September, its lowest level in over a year due to heavy maintenance in the Statfjord area and at the Grane fields. Supplies rallied by 110 kb/d in October and liquids output should continue to increase to 2.1 mb/d in December, despite maintenance-derived reductions in Snøhvit NGLs during October and November. In the **UK**, fields returning from maintenance, plus the restart of the 80 kb/d Schiehallion field in November after a five-month outage, should lead to increased production in upcoming months. Traders however reported continued problems with the Buzzard field, which could impede the field’s recovery to normal 200 kb/d output levels. As a result, we expect next year’s UK output decline to be 30 kb/d more than last month’s estimate, taking the 2012 total to 1.2 mb/d.



## Non-OECD

### Latin America

**Brazil – August actual:** Brazilian crude oil production fell by 20 kb/d in August to 2.1 mb/d on field maintenance. Output is expected to remain between 2.1-2.2 mb/d for the next several months as new field production from Marlim Sul is mitigated by maintenance and shut-ins. Specifically, a gas leak in late November at the P-40 platform has cut production by around 75%. As discussed in *Planned and Unplanned Outages Dent 2011 Non-OPEC Supply*, we also expect Chevron’s output at the 70 kb/d Frade field to be around 10-15 kb/d lower in 4Q11 and in 2012. Revisions to our outlook for 2012 now take into account around 50 kb/d of planned maintenance in the summer of 2012, and the postponement of the Waimea project to 2013. Therefore, robust 2012 annual growth has been trimmed by 30 kb/d to 140 kb/d.

<sup>1</sup> North Sea is defined as offshore crude and field condensate production from Norway, UK, Germany, Denmark, and the Netherlands.

## Former Soviet Union

**Russia:** Russian liquids output posted an annual gain of 1.3% in November to total 10.7 mb/d, slightly lower than October levels. Increasing production from Rosneft's Yuganskneftegas unit, at the Vankor and Verkhnechonskoye oil fields, at Talakan in E. Siberia, and from Gazpromneft have supported Russian supply over the last several months. Russian supply expectations have been raised by 30 kb/d for 2012 based on a higher baseline production rate, increasing production at Sakhalin-1, and a slightly lower decline rate assumption at TNK-BP's mature fields. In our outlook for the latter part of 2012, fewer large-scale project additions are scheduled, and therefore overall output growth levels off. News that Total's Kharyaga project has fallen behind its original timeframe has caused a one-year delay to further increases in production. In sum, we expect Russian liquids production (including condensate) to grow by 1.1% next year to total 10.7 mb/d.

### FSU Net Exports of Crude & Petroleum Products

(million barrels per day)

	2009	2010	4Q2010	1Q2011	2Q2011	3Q2011	Aug 11	Sep 11	Oct 11	Latest month vs. Aug 11 Sep 10	
<b>Crude</b>											
Black Sea	2.28	2.10	2.02	2.06	1.87	1.87	1.95	1.97	1.85	-0.12	-0.11
Baltic	1.60	1.60	1.60	1.48	1.57	1.37	1.33	1.45	1.52	0.07	-0.16
Arctic/FarEast	0.46	0.74	0.78	0.70	0.69	0.65	0.65	0.65	0.72	0.07	-0.07
BTC	0.80	0.77	0.80	0.72	0.76	0.69	0.70	0.69	0.68	-0.01	-0.14
<b>Crude Seaborne</b>	<b>5.15</b>	<b>5.22</b>	<b>5.19</b>	<b>4.96</b>	<b>4.89</b>	<b>4.58</b>	<b>4.63</b>	<b>4.76</b>	<b>4.77</b>	<b>0.02</b>	<b>-0.48</b>
Druzhba Pipeline	1.11	1.13	1.14	1.14	1.12	1.18	1.14	1.22	1.20	-0.01	0.08
Other Routes	0.40	0.42	0.43	0.53	0.54	0.54	0.52	0.54	0.48	-0.06	0.10
<b>Total Crude Exports</b>	<b>6.66</b>	<b>6.76</b>	<b>6.76</b>	<b>6.63</b>	<b>6.55</b>	<b>6.30</b>	<b>6.29</b>	<b>6.51</b>	<b>6.45</b>	<b>-0.06</b>	<b>-0.29</b>
Of Which: Transneft <sup>1</sup>	3.93	4.00	4.02	4.15	4.16	4.09	3.98	4.22	4.22	-0.01	0.16
<b>Products</b>											
Fuel oil <sup>2</sup>	1.41	1.54	1.51	1.43	1.82	1.59	1.54	1.54	1.45	-0.09	-0.13
Gasoil	0.95	0.88	0.81	0.90	0.79	0.72	0.76	0.67	0.70	0.02	-0.13
Other Products	0.53	0.43	0.37	0.48	0.53	0.36	0.36	0.32	0.36	0.04	0.02
<b>Total Product</b>	<b>2.89</b>	<b>2.85</b>	<b>2.69</b>	<b>2.81</b>	<b>3.14</b>	<b>2.66</b>	<b>2.65</b>	<b>2.53</b>	<b>2.51</b>	<b>-0.02</b>	<b>-0.24</b>
<b>Total Exports</b>	<b>9.54</b>	<b>9.61</b>	<b>9.45</b>	<b>9.44</b>	<b>9.68</b>	<b>8.96</b>	<b>8.94</b>	<b>9.04</b>	<b>8.96</b>	<b>-0.08</b>	<b>-0.54</b>
Imports	0.06	0.06	0.08	0.06	0.06	0.08	0.10	0.08	0.08	0.00	0.00
<b>Net Exports</b>	<b>9.49</b>	<b>9.55</b>	<b>9.37</b>	<b>9.39</b>	<b>9.62</b>	<b>8.88</b>	<b>8.85</b>	<b>8.96</b>	<b>8.88</b>	<b>-0.08</b>	<b>-0.54</b>

Sources: Argus Media Ltd, IEA estimates

<sup>1</sup>Transneft data exclude Russian CPC volumes.

<sup>2</sup>Includes Vacuum Gas Oil

**Azerbaijan:** BP recently published third quarter estimates of its production from the Azeri Chirag Guneshli (ACG) group of fields that showed lacklustre performance from the Deepwater Guneshli (DWG). We have incorporated lower output expectations for DWG in 4Q11 and in 2012, which has lowered overall output by 20 kb/d to 970 kb/d and by 60 kb/d to 1 mb/d, respectively. Work is continuing at the West Chirag project, which should increase production by as much as 180 kb/d beginning in 2013. Increasing condensate volumes from the Full Field Development of Shah Deniz (formerly called Phase 2) could also offset declining Azerbaijani output in the medium term when the project is finally sanctioned.

### Azeri Chirag Guneshli (ACG) Production

(thousand barrels per day)

	1Q2011	2Q2011	3Q2011	4Q2011*
Chirag	82	76	63	73
Central Azeri	216	216	195	201
West Azeri	225	212	204	213
East Azeri	131	133	139	155
Deepwater Guneshli	132	129	120	124
<b>Total ACG</b>	<b>786</b>	<b>766</b>	<b>721</b>	<b>766</b>
Shah Deniz Condensate	34	37	33	37

\*IEA Forecast.

Source: IEA Analysis of BP Caspian Quarterly Reports

## Africa

**Niger:** First oil production of 20 kb/d from the CNPC-operated Agadem block has come online in October at the Goumeri and Sokor fields. The country's first oil production is of 31°API and will be sent to a new refinery in Zinder, the southern part of the country. The government expects incremental production from the Adadi, Tenere, and Bilma fields over the next several years.

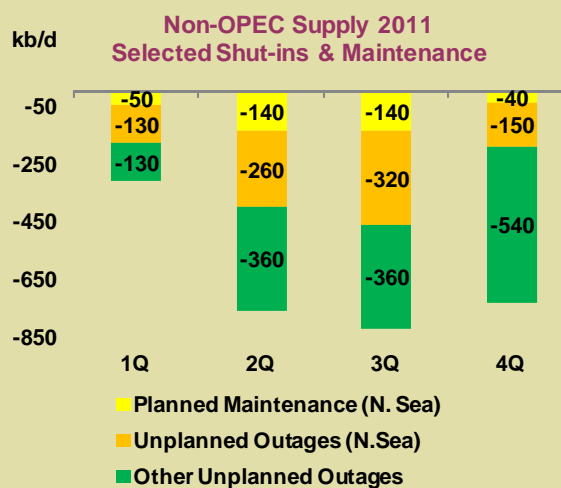
### Planned and Unplanned Outages Dent 2011 Non-OPEC Supply

Unplanned outages have reduced non-OPEC supply over the past year and have offset otherwise expected growth from producers taking advantage of record-high oil prices. The charts below, while not exhaustive, show that outages over the last year reached as high as 850 kb/d in 3Q11, including heavier-than-normal routine North Sea maintenance. Several months ago we had forecast that fourth quarter non-OPEC supply would rebound. Although 4Q11 production should still post a strong rebound of 700 kb/d from 3Q11, recent data and news reports suggest that unplanned shut-ins will continue to dent non-OPEC supply growth in 4Q11 and in 2012.

**North Sea:** Shut-ins at Nexen's 200 kb/d Buzzard field in the **UK** were one of the largest contributors to the non-OPEC outages in volume terms, but its haphazard contribution to the Forties blend amplified Brent price swings during 2011. A faulty cooling system hampered output this year, bringing field production to a 74 kb/d low in May, and Nexen reduced field output in the summer to install a new platform. Although production seemed to stabilise in October, unexplained outages and a Forties pumping station failure continued to keep the field below normal levels. **Norway's** output also suffered from a gas leak at the 25 kb/d Visund field, a fire at the 25 kb/d Valhall field, and problems at the injection compressor of the 130 kb/d Grane field after it completed planned maintenance.

**Syria:** Syria produced an average of 380 kb/d of crude and NGLs in the first eight months of this year, but US and EU economic sanctions have reduced oil exports and shut-in production. The EU recently added several Syrian companies to the sanctions list including Sytrol, Al Furat Petroleum Company (in which Shell Oil's US subsidiary Pecten had a 31.25% stake), and GPC (primary government holding company for hydrocarbon investments). There are eight production ventures with foreign companies producing mainly Syrian light oil for export, and GPC has at least a 50% interest in all of them. Consequently, some foreign companies such as the UK's Gulfsands, Total, Sinochem, Shell, and Canada's Suncor have either announced an exit or noted that they have significantly scaled back operations.

Recent sabotage to a pipeline supplying the 120 kb/d Homs refinery is a grim sign that further shut ins to production are possible in late 2011 and 2012 if there is not even a domestic market for heavy Souedie production. A worst-case scenario is that violence escalates to such a degree that refineries cannot process any domestic supply, which would mean that almost all of the country's crude oil production would be shut in. While we do not assume this possibility, we cannot also discount it completely. The latest data available suggests that export levels in the first half of 2011 totalled around 150 kb/d. For 4Q11, we assume that Syria's production will be reduced by 145 kb/d to 220 kb/d and by 75 kb/d to 270 kb/d in 2012.



### Planned and Unplanned Outages Dent 2011 Non-OPEC Supply (continued)

**Yemen:** Despite a Gulf Cooperation Council-brokered transition of responsibility from Yemeni President Ali Abdullah Saleh to his Deputy on 23 November, fighting continues between government forces and opposition. Tribal attacks on internal crude pipelines and labour disputes have reduced production from the Marib basin, shutting in about 120 kb/d for up to two months at various times over the last year. Government officials estimate that Yemen's oil output has declined to around 154 kb/d, from 270 kb/d before the Marib oil pipeline was attacked, and tribes continue to hamper repair efforts. Now, reports indicate that fuel shortages from lack of crude supply and transport constraints are emerging too. Regardless of whether President Saleh and his allies remain in control, Yemen already faces problems with water shortages, high unemployment, and poverty that create an uncertain operating environment for foreign producers. It is probable that energy facilities will continue to be targeted for the foreseeable future and as a result, we have further reduced our production estimate by 30 kb/d in 4Q11 and by 80 kb/d in 2012, leaving supply to average 200 kb/d in 2011 and 160 kb/d in 2012.

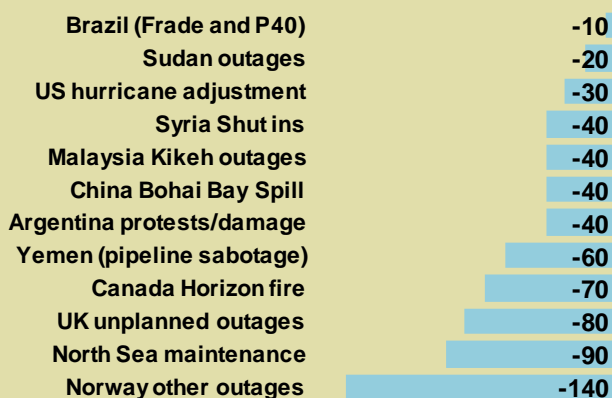
**China:** Field shut ins after a leak at the Peng Lai field in China's offshore Bohai Bay in June eventually curbed China's output by over 120 kb/d in September and likely even more in October as other wells in the area reduced output. The leak spilled 700 barrels of crude and 2,600 barrels of drilling fluid into Bohai Bay. News reports indicate the Peng Lai leaks were plugged in late October/early November, but ConocoPhillips has still not indicated a possible restart date to the field which had been producing at around 122 kb/d before the spill. In October, there were also reports that CNOOC found and quickly fixed another spill from a ruptured pipeline at its 20 kb/d Jinzhou 9-3 field. We estimate that the Peng Lai field will remain offline at least through the end of the year, but likely into the first quarter of 2012.

**Latin America:** In the aftermath of an oil leak at the Frade field in **Brazil**, Chevron was forced to shut one of its wells due to the presence of previously unreported hydrogen sulphide. Production from the 70 kb/d field is likely reduced by around a quarter. Because of Chevron's interests in some of Brazil's highly-prospective pre-salt areas, the spill could delay the implementation of the company's Papa Terra development as well as other pre-salt prospects. Protests at Petrominerales' 170 kb/d Rubiales and 30 kb/d Corcel and Guatiquia fields in **Colombia** also reduced output growth in August and September.

In **Argentina**, strikes that had been hitting oil production in the Santa Cruz region reportedly fizzled out in late June, but production from April-June was reduced by around 100 kb/d.

**Africa:** A dispute over Sudanese oil revenues has caused **Sudan** to block around 200 kb/d of South Sudanese crude exports as of 17 November until it is compensated for unpaid transit fees. It is in the interest of both sides to come to an agreement on fees as soon as possible, since much of each country's economic well-being depends on production and transit revenues. China has also dispatched diplomats to help resolve the dispute as it imported around 270 kb/d on average from Sudan over the last ten months. The lack of domestic storage capacity in South Sudan means that the extent of shut-ins will increase over time. Production is already reported to have declined by 20-30 kb/d since South Sudan declared independence in July.

#### Selected 2011 Outages (Annual Average)



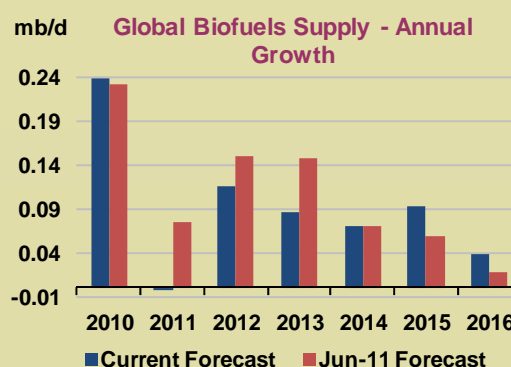


## With Dimmer Brazilian Prospects, Medium-Term Biofuels Growth to Slow

The global biofuels production outlook continues to slow. For 2010-2016, supply has been revised down on average by 130 kb/d annually since the June 2011 MTOGM. Moreover, global growth is seen at only 0.4 mb/d from 2010-2016, versus 0.5 mb/d previously. Weak near-term growth has laid the foundation for the more tepid profile ahead. Global biofuels production in 2011 is seen at 1.8 mb/d, which is largely unchanged versus 2010 and the slowest year-on-year growth rate over the past decade. Worsening Brazilian prospects and an increasingly saturated US market are expected to account for the weaker outlook – though these two countries still satisfy over half of global growth going forward. Meanwhile, the outlook for Europe looks sluggish.

Brazilian ethanol production in 2011 is set to decline by 75 kb/d to 375 kb/d due to a poor sugar cane harvest and high sugar prices. The government is trying to smooth short-term supply-demand imbalances with new stockholding obligations and increased regulation of the sector. Nevertheless, challenging production economics and underinvestment (in cane production and ethanol distillery capacity) looks likely to persist over the medium term, prompting us to reduce our outlook on average by 100 kb/d from 2012-2016. Output is now seen reaching only 530 kb/d in 2016, with risks lying to the downside given uncertainty over future investments.

US ethanol output, at 900 kb/d for 2011, is largely in line with our previous assessment. Production growth is likely to slow over the medium-term, however, with the year-end expiry of a 45 cent/gallon blenders' tax credit, sapping distillery investment amid increasing saturation in the US market. Ethanol output is still likely to reach 980 kb/d in 2016, in line with the Renewable Fuels Standard, but the supply picture has been revised down on average by 20 kb/d from 2012-2014. US biodiesel production has also been revised down, by 10 kb/d on average from 2012-2016. While the 2011 blenders' tax credit renewal boosted annual production to 50 kb/d from 20 kb/d in 2010, its year-end expiry casts uncertainty over future economics.



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### World Biofuels Production

(thousand barrels per day)

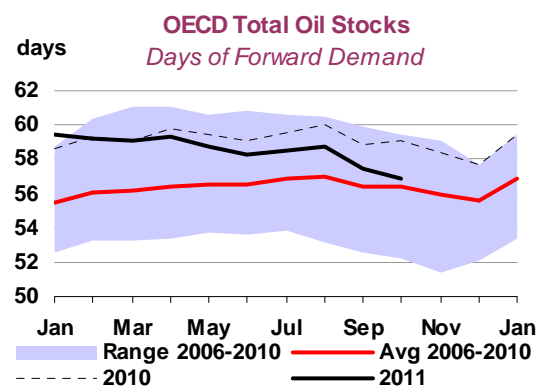
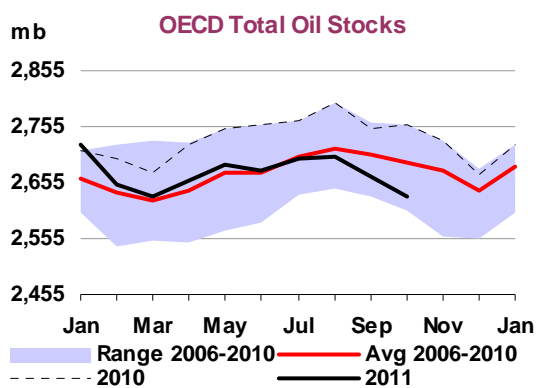
	2010	2011	2012	2013	2014	2015	2016
OECD North America	909	983	988	997	1,019	1,059	1,065
United States	884	952	955	963	985	1,023	1,030
OECD Europe	249	218	254	278	288	295	296
OECD Pacific	15	14	15	16	17	17	17
<b>Total OECD</b>	<b>1,174</b>	<b>1,216</b>	<b>1,257</b>	<b>1,291</b>	<b>1,325</b>	<b>1,371</b>	<b>1,379</b>
FSU	4	5	6	6	6	6	6
Non-OECD Europe	4	4	4	4	4	4	4
China	43	46	51	53	55	58	58
Other Asia	45	56	72	85	93	95	97
Latin America	549	490	540	573	598	638	668
Brazil	492	420	461	491	512	553	583
Middle East	0	0	0	0	0	0	0
Africa	3	3	5	6	9	9	9
<b>Total Non-OECD</b>	<b>648</b>	<b>603</b>	<b>677</b>	<b>728</b>	<b>765</b>	<b>811</b>	<b>843</b>
<b>Total World</b>	<b>1,822</b>	<b>1,819</b>	<b>1,934</b>	<b>2,019</b>	<b>2,089</b>	<b>2,183</b>	<b>2,221</b>
World - Revision vs June 2011	2	-77	-111	-173	-173	-139	-118

Meanwhile, in **Europe**, biofuels production is revised down by 10 kb/d for 2010-2016, largely due to lower biodiesel output. Economics have become precarious for some producers. Faced with high vegetable oil prices and an influx of cheaper imports from Argentina and Indonesia, 2011 biodiesel production is expected to decline in both Italy and Spain. Still, others, such as Poland and the Netherlands (where Neste recently commissioned a 15 kb/d renewable diesel plant), are growing, if only slowly. Ethanol output prospects are little changed, with modest growth still expected over the medium term. Forecast changes in Asia are relatively light. **Chinese** biodiesel production is trimmed due to a lower 2010 baseline, **Thailand's** biofuel production is reduced in 2011-2012 due to widespread flooding and **Indonesia's** biodiesel output is raised due to a stronger-than-expected 2011.

# OECD STOCKS

## Summary

- **OECD industry oil stocks declined by a steep 36.3 mb in October, to 2 630 mb or 57.2 days of forward demand cover.** Inventory levels stood below the five-year average for a fourth consecutive month, with the deficit of inventories versus the five-year range widening to 61.9 mb. Declines in crude oil and middle distillate holdings dominated in October.
- **Preliminary data suggest a counter seasonal 6.9 mb build in November OECD industry stocks,** in contrast with the five-year average 14.9 mb draw. Motor gasoline and fuel oil inventories took the lead while 'other oils' and 'other products' stocks fell. In the meantime, crude oil holdings edged down, for the sixth consecutive month.
- **Short-term oil floating storage fell by 6.3 mb, from 46.0 mb in October to 39.7 mb in November.** A reduction in Iranian crude oil floating storage in the Middle East accounted for all of the change, declining from 34.3 mb to 28.0 mb. Elsewhere, floating storage remains minimal in the face of persistent market backwardation.



## OECD Inventories at End-October and Revisions to Preliminary Data

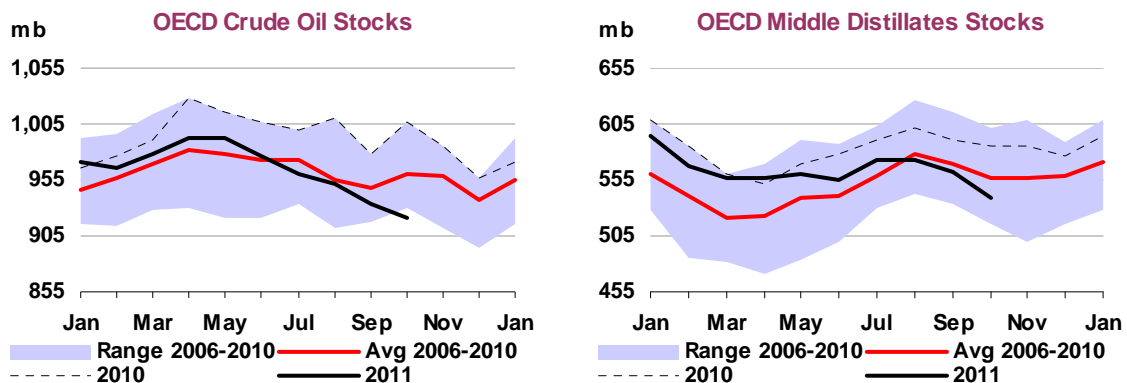
OECD industry oil holdings fell by 36.3 mb in October, to 2 630 mb, with both crude and product stocks, especially middle distillates, declining significantly. The monthly drop was much steeper than the five-year average 14.4 mb draw. Stock levels stood below the five-year average for a fourth consecutive month, with the deficit of inventories versus the five-year average widening to 61.9 mb from 40.0 mb in September. Forward demand cover dropped to 57.2 days from 57.8 days in September, but nonetheless remained above the five-year average of 56.4 days.

### Preliminary Industry Stock Change in October 2011 and Third Quarter 2011

	October (preliminary)				October (preliminary)				Third Quarter 2011			
	(million barrels)				(million barrels per day)				(million barrels per day)			
	N. Am	Europe	Pacific	Total	N. Am	Europe	Pacific	Total	N. Am	Europe	Pacific	Total
<b>Crude Oil</b>	<b>0.2</b>	<b>-10.9</b>	<b>-1.0</b>	<b>-11.7</b>	<b>0.01</b>	<b>-0.35</b>	<b>-0.03</b>	<b>-0.38</b>	<b>-0.34</b>	<b>-0.11</b>	<b>-0.03</b>	<b>-0.47</b>
Gasoline	-7.4	0.3	0.5	-6.6	-0.24	0.01	0.02	-0.21	0.03	-0.03	-0.01	-0.01
Middle Distillates	-18.0	-4.0	-1.1	-23.1	-0.58	-0.13	-0.03	-0.75	0.17	-0.10	0.01	0.08
Residual Fuel Oil	2.6	-0.8	-0.6	1.3	0.08	-0.03	-0.02	0.04	-0.02	0.00	-0.01	-0.03
Other Products	0.2	-1.2	1.1	0.1	0.01	-0.04	0.04	0.00	0.14	0.06	0.11	0.31
<b>Total Products</b>	<b>-22.6</b>	<b>-5.7</b>	<b>0.0</b>	<b>-28.3</b>	<b>-0.73</b>	<b>-0.18</b>	<b>0.00</b>	<b>-0.91</b>	<b>0.32</b>	<b>-0.08</b>	<b>0.10</b>	<b>0.35</b>
Other Oils <sup>1</sup>	4.0	1.2	-1.5	3.7	0.13	0.04	-0.05	0.12	0.08	-0.05	-0.01	0.02
<b>Total Oil</b>	<b>-18.4</b>	<b>-15.3</b>	<b>-2.6</b>	<b>-36.3</b>	<b>-0.59</b>	<b>-0.49</b>	<b>-0.08</b>	<b>-1.17</b>	<b>0.06</b>	<b>-0.24</b>	<b>0.07</b>	<b>-0.11</b>

<sup>1</sup> Other oils includes NGLs, feedstocks and other hydrocarbons.

Crude inventories declined by 11.7 mb to 922 mb in contrast with a five-year average October build of 13.0 mb. This was the first time OECD crude holdings stood below the five-year range since February 2003. Most of the draw came from Europe, declining by 10.9 mb, while the Pacific saw a small drop of 1.0 mb. Product stocks fell by 28.3 mb in October, driven by sharp falls in middle distillates and motor gasoline. Distillates declined by 23.1 mb, mostly due to tightening diesel fundamentals (see '*Diesel Tightness; Will This Continue?*'). Not only has the distillate stock overhang observed during the past two years dissipated, but stocks have now fallen to a three-year low. North America led the distillates decline, with stocks plummeting by 18.0 mb. Meanwhile, OECD gasoline stocks also dropped by 6.6 mb on lower refinery runs.



### Diesel Tightness; Will This Continue?

Among the middle distillates – heating oil, diesel, jet and kerosene - diesel is the one that accounts for most of the recent distillates draw in the OECD region. Continuation of firm demand and shortfalls in supply have gradually tightened diesel fundamentals. Despite the slowdown in the global economy, (See *Demand* section) diesel demand has kept growing this year. Diesel demand rose by 2.6% in the first nine months of this year and by an even stronger 2.8% in the third quarter, while demand for all other products fell. In the meantime, refiners have struggled to supply enough diesel to meet growing demand. Unexpected crude supply disruptions, not least of which the sudden loss of Libyan exports, have limited refinery throughputs, as strong crude prices pressured refining margins. Moreover catastrophic events like the earthquake in Japan and a fire at Shell's 500 kb/d Pulau Bukom refinery in Singapore have further tightened diesel supplies.

On the demand side, last year's power sector boost for diesel use in China has been augmented in 2011 by, among other factors, incremental demand due to rapidly expanding shale oil development in North America. A sharp increase in drilling activity and haulage consumption to transport the oils boosted diesel demand. Indeed OECD North American distillates stocks have looked particularly tight in recent months. A slowing global economy, and recovering upstream and refinery supplies should, *ceteris paribus*, ease some of the recent diesel tightness in months to come. However, over the longer term diesel fundamentals seem likely to remain strong due to robust non-OECD transport, industrial and power generation demand.

OECD stocks were revised 17.1 mb lower in September, upon receipt of more complete monthly submissions from the member countries. This implies a 33.5 mb draw in September inventory levels, a sharper decline than a previously reported drop of 11.8 mb. Downward adjustments were centred on crude oil, gasoline, and middle distillate stocks, which were revised lower by 4.2 mb, 4.4 mb and 3.1 mb, respectively. Notably, and as suggested in the last OMR, Japanese gasoline holdings were adjusted down significantly by 4.3 mb, more than erasing an abrupt jump of 4.0 mb seen in the preliminary submission.

## Revisions versus 10 November 2011 Oil Market Report

(million barrels)

	North America		Europe		Pacific		OECD	
	Aug-11	Sep-11	Aug-11	Sep-11	Aug-11	Sep-11	Aug-11	Sep-11
<b>Crude Oil</b>	<b>0.8</b>	<b>-0.3</b>	<b>0.0</b>	<b>-0.1</b>	<b>0.7</b>	<b>-3.8</b>	<b>1.4</b>	<b>-4.2</b>
Gasoline	0.0	1.4	0.1	-1.2	0.0	-4.5	0.1	-4.4
Middle Distillates	0.0	-2.0	3.2	-0.1	0.7	-0.9	3.9	-3.1
Residual Fuel Oil	0.0	0.5	-0.2	-1.2	0.0	-0.2	-0.2	-0.8
Other Products	0.5	-0.7	0.1	-1.2	0.4	0.4	1.0	-1.5
<b>Total Products</b>	<b>0.5</b>	<b>-0.9</b>	<b>3.1</b>	<b>-3.7</b>	<b>1.0</b>	<b>-5.2</b>	<b>4.7</b>	<b>-9.8</b>
Other Oils <sup>1</sup>	-1.0	-0.4	-0.6	-2.3	0.0	-0.5	-1.6	-3.1
<b>Total Oil</b>	<b>0.4</b>	<b>-1.6</b>	<b>2.5</b>	<b>-6.1</b>	<b>1.7</b>	<b>-9.5</b>	<b>4.6</b>	<b>-17.1</b>

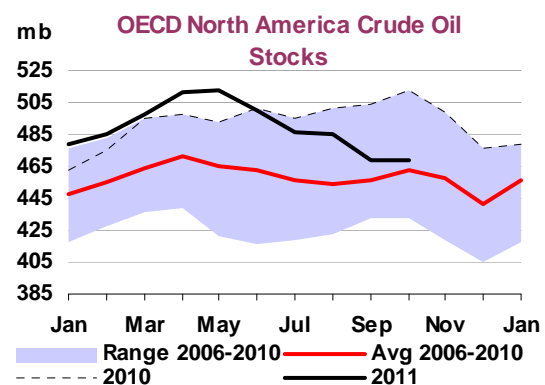
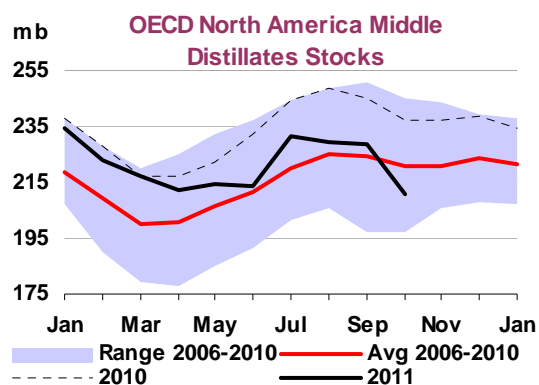
<sup>1</sup> Other oils includes NGLs, feedstocks and other hydrocarbons.

Preliminary data indicate a 6.9 mb build in November OECD industry inventories, in contrast with the five-year average 14.9 mb draw. Motor gasoline and fuel oil stocks took the lead by gaining 11.4 mb and 4.3 mb, respectively while 'other products' and 'other oils' fell by 6.7 mb and 4.3 mb. In the meantime, crude oil holdings edged down by 0.8 mb, marking a sixth consecutive monthly drop.

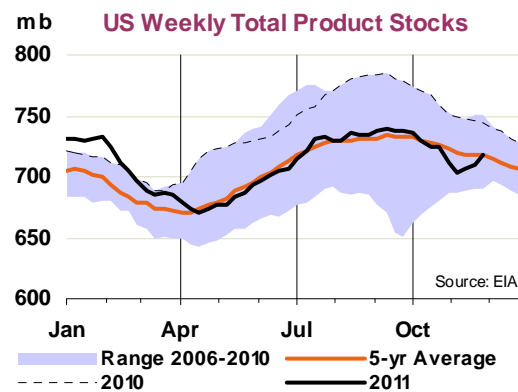
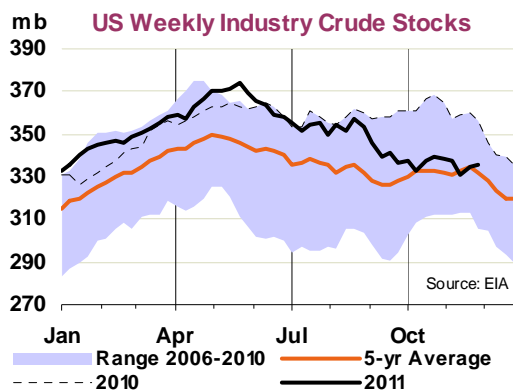
## Analysis of Recent OECD Industry Stock Changes

### OECD North America

North American industry oil inventories fell seasonally by 18.4 mb to 1 326 mb in October, nonetheless a sharper drop than the five-year average decrease of 8.6 mb. Middle distillate and gasoline stocks led the decline, lower by 18.0 mb and 7.4 mb, respectively. In the US, middle distillates plummeted by 19.4 mb on strong domestic diesel demand and exports. An increase in trucking demand boosted US distillate demand to a three year high and diesel shipments to Europe and Latin America helped lift US distillate exports to a record high. Meanwhile, crude holdings edged up by 0.2 mb, as a rise in the US outweighed a fall in Mexico. US crude stocks showed a 2.2 mb gain on higher imports and lower refinery runs in October.



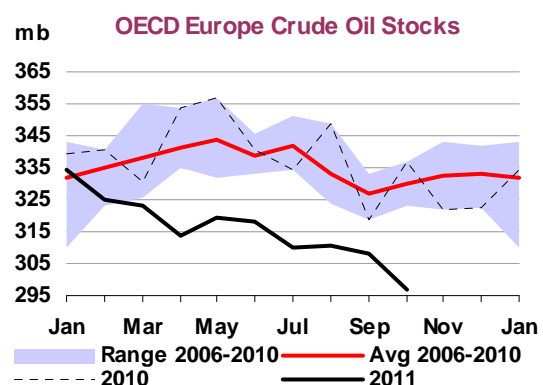
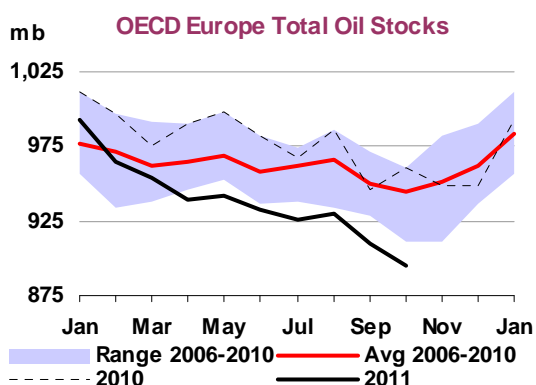
Weekly data from the US EIA point to a seasonal 3.4 mb draw in US commercial stocks in November. Crude inventories fell by 2.8 mb, likely affected by last-in-first-out tax system, which encourages refiners to destock when prices are higher at the end of the year than in previous months. NYMEX WTI futures have risen significantly over the past two months. 'Other oils' stocks, including feedstocks, declined by 4.8 mb as refiners completed seasonal maintenance, and throughputs rose accordingly.



US refined product inventories rose by 4.2 mb in November driven by gains in gasoline and fuel oil stocks. Motor gasoline holdings rose by 9.2 mb, with higher production and imports more than satisfying sluggish demand. In spite of low seasonal gasoline demand, output has been boosted by refiners raising runs to meet strong domestic diesel demand. In the meantime, 'other products' and middle distillates holdings fell by 6.4 mb and 0.8 mb respectively. Middle distillate inventories dropped as jet fuel/kerosene holdings fell by 3.0 mb while diesel stocks rose by 1.7 mb.

### OECD Europe

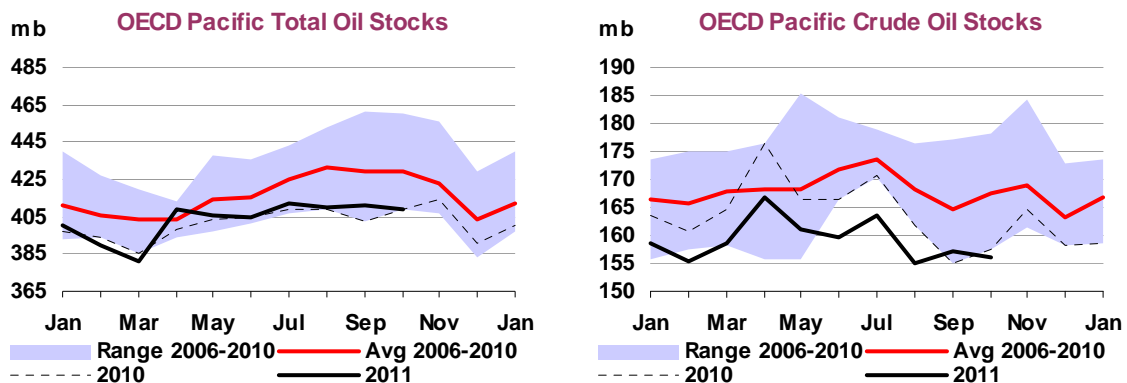
Industry oil inventories in Europe declined by 15.3 mb to 895 mb in October, the lowest level since February 2003. This stronger-than-seasonal monthly draw widened the deficit versus the five-year average to 49.1 mb, from 39.3 mb in September. Crude stocks fell by 10.9 mb and remained at their lowest since January 2000. Although Libyan exports increased faster than expected and North Sea production recovered gradually, supply shortfalls have persisted. European refiners are also likely inclined to keep their crude oil stocks low, not only because of a backwardated Brent price structure, but also possibly at the margin since it is becoming harder for refiners to get credit amid a worsening European sovereign debt crisis. In the meantime, European refined product holdings also fell seasonally by 5.7 mb on weaker refinery runs, leaving them at their lowest since November 2007. Middle distillates drove the decline, dropping by 4.0 mb, likely on cuts in imports from Asia-Pacific and FSU. Meanwhile, German end-user heating oil stocks rose to 61% fill at end-October.



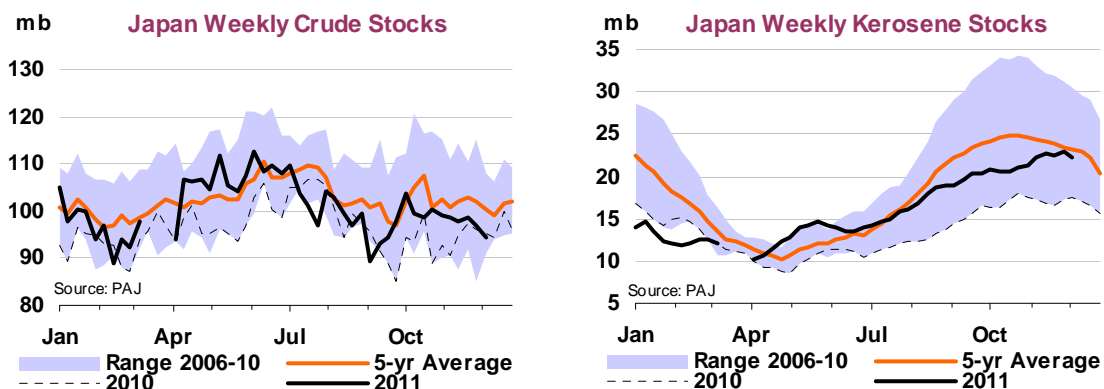
Preliminary data from Euroilstock point to a seasonal 11.1 mb gain in both crude oil and product inventories in EU-15 and Norway in November, more than the 7.0 mb five-year average build. Crude and product stocks increased by 5.6 mb, respectively. Middle distillates led the rise by gaining 2.3 mb, putting an end to a four-month fall. Refined product stocks held in independent storage in Northwest Europe increased due to low water levels in the key distribution artery of the Rhine.

## OECD Pacific

Commercial oil inventories in the OECD Pacific fell by 2.6 mb to 409 mb in October, widening the deficit versus the five-year average to 19.9 mb from 17.5 mb in September. Crude stocks again went below the five-year range after falling 1.0 mb. Crude holdings in Korea decreased by 1.8 mb on higher refinery throughputs. Product stocks were virtually unchanged, as declines in middle distillates and fuel oil were offset by gains in gasoline and 'other products'. Middle distillate and fuel oil holdings declined by 1.1 mb and 0.6 mb, respectively while gasoline and 'other products' rose by 0.5 mb and 1.1 mb each.



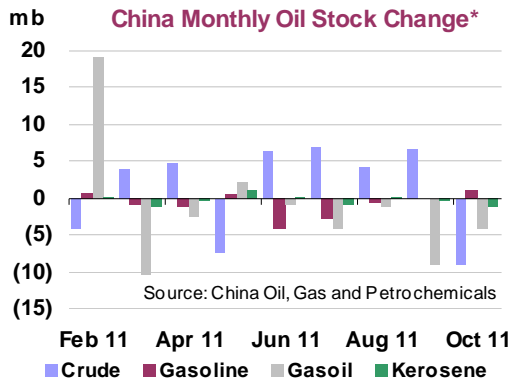
Weekly data from the PAJ suggest a seasonal draw of 0.9 mb in Japanese industry oil inventories in November. Crude oil stocks fell by 3.6 mb on higher refinery throughputs. On the product stocks side, all product holdings increased except 'other products'. Gasoline, middle distillate and fuel oil stocks rose by 0.5 mb, 1.5 mb and 0.8 mb, respectively, while 'other products' declined by 0.7 mb. Even though kerosene entered its peak demand season, stocks edged up by 0.6 mb. Kerosene holdings have recovered steadily in recent months, stocks having more than doubled since the catastrophic earthquake and tsunami in March.



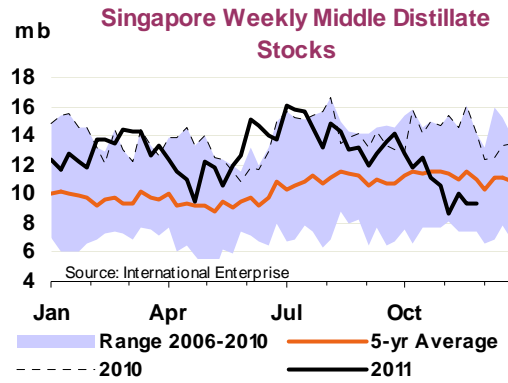
## Recent Developments in Singapore and China Stocks

According to *China Oil, Gas and Petrochemicals (OGP)*, Chinese commercial oil inventories fell in October by an equivalent of 13.2 mb (data are reported in terms of percentage stock change). Despite higher crude oil output and lower refinery throughput, crude oil holdings decreased by 4.0% (9.1 mb). According to China OGP, this was due to 'wastage and invisible stocks'. Product stocks dropped for a fifth consecutive month, driven by declines in diesel (6.8% or 4.2 mb) and kerosene (9.3% or 1.1 mb). In the meantime, gasoline holdings rose by 2.2% (1.1 mb) on higher output.





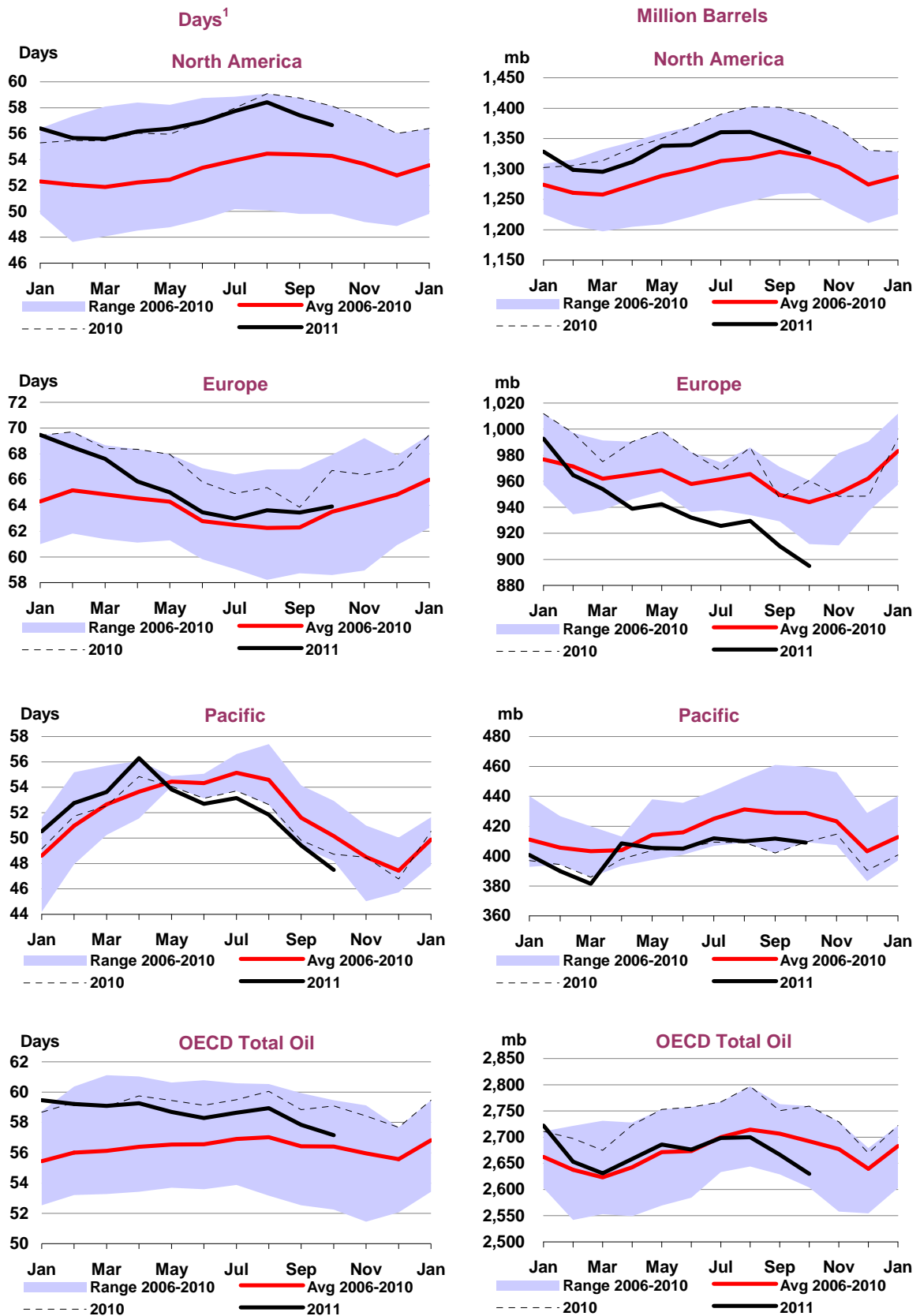
\*Since August 2010, COGP only reports percentage stock change



Singapore onshore inventories fell by 1.0 mb in November, led by draws in middle distillate and fuel oil holdings. Middle distillate stocks declined by 1.3 mb with healthy Western demand diverting cargoes away from Singapore, lower imports from North Asian refiners, and the impact of lower output from Shell’s 500 kb/d refinery in Singapore. Fuel oil inventories dropped by 0.7 mb on lower imports from the West. Meanwhile, light distillate stocks rose by 1.0 mb on softer regional demand.

## Regional OECD End-of-Month Industry Stocks

(in days of forward demand and millions barrels of total oil)

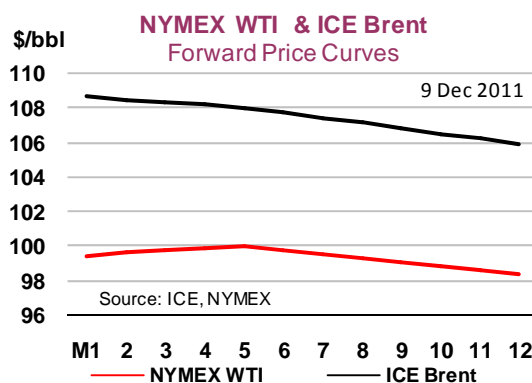
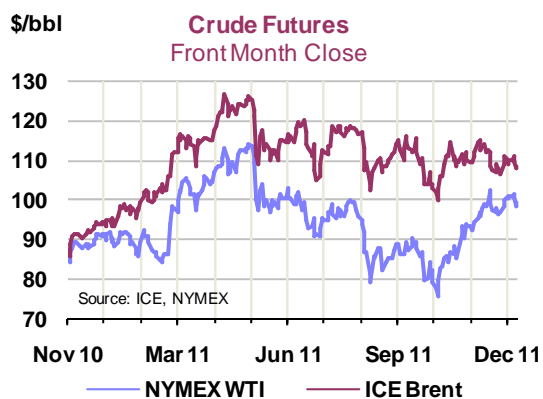


1 Days of forward demand are based on average demand over the next three months

# PRICES

## Summary

- **Oil futures markets faced counterbalancing pressures throughout November and early-December, with escalating economic risks on the one hand and growing perceptions of geopolitical risks on the other.** Financial turmoil in the Euro zone deepened, with downside risk to the global economy and resultant weakening oil demand. At the same time, a potential EU ban on imports of Iranian crude injected anxiety over the availability of alternative supplies. Futures prices for both Brent and WTI were last trading around \$107/bbl and \$98/bbl, respectively.
- **Spot crude oil markets strengthened in November and early December, underpinned by brisk physical demand heading into the peak winter season, continued supply disruptions in Libya, Yemen, Syria and elsewhere, and mounting concerns over the proposed EU embargo of Iranian crude oil imports.** However, gains were uneven for the major benchmark crudes, given diverging regional economic and market developments.
- **Middle distillate markets remained tight in November with gasoil/heating oil crack spreads increasing further by \$1.60-4.40/bbl month-on-month** bar New York, although higher supply and mild weather pressured crack spreads lower towards the end of the month and in early December.
- **Tanker rates for larger crude vessels continued their recovery in November due to stronger seasonal demand from East of Suez markets for Middle Eastern grades.** Completion of maintenance work at Asian refineries and a seasonal increase in the use of crude, especially in the earthquake-affected Japanese power sector, helped to sustain the recovery on the VLCC Middle East Gulf – Japan route.



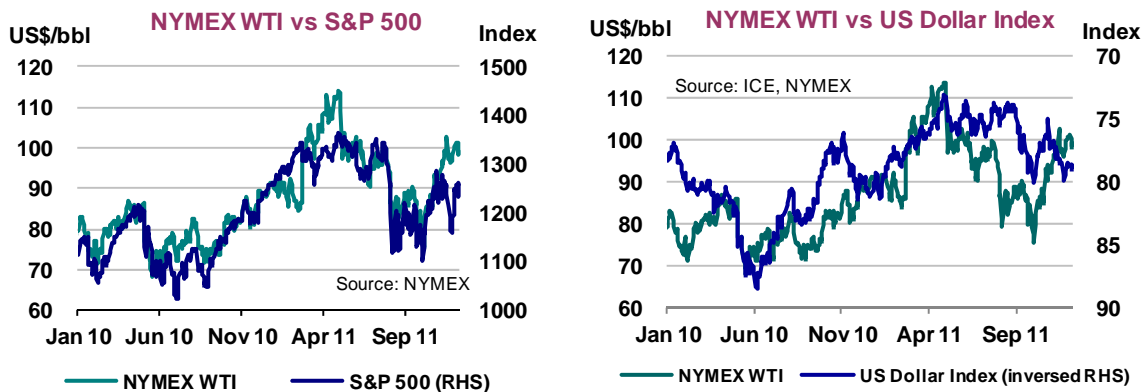
## Market Overview

Escalating economic and political risks throughout November and early December tempered futures market activity but prices still moved higher on stronger seasonal demand and persistent supply tightness, amplified by a potential EU ban on imports of Iranian crude. Against this risk-laden backdrop, oil futures posted uneven increases. In November, WTI prices posted the largest month-on-month increase, up by around \$10.75/bbl to \$97.15/bbl. By contrast, Brent futures were up a more modest \$1.70/bbl to about \$110.50/bbl. At writing, prices for Brent were trading at a lower \$107/bbl while WTI was slightly higher at \$98/bbl.

The Euro zone crisis remained acute, as EU leaders struggled to find common ground to resolve deepening debt issues, with the heightened macroeconomic risks adding downward pressure on oil prices. Moves by EU member countries, with the exception of the UK, to strengthen the body's fiscal

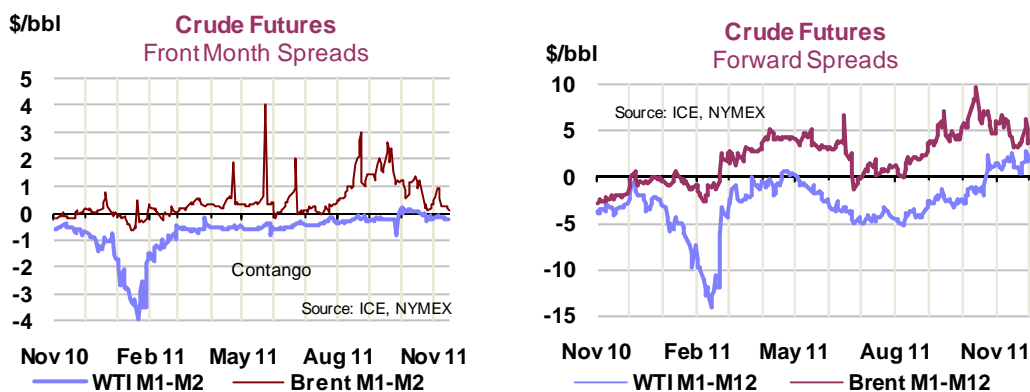
union at a summit on 9 December failed to reassure markets. Expectations that the major credit agencies may downgrade ratings of key EU members in coming weeks is also weighing on markets.

Indeed, the tenuous economic outlook is behind downward revisions in this month's projections for global oil demand in 2011 and 2012, off by 0.16 mb/d and 0.2 mb/d respectively. Global oil demand is nonetheless expected to rise by 1.26 mb/d, to 90.3 mb/d, in 2012, and seasonally strong demand, especially in Asia, is helping to put a floor under prices.



Tighter physical markets in the wake of supply disruptions in Libya, Yemen, Syria, Sudan, the North Sea and elsewhere are buttressing crude markets. Unplanned non-OPEC supply outages are pegged at around 700 kb/d in 4Q11 (see Supply, 'Planned and Unplanned Outages Dent 2011 Non-OPEC Supply'). The outages come at a time when OECD industry crude stocks, and especially in Europe, are at historically low levels, with refiners opting to drawdown inventories given high crude prices. In particular, European refiners, plagued by poor profit margins, are reportedly finding it more difficult to secure letters of credit for crude purchases.

The prospect of an EU import ban on Iranian crude as well as other broader sanctions, and possible political or military retaliation by Iran, is also supporting crude oil markets (see Supply, 'Intensified International Sanctions Target Iranian Oil Industry'). No concrete actions have yet been agreed at a political level and, in the case of the EU, it is expected that a decision on a ban will be deferred until foreign ministers next meet on 30 January 2012. Mediterranean refiners, already struggling with supply shortfalls from Libya and Syria and poor margins, would likely see the biggest impact from an EU ban on Iranian oil. Refiners could seek alternative barrels from Saudi Arabia, Russia and Iraq but the crude quality will not be an exact match. Arguably, a selective EU or OECD embargo would have a greater impact on inter-regional crude price differentials, and in narrowing heavy/sour crude discounts than on the absolute price of crude benchmarks in general. Current market discussions are also focused on the possibility of a widespread ban on dealings with the Central Bank of Iran, which would effectively halt all payments for oil, unless barter arrangements were set up in their stead.



The current conflicting market dynamics are evident in the forward curves for benchmark crudes. Current backwardated markets for 12 months forward signal market expectations of continued tight

markets, though the spreads have narrowed over the month under the weight of economic worries. The Brent M1-M12 remains backwardated but narrowed in early December to around \$3.50/bbl compared with \$4.90/bbl in November and around \$6.50/bbl in October. The WTI M1-12 contract moved back into contango in early December, to -\$1.25/bbl versus \$1.45/bbl in November and \$0.88/bbl in October.

### Prompt Month Oil Futures Prices

(monthly and weekly averages, \$/bbl)

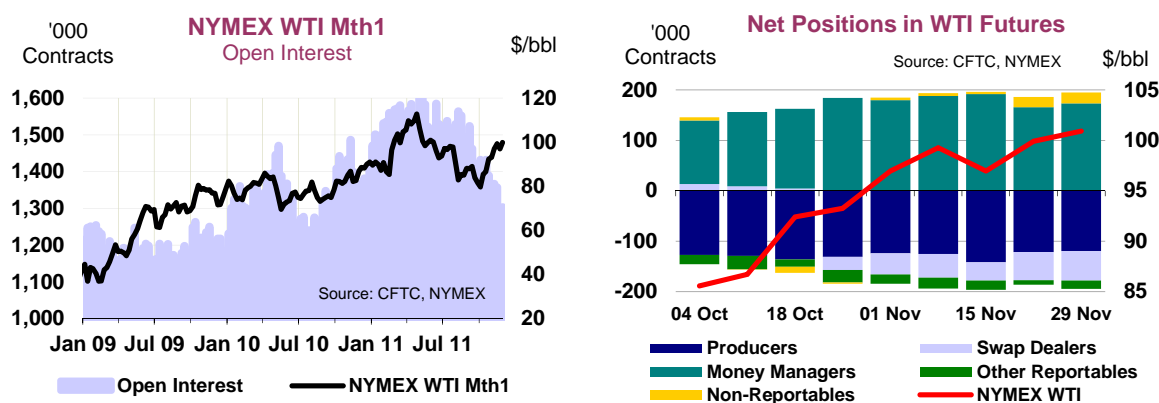
	Sep	Oct	Nov	Nov-Oct Avg Chg	% Chg	Week Commencing:				
						07 Nov	14 Nov	21 Nov	28 Nov	05 Dec
<b>NYMEX</b>										
Light Sweet Crude Oil	85.61	86.43	97.16	10.73	11.0	96.97	99.27	96.97	99.90	100.10
RBOB	114.46	112.61	108.50	-4.10	-3.8	111.88	106.96	105.18	107.51	109.27
No.2 Heating Oil	123.22	124.27	128.63	4.36	3.4	131.52	130.90	125.11	125.76	124.65
No.2 Heating Oil (\$/mmbtu)	21.15	21.33	22.08	0.75	3.4	22.58	22.47	21.48	21.59	21.40
Henry Hub Natural Gas (\$/mmbtu)	3.85	3.62	3.56	-0.07	-1.9	3.67	3.39	3.45	3.56	3.43
<b>ICE</b>										
Brent	109.91	108.79	110.49	1.70	1.5	113.95	110.39	107.42	109.85	109.38
Gasoil	124.89	123.84	129.27	5.43	4.2	132.08	131.61	126.52	127.50	127.14
<b>Prompt Month Differentials</b>										
NYMEX WTI - ICE Brent	-24.30	-22.36	-13.33	9.03		-16.98	-11.12	-10.45	-9.95	-9.27
NYMEX No.2 Heating Oil - WTI	37.61	37.84	31.47	-6.37		34.55	31.64	28.14	25.86	24.54
NYMEX RBOB - WTI	28.85	26.18	11.34	-14.84		14.92	7.70	8.22	7.61	9.17
NYMEX 3-2-1 Crack (RBOB)	31.77	30.07	18.05	-12.02		21.46	15.68	14.86	13.69	14.30
NYMEX No.2 - Natural Gas (\$/mmbtu)	17.31	17.71	18.53	0.82		18.91	19.09	18.02	18.03	17.97
ICE Gasoil - ICE Brent	14.98	15.05	18.78	3.73		18.13	21.22	19.09	17.65	17.76

Source: ICE, NYMEX

## Futures Markets

### Activity Levels

Crude oil positions were liquidated in November by CME and ICE traders, as they limited their exposures to risky assets due to growing fear about the health of the global economy, particularly concerns about the European debt crisis. The loss of faith in the concept of customer segregated funds after the collapse of MF Global may have also contributed to the decline in open interest across commodities, at least temporarily. Open interest in New York CME WTI futures and options contracts plunged by 11.8% to 2.3 million contracts in November, reaching its lowest level in four years. Meanwhile, open interest in futures-only contracts also sank to a four-month low in November from 1.37 million to 1.33 million. During the same period, open interest in London ICE WTI contracts dropped to 0.43 million and 0.48 million in futures-only and combined contracts, respectively. Open interest in ICE Brent contracts also declined to 0.92 and 1.04 million contracts in futures-only and combined contracts, respectively.



Money managers reduced their bets on rising WTI crude oil prices in New York in recent weeks, shrinking the number of net futures long holdings to 174 323 contracts from the high of 191 796 contracts in the

week ending 15 November, as a response to renewed concerns over the health of the Euro-area economy. Overall, in November, net futures long positions of managed money traders fell from 188 881 to 174 323 contracts in New York, while increasing from 9 926 to 12 127 contracts in London. Over the same period, money managers increased their Brent futures net long position by 39% from 61 559 to 85 516 contracts, partly due to concerns over Iranian and Syrian oil supply.

Producers also reduced their net futures short positions in November; they held 20.15% of the short and 11.28% of the long contracts in CME WTI futures-only contracts. Swap dealers, who accounted for 31.72% and 36.65% of the open interest on the long side and short side, respectively, increased their net short position by 18 476 contract to hold 65 689 net short in November. In the meantime, producers' trading activity in the London WTI contracts showed a similar pattern with CME WTI contracts. Producers switched to a net long position in London ICE WTI contracts after reducing net short position by 6 069 contracts from last month's net short position of 4 943 contracts. Swap dealers, on the other hand, increased net short positions to 22 413 from 13 632 contracts in the week ending 6 December 2011.

Index investors increased their long exposure in commodities in October by \$21 billion. They added \$7.9 billion to WTI Light Sweet Crude Oil, both on and off futures contracts in November; however, the number of futures equivalent contracts declined to a ten-month low of 641 000 contracts, equivalent to \$59.50 billion in notional value due to the increase in oil prices from end-September price of \$79.20/bbl to end-October price of \$93.19/bbl .

### Positions on NYMEX Light Sweet Crude Oil (WTI) Futures Contracts

Thousand Contracts

06 December 2011	Long	Short	Net	Long/Short	Δ Net from Prev. Week	Δ Net Vs Last Month
<i>Producers' Positions</i>	150.4	268.5	-118.2	<i>Short</i>	↑ 1.9	↑ 7.1
<i>Swap Dealers' Positions</i>	206.5	272.1	-65.7	<i>Short</i>	↓ -7.9	↓ -18.5
<i>Money Managers' Positions</i>	210.8	36.4	174.3	<i>Long</i>	↑ 0.9	↓ -13.9
<i>Others' Positions</i>	97.4	116.0	-18.5	<i>Short</i>	↓ -1.6	↑ 2.6
<i>Non-Reportable Positions</i>	86.3	58.2	28.0	<i>Long</i>	↑ 6.7	↑ 22.6
<i>Open Interest</i>			1332.5		↑ 30.0	↓ -33.7

Source: CFTC

The debate over MF Global, the top broker by volume at CME's metals and energy exchanges in New York before its collapse, still continues. It has been revealed by the trustee liquidating the company that the initial estimate of a \$633 million shortfall in commodity customer funds by the CFTC was overly optimistic. The actual shortfall could be as much as \$1.2 billion.

### Market Regulation

On 5 December 2011, the CFTC approved the final rule on how brokerage firms can use customer funds. The rule has been delayed since July after being lobbied against by brokerage firms, such as MF Global. In order to restore confidence in customer-segregated accounts, the final rule restricts the investment of customer funds to money markets funds, US Treasuries and municipal debts. The rule bans investment in 'in-house' transactions, where brokerage firms use customers' funds to make proprietary trades for their own accounts and investments in foreign sovereign debt.

As noted in the previous OMR, the debate over position limits turned to its second stage. On 2 December 2011, less than two weeks after the CFTC Commissioners voted in favour of establishing federal speculative positions limits on 28 commodities in a contentious 3-2 vote, the International Swaps and Derivatives Association (ISDA) and the Securities Industry and Financial Markets Association (SIFAM) filed a lawsuit in the federal court challenging the CFTC's position limits rule. As predicted, they have challenged the final rule based on whether the Commission overreached its mandate by pre-emptively



setting a position limit on derivatives contracts, on the almost non-existent cost-benefit analysis in the final rulemaking, as well as insufficient review of some of the comments letters, which the Commission was obliged to take into account. They specifically used substantive comments letters, as well as Commissioners Sommers, O'Malia and Dunn's statements to challenge the final rule on position limits.

### ***Seeking Common Ground on Oil Market Drivers***

As part of their remit covering joint activities set out in the Cancun Ministerial declaration of March 2010, the IEA, IEF and OPEC jointly hosted their second annual workshop on linkages between physical and financial oil markets in Vienna on 29 November 2011. Over 100 participants attended from across the spectrum of research institutions, major oil producers and consumers, the financial sector, regulators and policy makers. Participants reviewed recent studies on commodity price formation, the role of price reporting agencies, developments in regulatory reform in the energy derivatives markets, and emerging issues and key challenges. A full joint report on the workshop will be provided to IEF Ministers ahead of their next meeting in Kuwait in March 2012. The following represents the IEA's version of key take-aways from the Vienna event.

The debate on linkages between financial and physical oil markets has evolved over time. Opinion remains polarised between those seeing the majority of recent price move being due to oil market fundamentals and those who see speculative activity and the financialisation of commodities as amplifying price shifts in the short run. However, participants have different views on the concept of financialisation and what is meant by 'short run', making it difficult to agree on the true impact of speculative activity, on oil prices.

Some participants dated financialisation back to the rapid growth of commodity index investment around 2004, while others argued that the emergence of hedge funds, index funds, electronic trading and exchange traded funds (ETFs) and exchange traded notes (ETNs) were part of the process and therefore started around 2002. Furthermore, there was no consensus on what constitutes the 'short-run'. Most market participants consider short-term to mean an intra-daily, or at most weekly, time horizon. However, some argued that prices might overshoot equilibrium levels for prolonged periods of time and that the extent of overshoot can be extreme.

### ***The Impact of Speculation on Prices***

While entrenched views on the role of speculation and fundamentals were evident, a majority of experts tended to view speculators as playing a more limited role than fundamentals, at least over longer periods of time. Market participants emphasised the important role of commodity derivatives markets in providing price discovery and transfer of risks, while acknowledging the strong linkages between financial and physical markets. They argued that physical and derivatives markets work in an integrated fashion. If futures prices did not reflect the underlying cash market, these should converge during the delivery period unless the delivery mechanism is itself broken. It was stressed that futures prices are not a particularly good predictor of long-run commodity demand and supply and therefore should not be used for price forecasting purposes, but instead for the transfer of risk. Physical market players extensively use derivatives markets to hedge price risks that arise in the period between production and delivery to consumers. As prices can be highly volatile, it is important that derivatives markets are highly liquid so that hedging can be matched to physical pricing. Therefore, the presence of speculators is necessary for derivatives markets to function properly. The natural question is, of course, whether speculators can affect commodity prices.

Before attempting to answer this question, market participants recognised that the distinction between hedging and speculation in futures markets is less than clear-cut. Traditionally, traders with physical commodity exposure have been called hedgers, while those without a physical position to offset have been called speculators. In practice, however, commercial traders may "take a view" on the price of a commodity or may not hedge in the futures market, despite having an exposure to the commodity, positions that could be considered speculative. Therefore, it is difficult to separate hedging from speculation. Keeping this fact in mind, alongside the limitations of the data employed by academic research, the weight of evidence shows no short run relationship between changes in commodity prices and changes in speculative positions. However, a few studies found a significant impact from investment flows by non-user participants on prices and volatility of commodities.

Participants agreed that the physical oil market is highly competitive, with physical prices determined by supply and demand. No oil firm can pass on any losses or gains from hedging or speculation on the financial

### *Seeking Common Ground on Oil Market Drivers (continued)*

markets in the form of higher or lower physical prices. To affect physical prices, futures prices must impact upon physical supply and demand. But how can futures prices impact physical supply and demand? The majority of experts agreed that the most important mechanism is through cash and carry arbitrage. If speculators correctly foresee an upcoming shortage (a future increase in demand or reduction in supply), they will bid up futures prices. With futures prices higher than spot prices, this sets off cash and carry arbitrage. Oil is pulled off the market and put in storage at times of relative abundance, and is brought back to the market in a later period of relative scarcity. In these circumstances, price swings that would have occurred from a shift in supply and demand are moderated. That is to say, the market works and the price swing is less than it would have been otherwise. However, if speculators were wrong about their prediction of coming shortage, oil may be pulled off the market in time of relative scarcity and brought back in a time of relative plenty. In this situation, cash and carry arbitrage exacerbates the price swing. In either case the impact is on the short-term price pattern and not on the long-run level of prices. Speculators can increase the price swings only if their predictions are incorrect. However, speculators have a strong incentive to correctly forecast market shifts. In this case, cash and carry arbitrage moderates price fluctuations. There might be other channels for financial players to affect physical supply and demand. If physical market players get irrational signals from futures prices, then their actions based on irrational signals will feedback into irrational expectations.

### *Volatility in Oil Prices*

Participants agreed that intra-daily volatility in oil prices increased over the last year. However, there was a clear disagreement on the causes and remedies for such intra-daily volatility. As expected, those who saw speculative activity and the financialisation of commodities as amplifying price moves in the short run argued that speculative trading as well as high frequency traders play a major role in intra-day volatility. They argued that limiting high frequency traders and speculative activity are necessary to abate volatility in oil prices. However, others argue that volatility is related to uncertainty over the health of the global economy, as oil prices naturally track any macroeconomic news, particularly news coming from euro-zone countries. The geopolitical risk premium also added to volatility in oil prices. In addition, the lack of supply chain flexibility amplifies the natural volatility in prices. They further argued that data gaps, especially on physical demand, supply, inventories and transportation, contribute to price volatility. Participants emphasised the importance of improving data transparency in both financial and physical markets to reduce price volatility. Markets participants generally noted that eliminating the geopolitical risk premium by promoting favourable conditions for investments is necessary to reduce volatility in oil prices.

### *Other Emerging Issues in the Oil Market*

The need for dialogue between industry and price reporting agencies was emphasised by some market participants. Some argued there is a need for an oversight and appeal agency when there is disagreement between industry and price reporting agencies. However, others argued that the role of price reporting agencies is well defined, and that the current structure works, leaving no need for government regulation.

Market participants also voiced their concerns about the unexpected consequences of the credit crunch, affecting the European banking system, in the form of lack of finance for spot crude and product cargoes which can be traded only with a letter of credit opened by a bank. The European banking system which is used to finance trade no longer has access to liquidity. The absence of liquidity in the Euro-zone system suggests that oil traders cannot easily access credit, thereby limiting oil trading activity.

Participants stressed that the correlation between individual commodities and other asset classes, including equities and exchange rates, has been gradually increasing over the last few years. Some suggested that hedge funds played an important role in causing this cross market linkages. However, others argued that the increase in correlation is concentrated among indexed commodities, which suggests that this has more to do with the attractiveness of commodity index investments.

Market participants argued that the emergence of ETFs or ETNs-type investment vehicles is less likely in oil markets as opposed to metals markets. The key difference is that it is extremely easy to store metals, with the exception of aluminum, with a minimal cost of storage. However, crude oil is an entirely different commodity and the costs involved in storage are enormous because oil takes up much more physical space. Overall, there is limited storage capacity available compared to the level of daily supply.

### **Seeking Common Ground on Oil Market Drivers (continued)**

Market participants also emphasised that as soon as assets (stocks, bonds, houses or commodities) become sophisticated enough to be transacted in the market, economy-wide speculative beliefs will emerge, which can be transmitted into asset prices. This is the cost of progress. Since the oil market is part of large financial assets markets, there is no easy way to extract the oil market from the larger financial community. Therefore, it cannot be considered in isolation and well-designed rules are needed to bring efficiency and transparency to the commodity derivatives markets.

#### **Market Regulation**

Since the US financial reform package, formally the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), the CFTC has put forward 18 final rules. The CFTC have already proposed rules on regulation of dealers. There are various rules on clearing and trading mandates. The purpose of the rules on clearing and trading is to reduce risk by moving “standardised” derivatives onto clearing houses and to execute standardised swaps with more pre-trade transparency. The provision on trading oversight and market transparency includes regulation of swaps trading platforms (swap execution facilities (SEFs) and designated contract markets (DCMs)) and various post-trade transparencies. The provision on transparency to regulators includes reporting data on swap trades to regulated swap data repositories (SDRs), which are required to register with the CFTC, or reporting data directly to the Commission if there are no SDRs accepting the data. The final key element of the Act is the position limit on certain commodities.

The European Commission also issued several communications regarding commodity markets and raw materials. The first vehicle related to energy markets is the regulation of wholesale energy market integrity and transparency, so called REMIT, published in July 2011. The REMIT aims to prevent market abuse and manipulation in wholesale energy markets and to increase transparency for trading on those markets. The European Commission issued three proposals on financial markets that have an impact on commodity derivatives. The first deals with the regulation of OTC Derivatives (European Market Infrastructure Regulation (EMIR)). On 15 September 2010, the European Commission published its final proposal, which sets out to increase stability within OTC derivative markets by introducing a reporting and clearing obligation for eligible OTC derivatives as well as common rules for central counterparties (CCPs) and for trade repositories. The second proposal, published on 20 October 2011, aims to update and strengthen the existing framework to ensure market integrity and investor protection provided by the Market Abuse Directive (MAD). The third proposal deals with the transparency and oversight of the financial markets in the European Union (Markets in Financial Instruments Directive (MiFID), with final proposals also published on 20 October 2011. Specifically, proposals call for standardisation of all OTC derivative contracts traded on organised venues, narrowing of exemptions for commodity firms in line with G-20 commitments, creation of a new trading venue category (“organised trading facility – OTF”), more transparency of trading, including pre- and post-trade transparency, a position reporting obligation by type of participants, and position limits or some other type of position management.

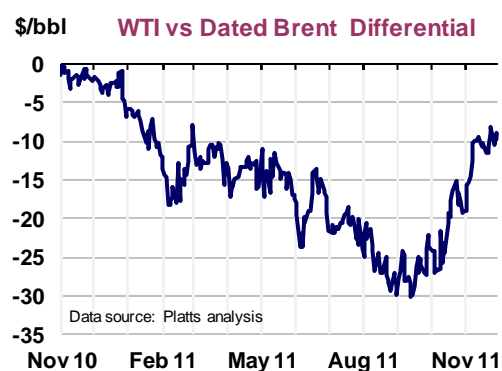
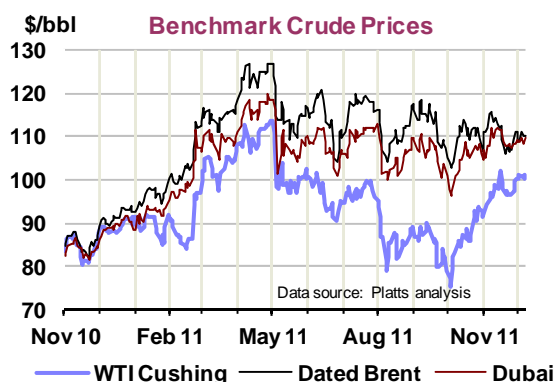
While market participants emphasised the need for more international coordination to ensure consistent and effective oversight in OTC markets, they also argued that some of the proposed regulations might have unintended consequences in the market place. These include:

- Hard position limits will severely constrain trading activity which would lead to increased, rather than reduced, volatility. Liquidity in futures markets, and especially in swaps markets, would be unnecessarily impaired.
- Commodity trading belongs to two worlds: physical and financial, and to avoid unintended consequences, there is a need for more specific regulation on commodities than is encompassed by broad financial regulation.
- OTC markets are for professionals; not for retail investors. The role of brokers is primary in providing transparency. Transparency will disappear if trading is forced to move into platform- based trading systems with a view of pre-trade transparency. Moving swaps onto platforms may create increased volatility due to higher volume as experienced in regulated markets when electronic trading was introduced.
- Regulatory arbitrage opportunities might undermine the impact of new regulations in countries where more stringent rules are to be implemented.

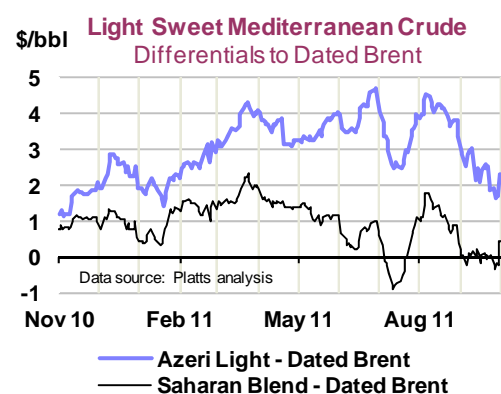
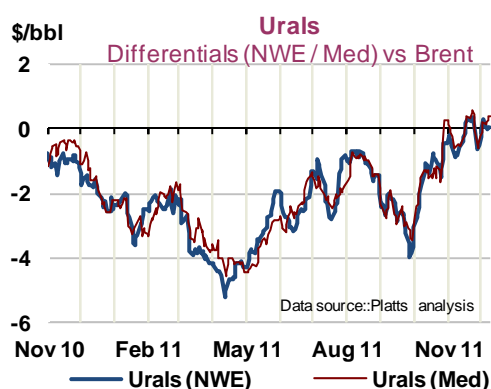
## Spot Crude Oil Prices

Spot crude oil markets strengthened in November and early December, underpinned by brisk physical demand heading into the winter season, ongoing extraordinary supply disruptions in Syria and Sudan, continued North Sea production problems, and mounting concerns over the proposed EU embargo on Iranian crude oil imports. However, gains were uneven for the major benchmark crudes given diverging regional economic and market developments, with Brent up a modest \$1.23/bbl to an average \$110.66/bbl, Dubai up by \$5.05/bbl to \$109/bbl and WTI up a steeper \$10.72/bbl, to \$97.17/bbl.

With price gains for Brent far outpaced by WTI, the differential between the two grades narrowed sharply. Brent's premium over WTI averaged about \$13.50/bbl in November, compared with \$23/bbl in October and \$27.57/bbl in September. By early December, the Brent-WTI spread was below \$10/bbl.



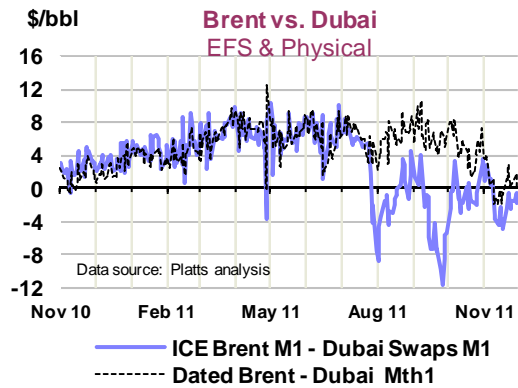
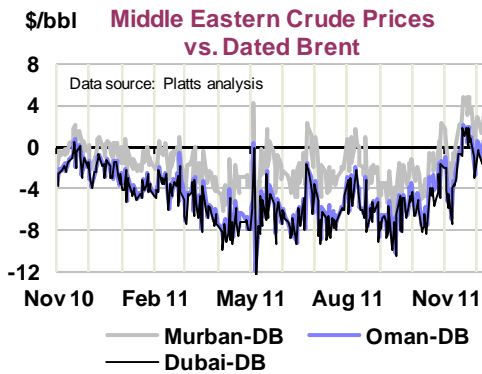
Dated Brent's upward price moves were tempered by the exceptional surge of bearish euro zone economic news, as well as the steady return from outages of Libyan and most North Sea crudes over the month. European crude markets were whiplashed in November, with the rise in Libyan exports countered by the prospect of an EU ban on imports of Iranian crude oil into the region. Despite increased exports of Libyan crude, light/sweet and heavy/sour crude spreads have widened again in November on relatively weaker Brent prices. The price spread for Azeri Light-Brent widened from around \$2.85/bbl in October to \$3.95/bbl in November, and was around \$4.65/bbl in early December.



In November, Urals strengthened to a rare premium over dated Brent, due in part to relatively weaker Brent prices and in part to reduced Urals exports, as buoyant domestic demand translated into less Russian crude available on spot markets after the state fulfilled its term contractual obligations. Urals was trading above Brent by around \$0.20/bbl in early December compared to a monthly average of -\$0.12/bbl in November and a more normal -\$1.35/bbl in October. Compared to a year ago, final October data indicate that Russian seaborne cargoes exported via Primorsk and Novorossiysk fell by a combined 250 kb/d.

In the US, WTI gained ground on stronger demand and crude stock draws for the month. An unexpected announcement that the Seaway pipeline, which currently runs from the US Gulf Coast to Cushing, would be reversed by April 2012 took pressure off landlocked WTI spot crude prices.

In Asia, Mideast sour crudes were buoyed by stronger demand for fuel oil and the seasonal shift to distillate-rich grades for winter heating. Dubai’s discount to Dated Brent narrowed sharply, from an average -\$5.48/bbl in October, to -\$1.66/bbl in November and was last trading at -\$0.68/bbl in early December. Dubai crude is heavily backwarddated, with the difference between the first and second month contracts swelling to over \$2/bbl in late November/early December. By contrast, exceptionally weak demand for naphtha saw spot prices for lighter crudes weaken.



Despite the relative strength of east of Suez markets, Asian buyers of Saudi crude were taken aback by the steep price increases for January liftings. Saudi Aramco raised official selling prices (OSPs) for Asian customers sharply. Asian OSPs, based on the average of Dubai and Oman grades, were increased to record levels for three of the Kingdom’s five grades. Arab Light was raised by \$1.65/bbl to a premium of \$4.15/bbl, while Arab Heavy saw its OSP sell at a premium to the Dubai/Oman average for the first time ever. Asian refiners, which have seen their margins crumble in recent weeks, say the Saudi price increases were too steep and will look elsewhere for alternative crudes if needed in January. As expected, most other Middle East producers raised prices in line with the Saudis. This raises the prospect that Saudi Arabia may be positioning itself for a relative westbound shift in sales, even though prices into Europe also increased for January.

**Spot Crude Oil Prices and Differentials**

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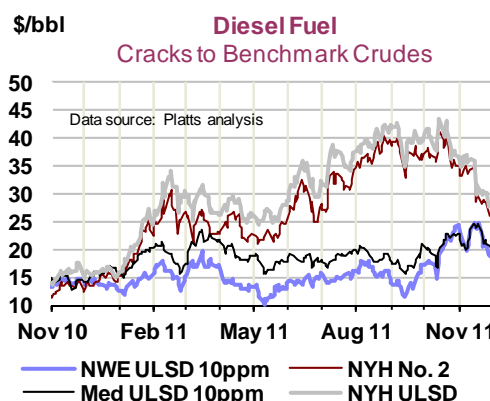
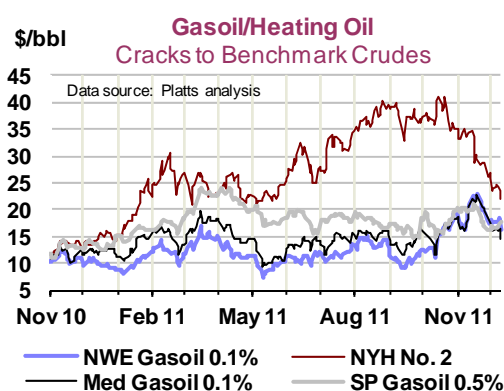
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## Spot Product Prices

Middle distillate markets remained tight in November, with crack spreads increasing further month-on-month, although higher supply and mild weather pressured crack spreads lower towards the end of the month and in early December. Gasoline markets, on the other hand, continued to weaken in November, with monthly crack spreads negative in both the Mediterranean and the US Gulf.

**Middle distillate** crack spreads increased month-on-month in all regions, except for New York Harbor, where a relatively stronger WTI caused crack spreads to fall. A combination of stock levels already at or below the five-year average, low refinery runs and increasing demand, are the main factors behind the tightness. We also note elsewhere the extra marginal impetus that soaring light tight oil activity in North America may be having. The supply situation improved in the second half of the month, however, as more refinery capacity came back on stream and as mild weather limited demand.



The tightness in the European middle distillate market continued in November, and diesel crack spreads reached a robust \$25/bbl around mid-month, before higher refinery runs and subdued weather-related demand led to stocks building correspondingly. The observed stock build, both in ARA and according to preliminary Euroilstock data for November, was partly due to unusually low water levels on the Rhine in November, causing distribution problems for both heating oil and diesel from the ARA region to the German and Swiss inland markets. Middle distillate supplies have so far this quarter been constrained by a slower-than-usual ramp up in European refinery runs and lower exports from Russia, as well as less supplies arriving from Asia.

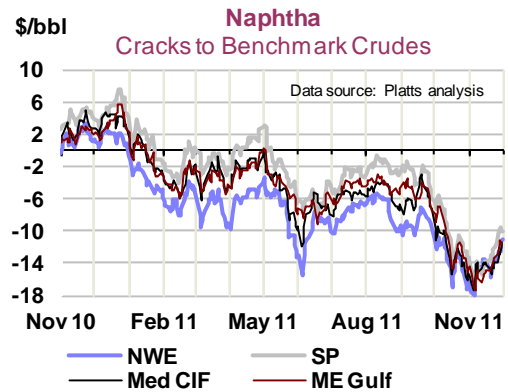
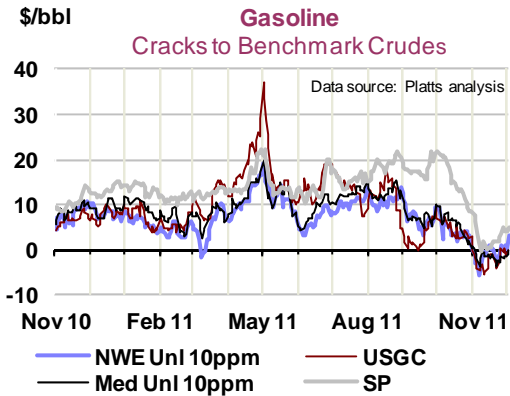
Although the arbitrage from Asia was open, less volumes have been available for export. Strong domestic demand and heavy refinery maintenance have also curtailed Russian export supplies this autumn. Limiting exports further, is the ban on domestic sales of above 500 ppm gas oil, which took effect in September, reducing ULSD volumes available for exports. On top of this, Russia has been building domestic strategic stocks, which also reduced volumes available in the market.

The US middle distillate market was also tight due to reduced supply during peak refinery maintenance season and stronger demand, both domestically and for export, leading to stock levels falling further below the five-year average. On the supply side, refinery runs have been increasing slower than usual after the autumn maintenance season. Although heating oil demand so far has been low thanks to the mild weather, latest available US demand data show that transport diesel demand continues to rise. Latin American demand for middle distillates is still strong, while high European prices also drew volumes over the Atlantic. In the US Gulf coast heating oil crack spreads to Mars increased by around \$3/bbl in November to \$18.60/bbl.

In Asia, the tight market situation improved somewhat throughout November, with more refinery capacity coming on stream, and data showing that stocks in Singapore were building. Nonetheless, fear

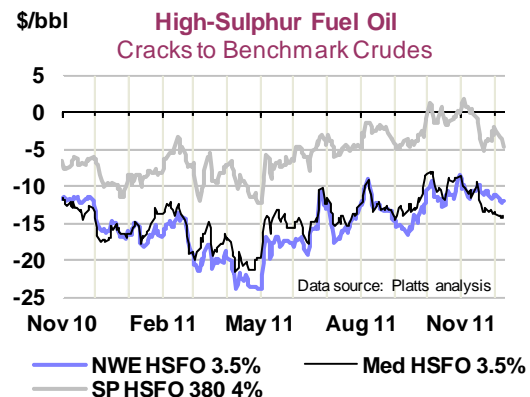
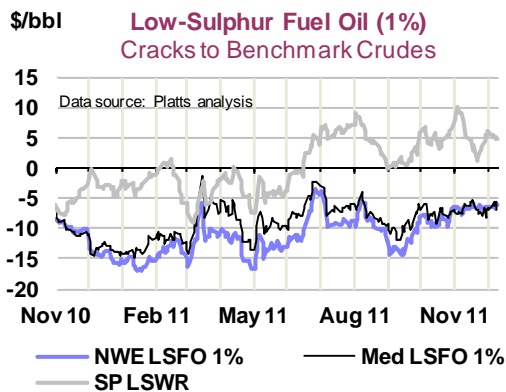


of diesel tightness was supportive to prices, as China continued to be a net importer in November. However, with increasing domestic refinery runs, import needs are expected to fall in the coming months, which also contributed to pressure prices lower in the latter half of the month.



**Gasoline** crack spreads fell steeply in all regions in November; in Singapore gasoline spreads to Dubai fell \$14.36/bbl to just \$3.86/bbl. In the Mediterranean, gasoline cracks were negative on average in November, as they were for both LLS and Mars gasoline cracks at the US Gulf Coast. Even though the ramp-up in refinery runs has been slow this autumn, the additional production added to the depressed situation for gasoline, with stock levels above average in all major regions throughout November. At the same time, US weekly data showed gasoline demand falling further in November, reinforcing the negative sentiment. The trend was to some degree reversed at end-November when weekly US data showed increased gasoline demand and gasoline stocks building less than expected. This opened the arbitrage from Europe, lifting European markets as well.

November was another depressing month for **naphtha**, with prices continuing to trade at a steep discount to crude, and crack spreads falling a further \$3-6/bbl month-on-month, leaving differentials negative at \$14-15/bbl on average for the month in both Europe and Asia. Crack spreads rebounded somewhat at end-November on reports of lower stock levels in Europe, but fundamentals are still weak. Naphtha markets have been depressed not only by the weak gasoline markets, but also as demand for petrochemical products has been affected by the economic downturn, with ethylene margins being negative since end-October. Additional pressure has come from lower prices for the alternative feedstock propane.



For the bottom of the barrel, **HSFO** cracks weakened in November, with the exception of NW Europe. The most important drivers pressuring crack spreads lower were a partly closed arbitrage to Asia and lower demand for alternative feedstock with more supply from the North Sea and Libyan production ramping up. The market for on-spec bunker fuels in Singapore remained tight.

## Spot Product Prices

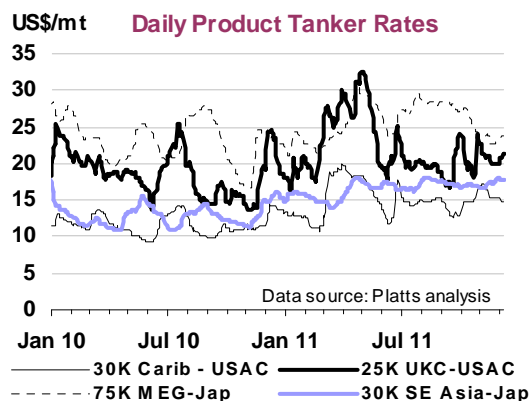
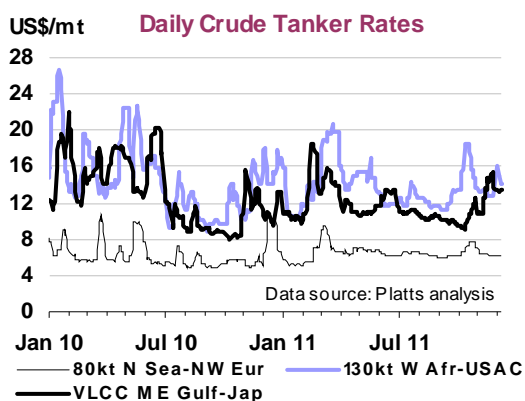
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## Freight

Crude freight rates for larger vessels continued their recovery in November. High demand east of Suez for Middle Eastern grades, notably from Asian refineries exiting maintenance and a seasonal increase in the use of crude in the still-earthquake-affected Japanese power sector, helped to sustain the recovery in the VLCC Middle East Gulf – Japan rate through November. Rates increased steadily over the month to breach the \$15/mt level in the last week of November, reportedly moving Time Charter Equivalent earnings (under design speeds) out of negative territory for the first time since June. However, as has been the case for much of 2011, demand was not sustained, and the rate fell back close to \$13/mt by the first week on December. In the Suezmax market, the benchmark West Africa – US Atlantic Coast route firmed over the month, although, weighed down by plentiful tonnage, it remained flat for the first three weeks before surging to over \$16/mt at month-end after cargoes picked up.

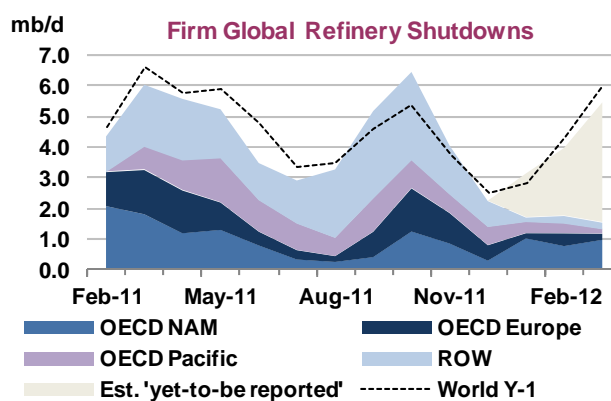
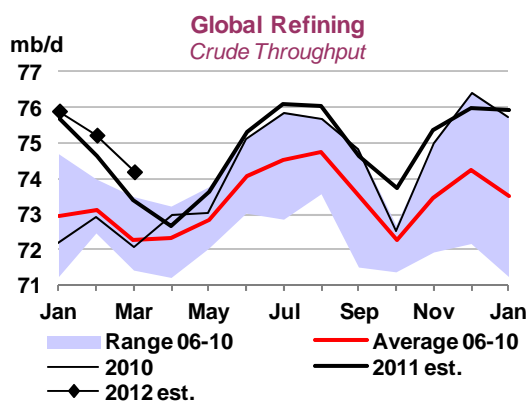


2011 looks like being one of the worst years on record for the beleaguered tanker industry. Oversupply from a raft of new builds ordered pre-recession entering the market has combined with surging bunker costs to erode earnings and force many owners to the wall. Indeed, in November, General Maritime Corporation filed for bankruptcy and Frontline, one of the sector's biggest players, publically admitted that it requires significant restructuring to survive. Unless there is an unexpected surge in demand the difficult operating environment is expected to persist into 2012 with these tanker owners unlikely to be the last experiencing such tribulations.

# REFINING

## Summary

- **Global refinery crude throughputs fell by close to 1 mb/d in October**, as OECD autumn maintenance hit its seasonal peak. 4Q11 estimates are largely unchanged since last month's report, at 75.1 mb/d, as weaker-than-expected Chinese runs in October and a slightly lower profile for the OECD were offset by higher rates in Latin American and the FSU. After three quarters of relatively weak annual growth (250 kb/d on average), global runs are expected to rebound to 75.8 mb/d in 1Q12, up 1.2 mb/d versus the prior year.
- **OECD refinery crude runs fell by 920 kb/d in October**, to 35.8 mb/d, or 1.2 mb/d above the same month a year earlier. The steepest monthly decline came from North America, as autumn maintenance hit its seasonal peak, though runs were down also in Europe and Japan. Conversely, year-on-year gains came mostly from the US and France, where runs were exceptionally weak in 2010, notably in France due to industrial action.
- **Refinery margins generally fell in November** as higher distillate and fuel oil cracks failed to offset increases in crude and weaker gasoline and naphtha prices. On average, profitability for all crudes and refining centres surveyed was in negative territory in the month, except for cracking margins in Northwest Europe.
- Compared with the June 2011 *Medium-Term Oil and Gas Market Report*, **global crude distillation capacity additions for the 2010-2016 period are revised down by 0.9 mb/d, to 8.7 mb/d**. Continued rationalisation in mature OECD markets accounts for most of the change, with a further 800 kb/d of capacity announced shut since the June report. All of the net capacity growth comes from the non-OECD, and most notably Asia, which accounts for 50% of all additions.



## Global Refinery Overview

Refinery margins went from bad to worse in November, and plunged into negative territory for all benchmarks surveyed, bar Northwest Europe cracking configurations. The collapse in gasoline cracks and still higher crude prices outweighed any seasonal improvement in middle distillate prices. Increased product supplies from refiners exiting turnarounds met continued weak demand, due both to economic weakness and mild weather. November crude runs are estimated to have rebounded by almost 1.8 mb/d from October's low. Increases stem from both the OECD, where autumn maintenance peaked in October, and in Asia, as refiners came back from scheduled and unscheduled outages. Chinese refinery runs rebounded and reached record-highs in November, to avoid domestic product shortages, after several months of unexpectedly weak runs. The increase came despite lower retail prices from October.

Overall, our estimate for 4Q11 runs is largely unchanged since last month's report (+20 kb/d), at 75.1 mb/d. Higher Latin American and Russian runs were offset by disappointing Chinese rates in October and a slightly weaker outlook for the OECD for the remainder of the year. Record-high Brazilian runs in October and revisions to Venezuelan throughputs lifted the Latin American total by nearly 200 kb/d for the quarter compared with last month's report. 1Q12 runs are seen rising to 75.8 mb/d, or 1.2 mb/d up on the same quarter a year earlier. This compares to growth of only 255 kb/d on average over the previous three quarters.

### Global Refinery Crude Throughput<sup>1</sup>

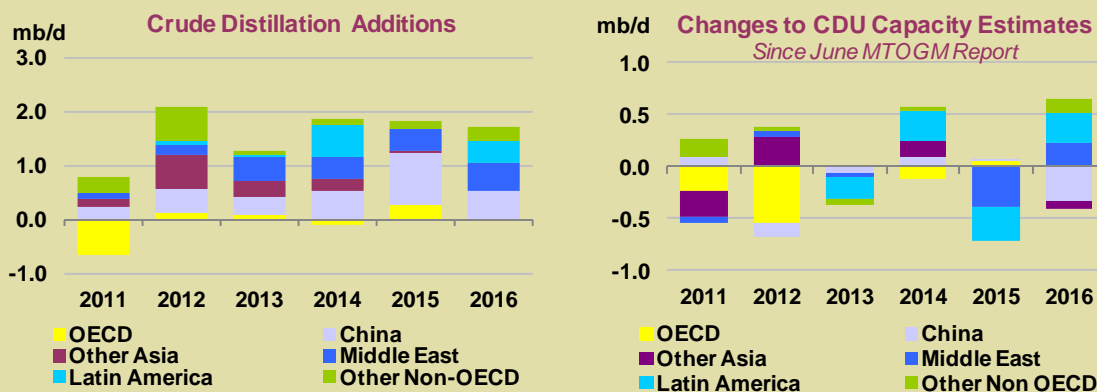
(million barrels per day)

	Aug 11	Sep 11	3Q2011	Oct 11	Nov 11	Dec 11	4Q2011	Jan 12	Feb 12	Mar 12	1Q2012
North America	18.5	18.1	18.3	17.4	17.8	17.6	17.6	17.3	17.1	17.2	17.6
Europe	12.6	12.2	12.4	12.0	12.2	12.4	12.2	12.5	12.3	12.0	12.4
Pacific	6.5	6.4	6.4	6.4	6.6	6.7	6.5	7.0	6.9	6.5	6.8
<b>Total OECD</b>	<b>37.7</b>	<b>36.7</b>	<b>37.2</b>	<b>35.8</b>	<b>36.5</b>	<b>36.7</b>	<b>36.3</b>	<b>36.8</b>	<b>36.3</b>	<b>35.7</b>	<b>36.7</b>
FSU	6.7	6.2	6.5	6.4	6.5	6.7	6.5	6.6	6.5	6.4	6.6
Non-OECD Europe	0.5	0.5	0.5	0.4	0.6	0.6	0.5	0.6	0.6	0.6	0.6
China	8.7	8.8	8.8	8.7	9.2	9.3	9.1	9.2	9.2	9.3	9.3
Other Asia	8.7	8.8	8.9	8.7	9.0	9.1	9.0	9.2	9.2	9.1	9.1
Latin America	5.4	5.5	5.4	5.4	5.4	5.4	5.4	5.3	5.3	5.2	5.3
Middle East	6.3	6.3	6.3	6.3	6.2	6.0	6.2	6.0	5.9	5.8	6.1
Africa	2.2	1.9	2.1	2.1	2.1	2.2	2.1	2.3	2.3	2.2	2.2
<b>Total Non-OECD</b>	<b>38.4</b>	<b>38.0</b>	<b>38.4</b>	<b>38.0</b>	<b>39.0</b>	<b>39.3</b>	<b>38.7</b>	<b>39.1</b>	<b>39.0</b>	<b>38.5</b>	<b>39.1</b>
<b>Total</b>	<b>76.0</b>	<b>74.7</b>	<b>75.6</b>	<b>73.7</b>	<b>75.5</b>	<b>76.0</b>	<b>75.1</b>	<b>75.9</b>	<b>75.2</b>	<b>74.2</b>	<b>75.8</b>

<sup>1</sup> Preliminary and estimated runs based on capacity, known outages, economic run cuts and global demand forecast

### Medium-Term Capacity Update – OECD Rationalisation Picking up Speed

Since the June *Medium-Term Oil and Gas Markets* report, global crude distillation capacity additions for the 2010-2016 period have been lowered by 0.9 kb/d to 8.7 mb/d. The changes are mostly related to further closures of plants in the OECD, pressured by a combination of structurally declining demand and increased competitive pressure from sophisticated, flexible, large-scale new refineries in the non-OECD. Since June, another four refineries have been shut or committed to close, with a few more currently idle, waiting for buyers to step forward to avoid permanent closures. In the non-OECD, expansion is continuing at a fast pace. While some changes to expected completion dates and capacity have been included, the overall picture remains similar. Capacity is being built in response to buoyant emerging market demand growth, putting further pressure on already low operating rates and profitability among OECD refiners.



The global industry is now set to add 8.7 mb/d of crude distillation capacity post-2010, to reach a total of 101.5 mb/d in 2016. This compares to forecast demand growth of 6.7 mb/d in the period, of which an increasing share will be met by non-refined supplies, such as biofuels, gas and coal to liquids, and NGLs and condensates, which largely bypass the refining system.

### Medium-Term Capacity Update - OECD Rationalisation Picking Up Speed (continued)

The entirety of expected capacity growth is now accounted for by the non-OECD, most notably in Asia. China alone is expected to account for a third of global capacity growth, or almost 3.0 mb/d. That is largely in line with demand growth estimates. While project uncertainty here is ever-present, the government's strategy seems to balance concerns over surplus capacity with those about increased product import requirements. Projects scheduled for the tail-end of the forecast are therefore likely to be managed in line with evolving demand prospects. The rest of Asia will see a further 1.4 mb/d added in the period, or 16% of global growth, while significant investments are also taking place in the Middle East, Latin America and the FSU. Emerging market plans seem to be driven by various objectives. Some major consumers wish for greater product self-sufficiency, while others are positioning themselves as regional hubs. At the same time, some erstwhile crude exporters are trying to shift to the export of higher value-added products. Most are driven by a mix of these goals.

Since the last capacity update, few new projects within the medium-term timeframe have been proposed. Major changes to our estimates are mostly related to revised expectations for completion dates and size. In India for example, HPCL's Bathinda refinery and the expansion of Essar's Vadinar refinery, both earlier slated for completion at the end of 2011, are now only projected to start up at the beginning of 2012. Delays are also noted for Brazil's Abreu e Lima refinery (from 2013 to 2014) and the first phase of Premium 1 (from 2015 to 2016). In the Middle East, the completion of Iran's three Bandar Abbas condensate splitters looks less likely than before, especially given tighter sanctions. We now expect only the first 120 kb/d unit to come on stream in 2016, whereas we previously included the entire 360 kb/d by end-2016. For China, total additions are 320 kb/d lower than previously, at just under 3 mb/d. Several changes have been made to expected capacities and completion dates however. Of note, we now expect CNPC/PDVSA's 400 kb/d Jieyang plant will be completed in 2015, a year earlier than previously assumed. For 2015, we have dropped Sinopec's Zhenhai project (300 kb/d) and PetroChina's Huludao project as these look less likely than before. While some progress has been made on the PetroChina/Qatar Petroleum/Shell JV 400 kb/d Taizhou project, completion is unlikely before 2017 or later.

OECD refining offers a stark contrast to the booming non-OECD picture. Since the economic downturn, a total of 2.6 mb/d of OECD crude distillation capacity has been shut (or is firmly committed to shut in the coming years), 0.8 mb/d more than expected in the June MTOGM. The picture looks particularly bleak in Europe, where nine refineries have already closed since mid-2008. Compared to our June report, we have included LyondellBasel's Berre l'Etang refinery in France from 1Q12, and ConocoPhillips' 260 kb/d Wilhelmshaven refinery in Germany, although neither of these are confirmed permanently closed. It seems that despite the recent sale of Wilhelmshaven (260 kb/d) to Hestya, the plant will not be restarted, rather operated as a terminal. While LyondellBasel remains open to restarting Berre if a buyer is found, we don't see this as a likely scenario and the plant will likely halt operations in January.

The US sector is interesting, as the country has transformed into a significant product exporter – a major turnaround from its position as a net importer of more than 2 mb/d only a few years ago. Diverging markets exist within the US, with those enjoying access to discounted crude from the US Midwest at a great advantage. In recent months, a further 0.7 mb/d of capacity has been put up for sale and in large part idled in the difficult East Coast market. Sunoco idled its 175 kb/d Marcus Hook refinery in early December, ahead of a previously announced shutdown date of July 2012. The company put its two East Coast refineries up for sale, early-2011, and intends to shut both plants if no buyers are found. Also Conoco's 185 kb/d Trainer refinery in Pennsylvania was idled due to poor market conditions in September, and has announced the closure will become permanent if no buyer is found within six months. Even though these plants are not yet permanently shut, we have included the two that are currently idle in our shutdowns list, and will re-evaluate if buyers are found. Elsewhere in the US, ConocoPhillips & Cenovus completed a 50 kb/d expansion of their JV Wood River, Illinois refinery in 4Q11 – on schedule. The expansion also included a new coker, increasing its ability to process heavy Canadian crude. Motiva's 325 kb/d expansion of Port Arthur is still on schedule for 3Q12. Across the border, the expansion of Mexico's Minatitlan refinery (110 kb/d) was finally completed in July 2011, four years delayed and at double the cost of the original estimate.

In the OECD Pacific, industry rationalisation also continues apace, with Japan bearing the brunt. Idemitsu Kosan announced in November it will permanently shut its 120 kb/d Tokuyama refinery in 2014, rather than upgrade it to comply with new regulations regarding upgrading ratios.



## Selected Refining Margins in Major Refining Centres

(\$/bbl)

		Monthly Average			Change		Average for week ending:				
		Sep 11	Oct 11	Nov 11	Nov 11-Oct 11	11 Nov	18 Nov	25 Nov	02 Dec	09 Dec	
<b>NW Europe</b>	Brent (Cracking)	-0.39	1.52	0.51	↓	-1.01	-0.20	0.60	0.92	-0.97	-0.30
	Urals (Cracking)	1.65	2.48	0.70	↓	-1.78	0.43	0.78	0.65	-0.73	-0.38
	Brent (Hydroskimming)	-3.82	-1.30	-1.15	↑	0.15	-2.03	-0.47	-0.68	-2.42	-1.89
	Urals (Hydroskimming)	-4.77	-2.99	-3.68	↓	-0.69	-4.11	-2.94	-3.79	-5.03	-5.10
<b>Mediterranean</b>	Es Sider (Cracking)	0.25	0.39	-0.64	↓	-1.04	-1.01	0.21	-0.55	-2.12	-1.93
	Urals (Cracking)	0.11	0.93	-0.98	↓	-1.91	-1.28	-0.16	-1.11	-2.73	-2.40
	Es Sider (Hydroskimming)	-5.21	-4.51	-3.91	↑	0.60	-4.40	-2.74	-3.64	-4.91	-4.82
	Urals (Hydroskimming)	-6.77	-5.01	-5.94	↓	-0.93	-6.20	-4.89	-6.29	-7.57	-7.63
<b>US Gulf Coast</b>	Brent (Cracking)	-6.70	-3.83	-6.07	↓	-2.24	-6.74	-6.43	-5.04	-7.67	-7.31
	LLS (Cracking)	-0.75	0.04	-0.48	↓	-0.52	-0.46	-1.28	0.39	-2.69	-2.64
	Mars (Cracking)	-4.42	-1.57	-3.02	↓	-1.45	-2.93	-3.85	-3.03	-4.83	-4.70
	Mars (Coking)	-1.74	0.41	-1.44	↓	-1.85	-1.69	-2.11	-1.41	-3.19	-2.84
	Maya (Coking)	4.87	1.86	-5.94	↓	-7.80	-5.14	-6.95	-6.62	-8.23	-7.90
<b>US West Coast</b>	ANS (Cracking)	-5.28	-0.45	-5.57	↓	-5.12	-5.08	-8.89	-5.85	-8.88	-5.58
	Kern (Cracking)	-3.08	-2.17	-7.38	↓	-5.21	-8.31	-12.03	-6.81	-4.90	-3.64
	Oman (Cracking)	-1.01	2.38	-3.67	↓	-6.05	-2.34	-7.75	-6.16	-8.05	-8.90
	Kern (Coking)	1.98	3.98	-4.43	↓	-8.41	-3.50	-10.09	-5.53	-4.37	-2.24
<b>Singapore</b>	Dubai (Hydroskimming)	-1.04	0.40	-1.57	↓	-1.97	-0.33	-1.83	-3.44	-3.09	-3.04
	Tapis (Hydroskimming)	-10.60	-8.20	-7.96	↑	0.24	-8.39	-8.22	-7.67	-9.23	-8.23
	Dubai (Hydrocracking)	1.55	2.31	-0.74	↓	-3.05	0.42	-1.19	-2.43	-2.38	-1.62
	Tapis (Hydrocracking)	-9.80	-8.01	-8.51	↓	-0.50	-9.05	-8.71	-7.96	-10.06	-8.67
<b>China</b>	Cabinda (Hydroskimming)	-3.57	-2.63	-1.26	↑	1.37	-2.12	-0.54	-1.06	-1.45	-1.02
	Daqing (Hydroskimming)	-1.53	0.70	-1.75	↓	-2.45	-1.18	-2.60	-3.06	-2.12	-1.66
	Dubai (Hydroskimming)	-1.12	0.33	-1.73	↓	-2.06	-0.45	-2.02	-3.67	-3.27	-3.32
	Daqing (Hydrocracking)	1.55	2.85	-2.19	↓	-5.04	-1.54	-3.42	-3.30	-2.91	-1.91
	Dubai (Hydrocracking)	1.70	2.49	-0.66	↓	-3.15	0.55	-1.15	-2.43	-2.34	-1.78

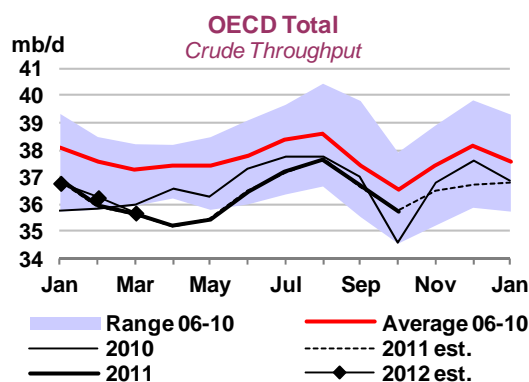
For the purposes of this report, refining margins are calculated for various complexity configurations, each optimised for processing the specific crude in a specific refining centre on a 'full-cost' basis. Consequently, reported margins should be taken as an indication, or proxy, of changes in profitability for a given refining centre. No attempt is made to model or otherwise comment upon the relative economics of specific refineries running individual crude slates and producing custom product sales, nor are these calculations intended to infer the marginal values of crudes for pricing purposes.

\*The China refinery margin calculation represents a model based on spot product import/export parity, and does not reflect internal pricing regulations.

Sources: IEA, Purvin & Gertz Inc.

## OECD Refinery Throughput

OECD crude throughputs declined by 920 kb/d in October, as seasonal maintenance picked up in key markets. The October total of 35.8 mb/d was 75 kb/d above our month earlier forecast, with slightly higher-than-expected runs in the OECD Pacific, partly offset by smaller downward adjustments to Europe and North America. While runs fell in all regions, the steepest declines came from North America, followed by Europe and Japan. South Korean runs provided an offset as these hit record highs, amid strong domestic demand and regional tightness in product markets following outages at nearby refineries in Singapore and Taiwan. OECD September throughputs were revised down by 110 kb/d following the submission of final monthly data. Preliminary data indicate that OECD runs rose by 780 kb/d in November, despite the very weak economic backdrop.



## Refinery Crude Throughput and Utilisation in OECD Countries

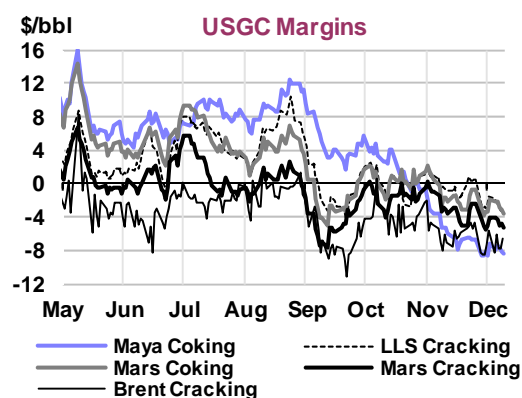
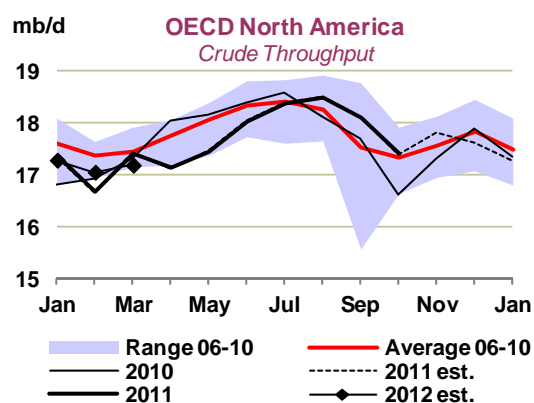
(million barrels per day)

	May 11	Jun 11	Jul 11	Aug 11	Sep 11	Oct 11	Change from		Utilisation rate <sup>1</sup>	
							Sep 11	Oct 10	Oct 11	Oct 10
US <sup>2</sup>	14.78	15.37	15.62	15.59	15.27	14.71	-0.56	0.71	83.7%	79.9%
Canada	1.54	1.54	1.61	1.68	1.75	1.54	-0.20	-0.01	84.0%	84.8%
Mexico	1.15	1.14	1.16	1.24	1.10	1.15	0.05	0.07	74.7%	70.4%
<b>OECD North America</b>	<b>17.46</b>	<b>18.05</b>	<b>18.39</b>	<b>18.51</b>	<b>18.12</b>	<b>17.40</b>	<b>-0.72</b>	<b>0.76</b>	<b>83.1%</b>	<b>79.7%</b>
France	1.33	1.35	1.34	1.37	1.33	1.32	-0.02	0.67	80.2%	35.4%
Germany	1.84	1.79	2.02	2.02	1.91	2.03	0.11	0.03	84.7%	83.3%
Italy	1.56	1.62	1.55	1.66	1.57	1.55	-0.02	-0.11	71.0%	72.9%
Netherlands	1.00	1.04	1.04	1.04	1.04	0.92	-0.12	-0.05	71.6%	75.7%
Spain	1.01	1.06	1.01	1.07	1.09	1.00	-0.08	-0.01	66.2%	72.3%
United Kingdom	1.50	1.45	1.50	1.51	1.47	1.39	-0.08	-0.02	76.7%	77.7%
Other OECD Europe	3.72	3.92	3.93	3.94	3.77	3.79	0.02	-0.13	76.9%	80.0%
<b>OECD Europe</b>	<b>11.95</b>	<b>12.23</b>	<b>12.39</b>	<b>12.61</b>	<b>12.19</b>	<b>12.00</b>	<b>-0.19</b>	<b>0.38</b>	<b>76.1%</b>	<b>73.1%</b>
Japan	2.78	2.93	3.17	3.37	3.14	3.00	-0.15	-0.20	65.2%	68.2%
South Korea	2.51	2.52	2.52	2.43	2.50	2.63	0.13	0.14	96.1%	91.1%
Other OECD Pacific	0.75	0.77	0.70	0.74	0.73	0.73	0.00	0.09	79.4%	69.9%
<b>OECD Pacific</b>	<b>6.04</b>	<b>6.21</b>	<b>6.38</b>	<b>6.54</b>	<b>6.37</b>	<b>6.35</b>	<b>-0.01</b>	<b>0.02</b>	<b>77.1%</b>	<b>75.9%</b>
<b>OECD Total</b>	<b>35.45</b>	<b>36.49</b>	<b>37.16</b>	<b>37.66</b>	<b>36.67</b>	<b>35.75</b>	<b>-0.92</b>	<b>1.17</b>	<b>79.5%</b>	<b>76.6%</b>

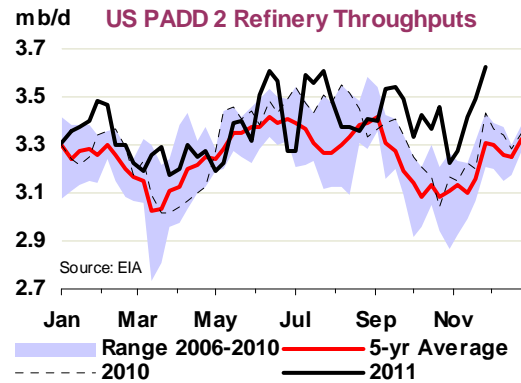
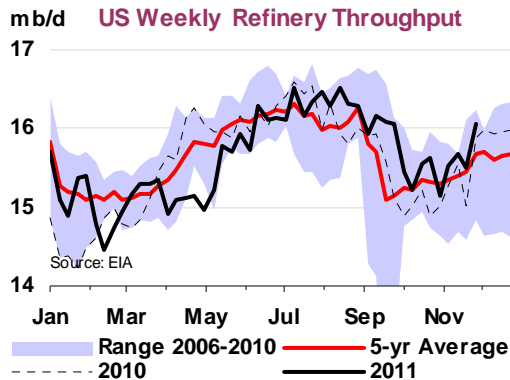
1 Expressed as a percentage, based on crude throughput and current operable refining capacity

2 US50

**North American** runs fell sharply in October but were in line with previous forecasts and seasonal trends. In all, throughputs were down by 720 kb/d from September coinciding with the peak of the autumn turnarounds. US runs were down by 560 kb/d, as utilisation rates fell in all regions except for PADD 4 (Rocky Mountain Region). West Coast runs declined sharply at end-October due to maintenance at BP's Carson refinery in California, Tesoro's Wilmington plant and Chevron's Richmond refinery, amongst others. Regional throughputs were nevertheless 760 kb/d above October 2010, in part due to strong export demand (as discussed in previous reports) and the absence of any hurricane shut-ins.

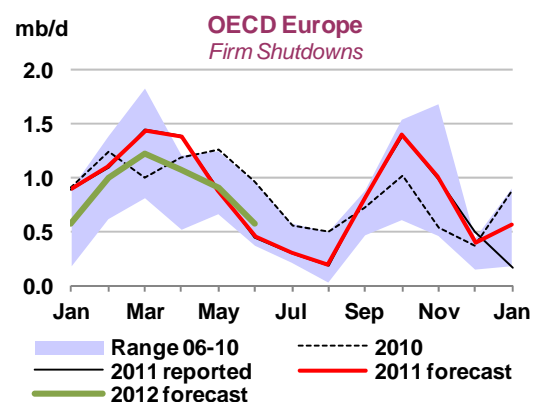
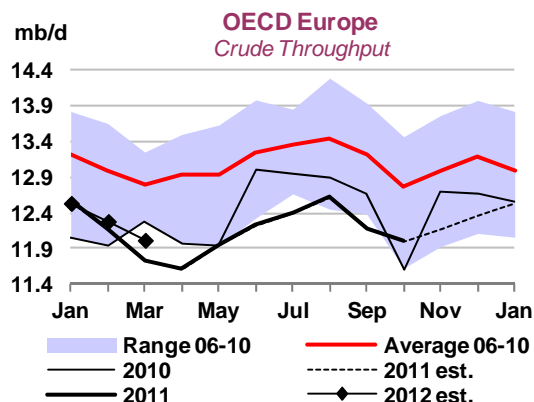


US refinery margins took a turn for the worse in November, with all benchmarks surveyed plunging into negative territory following the recent dramatic deterioration in gasoline cracks. West Coast margins fell the most, by as much as \$8.40/bbl for Kern Coking and around \$5-6/bbl for other grades. Also US Gulf Coast margins weakened as the gasoline-LLS crack dropped to a discount for the first time since December 2008. Despite the sharp narrowing of the WTI-Brent discounts, Midwest refinery runs surged to record highs in late November. In all, preliminary weekly data show US refiners added 200 kb/d in November, to 14.9 mb/d on average.

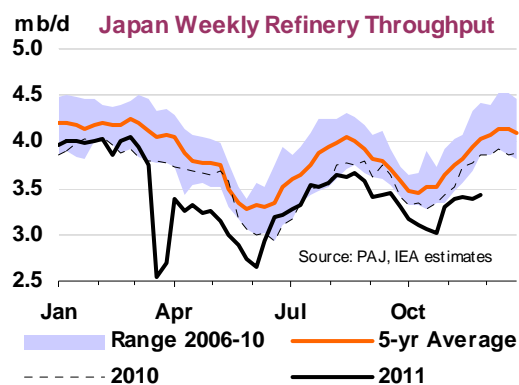
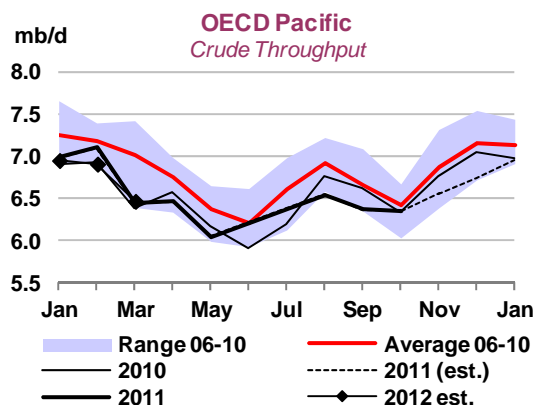


**European** runs also ran ahead of year-earlier levels in October (+380 kb/d), though almost entirely due to higher year-on-year French runs. The French refinery industry was almost entirely paralysed last October by industrial action, as workers protested against the closure of Total's 140 kb/d Dunkirk refinery. In most other countries, runs remained weak, despite slightly improving refining economics. While margins improved both in the north and the Mediterranean, simple plants continue to lose money (on a full-cost basis), constraining throughput.

On a month-on-month comparison basis, October runs were weaker in the Netherlands due to maintenance at both BP's Rotterdam and Shell's Pernis refineries. Germany, Italy and Spain also saw throughputs lower due to scheduled work. In Spain, Cepsa's Tenerife plant was partly shut in October, while Repsol's Cartagena and Bilbao refineries started maintenance, which continued into November. In November, European refining margins were mostly lower on average, with cracking margins down more than \$1/bbl for all grades. Urals took the biggest hit, as crude prices rose more sharply than other grades, and product prices failed to keep up. While distillate prices rose seasonally, this was not enough to offset the higher feedstock costs and sliding gasoline and naphtha prices. Preliminary data from Euroilstock nevertheless show EU16 + Norway crude runs 170 kb/d higher in November, as maintenance wound down and amid seasonally higher demand.

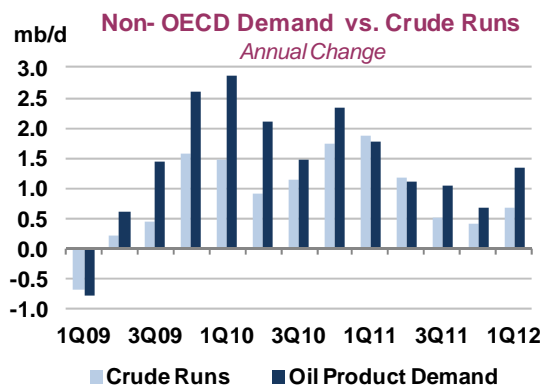
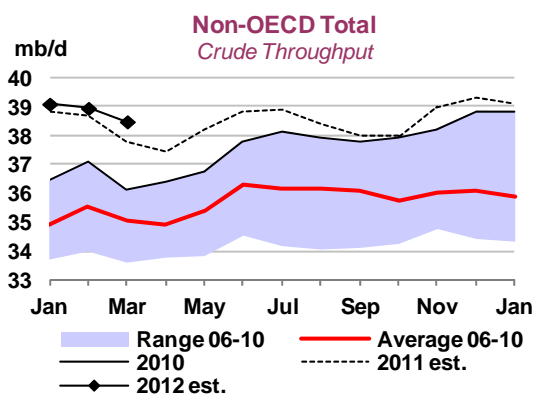


**Pacific** runs were largely unchanged in October, as lower Japanese runs were offset by robust South Korean throughputs. **Korean** refiners reported runs at 2.63 mb/d for the month, the highest on record. In early December, an electricity blackout caused the shutdown of SK Innovation's Ulsan refinery. The blackout reportedly halted five crude distillation units, with a combined capacity of 840 kb/d. Petrochemical operations were also affected. The blackout was not expected to last more than a few days, limiting the impact. Several Korean refiners have indicated they are planning to cut runs in December and January due to weak margins. Singapore benchmark margins were all negative in November and early December, and higher Saudi OSPs to Asia for January were expected to further dent profits. In **Japan**, weekly data from the Petroleum Association of Japan (PAJ) show that refinery runs rebounded in November, from October's maintenance reduced rates. Runs were up 230 kb/d on the month, averaging 3.2 mb/d, but were 265 kb/d less than a year earlier.



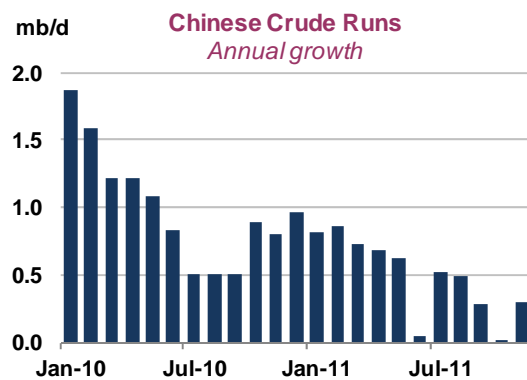
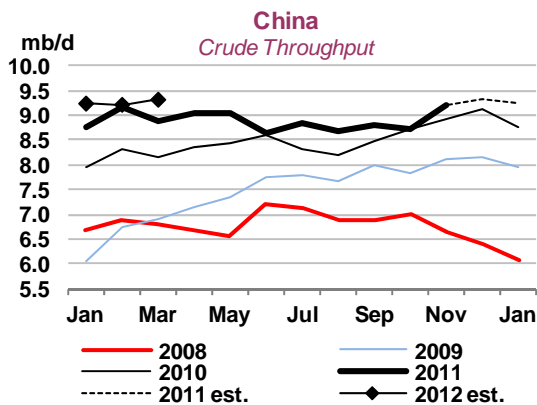
## Non-OECD Refinery Throughput

Non-OECD refinery crude throughputs are heading for another quarter of relatively modest annual growth, albeit from an exceptionally strong 4Q10. Scheduled and unscheduled outages in Asia, Africa and the Middle East add to continued (relative) weakness registered for China in October and a temporary lull in the commissioning of new capacity. In all, non-OECD throughputs are forecast to add just over 400 kb/d annually in 4Q11, to 38.7 mb/d, after having added 0.5 mb/d in 3Q11. In contrast, annual growth averaged 1.3 mb/d over the previous eight quarters. As capacity in Singapore and Taiwan comes back on line following recent accidents and outages and demand rises seasonally, runs are expected to pick up towards year-end. Into 1Q12, growth should increase slightly, to 710 kb/d on average, with increases coming mainly from China, the Middle East and the FSU. In all, non-OECD runs are seen averaging 39.1 mb/d in the quarter, with runs falling gradually from December's high as winter demand ebbs and spring maintenance begins.

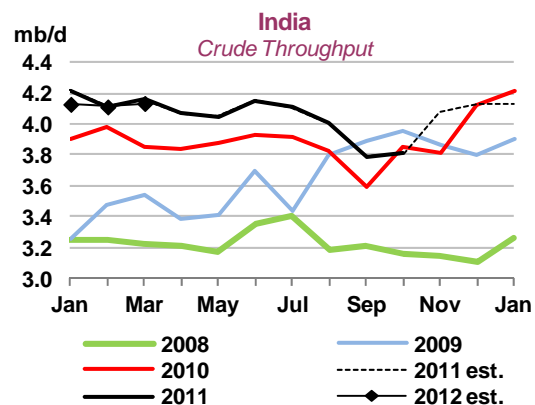
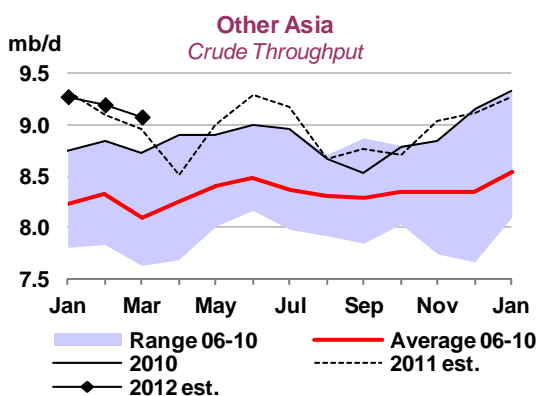


**Chinese** refinery runs fell unexpectedly in October as shutdowns, delays in starting up new capacity and continued poor economics hampered an earlier-expected ramp-up in operating rates. At 8.74 mb/d, throughputs were 45 kb/d less than in September, flat from a year earlier and almost 0.4 mb/d less than in our previous estimate. In addition to maintenance shutdowns, estimated at more than 700 kb/d in October (down from 850 kb/d in September), poor margins also played a part in limiting runs. Sinopec and PetroChina, the country's dominant fuel producers, reported combined losses of 64.6 billion Yuan (\$10.12 billion) on refining in the first nine months of 2011 (or 23.09 and 41.54 billion Yuan, respectively) and saw their margins deteriorate further in October as retail gasoline and diesel prices were cut.

According to the latest data from the Chinese National Bureau of Statistics, runs surged to a record high of 9.2 mb/d in November. Sinopec and PetroChina had earlier stated they were planning to run plants at full capacity to avoid domestic shortages. The November reading was up 0.3 mb/d from a year earlier.

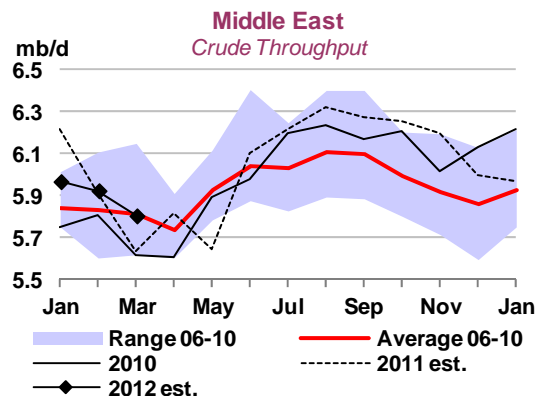
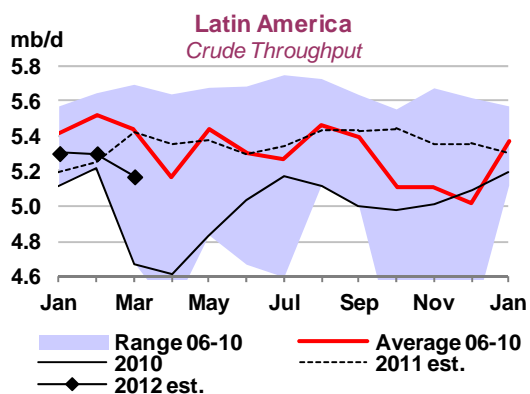


At 3.8 mb/d, **Indian** refinery runs were also slightly weaker than expected in October. Output was cut by maintenance shutdowns at IOC's Mangalore plant and Essar's Vadinar refinery. The latter had shut its plant in mid-September to increase capacity to 375 kb/d. HPCL announced in early November that it is now expecting to commission the 180 kb/d Bathinda refinery by the end of the first quarter next year, from an earlier expected start date in the second half of 2011. Trial runs started in August.



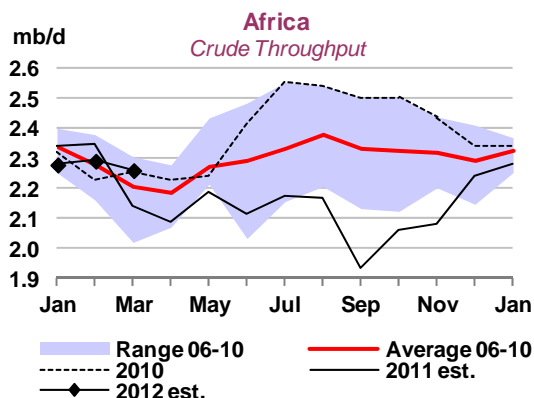
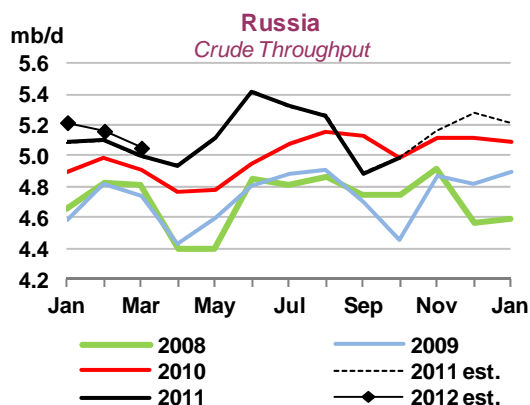
Shell's refinery in **Singapore** had largely resumed operations by end-November, after a fire shut down the complex and forced the company to declare *force majeure* on oil product deliveries in late September. Units were progressively restarted during October, with the third and final crude unit restarted at end-month. The plant was expected to be operated at 260 kb/d, or just over 50% utilisation rate, until the end of the year. According to JODI data, **Taiwan's** refinery runs rebounded in September, at a faster rate than expected. Total runs were 840 kb/d, up from only 505 kb/d in August, when another fire forced Formosa to shut its 540 kb/d Mailiao refinery. Runs are expected to dip again in December as one of the plant's three crude units is taken offline for safety inspections.

**Latin American** crude runs were holding up around 5.4 mb/d in October, more than 400 kb/d above a year earlier, and 220 kb/d higher than our previous expectations. Annual growth is split between **Aruba** and the **Netherlands Antilles**, whose refineries sat idle last year due to weak economics. Valero's 235 kb/d refinery in Aruba restarted operations in December last year, after being shut since mid-2009, and is currently estimated to be processing around 200 kb/d of crude. PDVSA's 330 kb/d Curaçao refinery in the Netherlands Antilles was largely offline from March 2010 until January 2011 due to power problems, but is now operating again. Latin American runs continue to be supported by strong regional demand, in particular from **Brazil**. Brazilian runs reached record-highs in October, of 1.95 mb/d, up 75 kb/d from a month earlier. The upward regional adjustment also stemmed from **Venezuela**, which reported stronger runs for recent months, despite earlier reports of outages, and we have therefore raised the outlook for this country by an average of 140 kb/d for the remainder of the forecast, to around 1.0 mb/d (including NGLs).



September Middle Eastern refinery runs were largely unchanged from a month earlier, averaging 6.3 mb/d. In **Kuwait**, runs were down slightly in the month as KNPC shut one crude unit at its Mina Al-Ahmadi refinery for about 30 days during September and October for maintenance. The shutdown of a 50 kb/d heavy oil unit at the Shuaiba refinery from 11 September to 2 November also contributed to the lower runs. In **Yemen**, the Aden oil refinery had to halt production in mid-November due to lack of crude supplies. The plant had previously reduced runs from 150 kb/d to 40 kb/d as a pipeline from Marib was blown up in October. In early December, the pipeline was still not repaired, causing widespread fuel shortages across the country. A September closure of Qatar's Ras Laffan condensate splitter is however excluded from our throughput estimates.

October **Russian** runs were stronger than expected based on announced maintenance plans, and have been revised higher by 260 kb/d. Maintenance estimates for November also increased, however, by 185 kb/d since last month, due to maintenance at Gazprom's Omsk and Rosneft's Kuibyshev refineries among others, and it's possible some work was postponed to the latter month. Total maintenance nevertheless fell sharply from the October peak of 670 kb/d estimated offline, to 390 kb/d in November, underpinning an expected uptick in rates towards year-end.



**Libya's** Zawiyah refinery reportedly returned to full capacity (120 kb/d) in early December following strikes and an initial lack of supply from Repsol's El-Sharara field, which restarted in October. The larger 220 kb/d Ras Lanuf refinery remains closed, but may start operations by end-year or early 2012. For now, we assume Libyan throughputs averaging 130 kb/d in November, rising to 150 kb/d in December before a sharper ramp-up in January with the start up of the Ras Lanuf plant. **Niger's** new 20 kb/d refinery started operations in November after the crude pipeline from the Agedam oilfields came on-stream on 8 October. The refinery is a joint venture between CNPC and the Niger government. Outages at four out of **South Africa's** six refineries in recent months underpinned weak September runs and caused bitumen and LPG shortages. Utilisation rates were expected to recover by end-November.



## OECD Refinery Yields

Henceforward, OECD refinery yields will be illustrated in the following table:

### Refined Product Yields Based on Total Input (%)<sup>1</sup>

	Jul 11	Aug 11	Sep 11	Sep 10	5 year Average	Sep 11 vs Previous Month	Sep 11 vs Previous Year	Sep 11 vs 5 year Average
<b>OECD North America</b>								
Naphtha	1.7	1.7	<b>1.7</b>	1.7	1.7	0.0	0.0	0.0
Motor Gasoline	47.2	47.3	<b>48.2</b>	48.6	47.2	1.0	-0.4	1.0
Jet Fuel	8.1	8.0	<b>8.1</b>	7.6	8.0	0.1	0.5	0.1
Other Kerosene	0.1	0.1	<b>0.1</b>	0.2	0.2	0.0	-0.1	-0.1
Gasoil/Diesel	26.2	25.9	<b>26.4</b>	25.6	25.0	0.5	0.8	1.4
Residual Fuel Oil	4.4	4.7	<b>4.4</b>	5.1	5.3	-0.3	-0.7	-0.9
Petroleum Coke	4.3	4.4	<b>4.3</b>	4.0	4.2	-0.1	0.3	0.1
Other Products	5.0	4.9	<b>4.9</b>	4.7	5.5	0.0	0.2	-0.6
<b>OECD Europe</b>								
Naphtha	6.5	6.1	<b>6.2</b>	5.9	6.4	0.1	0.3	-0.2
Motor Gasoline	20.8	20.9	<b>21.5</b>	21.9	22.1	0.7	-0.4	-0.6
Jet Fuel	8.2	8.1	<b>7.8</b>	7.2	7.3	-0.3	0.6	0.5
Other Kerosene	1.5	1.4	<b>1.7</b>	1.4	1.2	0.3	0.3	0.5
Gasoil/Diesel	38.8	39.5	<b>39.4</b>	39.5	37.9	-0.1	-0.1	1.5
Residual Fuel Oil	10.2	10.5	<b>6.2</b>	10.4	11.5	-4.3	-4.2	-5.3
Petroleum Coke	1.0	1.0	<b>1.0</b>	1.0	0.9	0.0	0.0	0.1
Other Products	8.3	7.8	<b>8.3</b>	8.8	8.4	0.5	-0.5	-0.1
<b>OECD Pacific</b>								
Naphtha	12.3	12.3	<b>11.8</b>	11.5	11.4	-0.4	0.3	0.5
Motor Gasoline	23.1	23.8	<b>22.5</b>	23.0	22.0	-1.3	-0.5	0.5
Jet Fuel	14.4	15.3	<b>14.8</b>	15.1	14.8	-0.5	-0.2	0.1
Other Kerosene	3.2	3.5	<b>4.9</b>	4.7	4.9	1.4	0.2	0.0
Gasoil/Diesel	29.0	28.6	<b>28.6</b>	28.1	27.7	0.0	0.6	0.9
Residual Fuel Oil	10.4	10.0	<b>10.4</b>	10.7	12.5	0.4	-0.3	-2.1
Petroleum Coke	0.5	0.5	<b>0.4</b>	0.4	4.8	-0.1	0.0	-4.3
Other Products	4.4	4.5	<b>4.8</b>	4.7	4.8	0.3	0.1	0.1
<b>OECD Total</b>								
Naphtha	5.0	4.9	<b>4.9</b>	4.8	5.0	0.0	0.1	-0.1
Motor Gasoline	34.5	34.7	<b>35.2</b>	35.4	34.2	0.5	-0.2	1.0
Jet Fuel	9.2	9.2	<b>9.1</b>	8.7	8.9	-0.1	0.4	0.2
Other Kerosene	1.1	1.1	<b>1.4</b>	1.4	1.4	0.3	0.1	0.1
Gasoil/Diesel	30.8	30.8	<b>31.0</b>	30.7	30.0	0.2	0.4	1.1
Residual Fuel Oil	7.3	7.5	<b>7.2</b>	7.8	8.7	-0.3	-0.6	-1.5
Petroleum Coke	2.6	2.6	<b>2.6</b>	2.4	2.4	-0.1	0.2	0.2
Other Products	6.0	5.8	<b>6.0</b>	6.1	6.4	0.2	-0.1	-0.4

1) Refinery yield is calculated by dividing total net production of finished products by the sum of crude oil and net unfinished input, on a volumetric basis. Due to processing gains and losses, yields in % will not always add up to 100%.

**Table 1**  
**WORLD OIL SUPPLY AND DEMAND**

(million barrels per day)

	2008	2009	1Q10	2Q10	3Q10	4Q10	2010	1Q11	2Q11	3Q11	4Q11	2011	1Q12	2Q12	3Q12	4Q12	2012
<b>OECD DEMAND</b>																	
North America	24.2	23.3	23.4	23.7	24.1	23.9	23.8	23.8	23.3	23.5	23.4	23.5	23.4	23.1	23.5	23.5	23.4
Europe	15.4	14.7	14.3	14.3	14.9	14.8	14.6	14.2	14.1	14.7	14.3	14.3	13.9	13.8	14.5	14.3	14.1
Pacific	8.1	7.7	8.2	7.3	7.6	8.1	7.8	8.3	7.1	7.7	8.3	7.9	8.6	7.4	7.5	8.0	7.9
Total OECD	47.6	45.6	45.9	45.3	46.6	46.7	46.2	46.3	44.5	45.9	46.1	45.7	45.9	44.3	45.5	45.8	45.4
<b>NON-OECD DEMAND</b>																	
FSU	4.2	4.2	4.4	4.3	4.6	4.6	4.5	4.5	4.6	4.8	4.8	4.7	4.6	4.6	4.9	4.9	4.7
Europe	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
China	7.7	8.1	8.6	9.1	8.9	9.7	9.1	9.5	9.5	9.3	9.6	9.5	9.9	10.1	9.9	10.1	10.0
Other Asia	9.7	10.1	10.4	10.5	10.1	10.5	10.4	10.7	10.7	10.4	10.8	10.6	11.0	11.1	10.8	11.2	11.0
Latin America	6.0	6.0	6.0	6.3	6.5	6.4	6.3	6.3	6.5	6.6	6.6	6.5	6.5	6.7	6.8	6.8	6.7
Middle East	7.3	7.5	7.4	7.8	8.3	7.7	7.8	7.6	8.0	8.4	7.8	8.0	7.9	8.3	8.7	8.1	8.2
Africa	3.3	3.3	3.3	3.4	3.4	3.4	3.4	3.4	3.3	3.2	3.4	3.3	3.5	3.5	3.5	3.5	3.5
Total Non-OECD	38.9	39.9	40.8	42.2	42.4	43.0	42.1	42.6	43.3	43.5	43.7	43.3	44.0	44.9	45.2	45.3	44.9
<b>Total Demand<sup>1</sup></b>	<b>86.6</b>	<b>85.6</b>	<b>86.8</b>	<b>87.5</b>	<b>89.0</b>	<b>89.8</b>	<b>88.3</b>	<b>88.9</b>	<b>87.8</b>	<b>89.4</b>	<b>89.8</b>	<b>89.0</b>	<b>90.0</b>	<b>89.2</b>	<b>90.8</b>	<b>91.1</b>	<b>90.3</b>
<b>OECD SUPPLY</b>																	
North America <sup>4</sup>	13.3	13.6	14.0	14.0	14.1	14.4	14.1	14.4	14.3	14.5	14.7	14.5	14.8	14.5	14.6	14.8	14.7
Europe	4.8	4.5	4.5	4.2	3.8	4.2	4.2	4.1	3.8	3.6	4.1	3.9	4.1	3.8	3.7	4.0	3.9
Pacific	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.6	0.5	0.7	0.7	0.7	0.7	0.7
Total OECD	18.7	18.8	19.1	18.8	18.5	19.1	18.9	19.0	18.6	18.7	19.4	18.9	19.5	19.1	19.0	19.4	19.3
<b>NON-OECD SUPPLY</b>																	
FSU	12.8	13.3	13.5	13.5	13.5	13.6	13.5	13.6	13.6	13.5	13.7	13.6	13.8	13.8	13.6	13.8	13.8
Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	3.8	3.9	4.0	4.1	4.1	4.2	4.1	4.2	4.2	4.1	4.2	4.2	4.3	4.3	4.3	4.3	4.3
Other Asia <sup>2</sup>	3.7	3.6	3.7	3.7	3.7	3.7	3.7	3.6	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.4	3.5
Latin America <sup>2,4</sup>	3.7	3.9	4.0	4.1	4.1	4.1	4.1	4.2	4.2	4.2	4.3	4.2	4.4	4.4	4.5	4.5	4.4
Middle East	1.7	1.7	1.8	1.7	1.7	1.7	1.7	1.8	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.5	1.6
Africa <sup>2</sup>	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.6
Total Non-OECD	28.4	29.1	29.6	29.7	29.9	30.1	29.8	30.1	29.7	29.6	29.8	29.8	30.2	30.3	30.1	30.3	30.2
Processing Gains <sup>3</sup>	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.2	2.2	2.3	2.2	2.2	2.3	2.3
Global Biofuels <sup>4</sup>	1.4	1.6	1.4	2.0	2.1	1.8	1.8	1.5	1.9	2.1	1.8	1.8	1.6	1.9	2.2	2.0	1.9
Total Non-OPEC <sup>2</sup>	50.6	51.5	52.2	52.6	52.6	53.1	52.6	52.7	52.3	52.5	53.3	52.7	53.6	53.5	53.6	54.0	53.7
Non-OPEC: Historical Composition <sup>2</sup>	49.6	51.5	52.2	52.6	52.6	53.1	52.6	52.7	52.3	52.5	53.3	52.7	53.6	53.5	53.6	54.0	53.7
<b>OPEC</b>																	
Crude <sup>5</sup>	31.6	29.1	29.3	29.3	29.7	29.6	29.5	30.0	29.5	29.9							
NGLs	4.5	4.9	5.2	5.2	5.5	5.6	5.4	5.7	5.7	5.8	5.9	5.8	6.2	6.2	6.5	6.6	6.4
Total OPEC <sup>2</sup>	36.2	34.1	34.5	34.5	35.1	35.2	34.8	35.8	35.2	35.7							
OPEC: Historical Composition <sup>2</sup>	37.2	34.1	34.5	34.5	35.1	35.2	34.8	35.8	35.2	35.7							
<b>Total Supply<sup>6</sup></b>	<b>86.7</b>	<b>85.6</b>	<b>86.7</b>	<b>87.1</b>	<b>87.8</b>	<b>88.3</b>	<b>87.5</b>	<b>88.4</b>	<b>87.5</b>	<b>88.3</b>							
<b>STOCK CHANGES AND MISCELLANEOUS</b>																	
<b>Reported OECD</b>																	
Industry	0.3	-0.1	0.4	0.9	-0.1	-0.9	0.1	-0.4	0.5	-0.1							
Government	0.0	0.1	0.0	-0.1	-0.1	0.1	0.0	0.0	0.0	-0.4							
Total	0.3	0.0	0.4	0.9	-0.2	-0.8	0.1	-0.5	0.5	-0.5							
Floating Storage/Oil in Transit	0.0	0.3	-0.2	0.1	-0.2	-0.3	-0.2	0.2	-0.2	-0.2							
Miscellaneous to balance <sup>7</sup>	-0.2	-0.3	-0.3	-1.3	-0.8	-0.4	-0.7	-0.2	-0.7	-0.4							
<b>Total Stock Ch. &amp; Misc</b>	<b>0.2</b>	<b>0.0</b>	<b>-0.1</b>	<b>-0.4</b>	<b>-1.3</b>	<b>-1.4</b>	<b>-0.8</b>	<b>-0.5</b>	<b>-0.3</b>	<b>-1.2</b>							
<b>Memo items:</b>																	
Call on OPEC crude + Stock ch. <sup>8</sup>	31.4	29.1	29.4	29.7	31.0	31.1	30.3	30.5	29.8	31.1	30.7	30.5	30.2	29.5	30.7	30.6	30.2
Adjusted Call on OPEC + Stock ch. <sup>9</sup>	31.3	28.8	29.1	28.4	30.1	30.7	29.6	30.3	29.2	30.7	30.2	30.1	29.7	29.1	30.2	30.1	29.8

1 Measured as deliveries from refineries and primary stocks, comprises inland deliveries, international marine bunkers, refinery fuel, crude for direct burning, oil from non-conventional sources and other sources of supply.

2 Other Asia includes Indonesia throughout. Latin America excludes Ecuador throughout. Africa excludes Angola throughout.

Total Non-OPEC excludes all countries that were members of OPEC at 1 January 2009. Non-OPEC Historical Composition excludes countries that were OPEC members at that point in time.

Total OPEC comprises all countries which were OPEC members at 1 January 2009. OPEC Historical Composition comprises countries which were OPEC members at that point in time.

3 Net volumetric gains and losses in the refining process and marine transportation losses.

4 As of the July 2010 OMR, Global Biofuels comprise all world biofuel production including fuel ethanol from the US and Brazil.

5 As of the March 2006 OMR, Venezuelan Orinoco heavy crude production is included within Venezuelan crude estimates. Orimulsion fuel remains within the OPEC NGL and non-conventional category, but Orimulsion production reportedly ceased from January 2007.

6 Comprises crude oil, condensates, NGLs, oil from non-conventional sources and other sources of supply.

7 Includes changes in non-reported stocks in OECD and non-OECD areas.

8 Equals the arithmetic difference between total demand minus total non-OPEC supply minus OPEC NGLs.

9 Equals the "Call on OPEC + Stock Ch." with "Miscellaneous to balance" added for historical periods and with an average of "Miscellaneous to balance" for the most recent 8 quarters added for forecast periods.

**Table 1A**  
**WORLD OIL SUPPLY AND DEMAND: CHANGES FROM LAST MONTH'S TABLE 1**  
(million barrels per day)

	2008	2009	1Q10	2Q10	3Q10	4Q10	2010	1Q11	2Q11	3Q11	4Q11	2011	1Q12	2Q12	3Q12	4Q12	2012
<b>OECD DEMAND</b>																	
North America	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Europe	-	-	-	-	-	-	-	-	-	-	-0.2	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1
Pacific	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total OECD	-	-	-	-	-	-	-	-	-	-	-0.3	-0.1	-0.2	-0.1	-0.1	-0.2	-0.2
<b>NON-OECD DEMAND</b>																	
FSU	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	0.1	-
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-	-0.1	-0.1
Other Asia	-	-	-	-	-	-	-	-	-0.1	-0.2	-0.1	-0.1	-	-	-0.1	-	-
Latin America	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Middle East	-	-	-	-	-	-	-	-	-	0.1	0.1	-	-	-	0.1	0.1	0.1
Africa	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-	-	-	-
Total Non-OECD	-	-	-	-	-	-	-	-	-0.1	-0.2	-0.1	-0.1	-	-	-0.1	-	-
<b>Total Demand</b>	-	-	-	-	-	-	-	-	-0.1	-0.2	-0.4	-0.2	-0.2	-0.2	-0.2	-0.3	-0.2
<b>OECD SUPPLY</b>																	
North America	-	-	-	-	-	-	-	-	-	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1
Europe	-	-	-	-	-	-	-	-	-	-0.1	-0.1	-	-	-	-	-	-
Pacific	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total OECD	-	-	-	-	-	-	-	-	-	-	0.1	-	0.1	0.1	0.1	0.1	0.1
<b>NON-OECD SUPPLY</b>																	
FSU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.1	-	-
Europe	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
China	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Asia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Latin America	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-	-	-	-
Middle East	-	-	-	-	-	-	-	-	-	-	-0.1	-	-0.1	-0.1	-0.1	-0.1	-0.1
Africa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Non-OECD	-	-	-	-	-	-	-	-	-	-	-0.2	-	-0.1	-0.1	-0.2	-0.2	-0.1
Processing Gains	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Global Biofuels	-	-	-	-	-	-	-	-	-	-	-0.1	-	-	-0.1	-0.1	-0.1	-0.1
Total Non-OPEC	-	-	-	-	-	-	-	-	-	-0.1	-0.2	-0.1	-	-0.1	-0.2	-0.1	-0.1
Non-OPEC: historical composition	-	-	-	-	-	-	-	-	-	-0.1	-0.2	-0.1	-	-0.1	-0.2	-0.1	-0.1
<b>OPEC</b>																	
Crude	-	-	-	-	-	-	-	0.1	-	-0.1	-	-	-	-	-	-	-
NGLs	-	-	-	-	-	-	-	-0.1	-0.1	-0.1	-0.1	-0.1	-	-	0.1	0.1	0.1
Total OPEC	-	-	-	-	-	-	-	-	-	-0.2	-	-	-	-	-	-	-
OPEC: historical composition	-	-	-	-	-	-	-	-	-	-0.2	-	-	-	-	-	-	-
<b>Total Supply</b>	-	-	-	-	-	-	-	-	-	-0.2	-	-	-	-	-	-	-
<b>STOCK CHANGES AND MISCELLANEOUS</b>																	
<b>REPORTED OECD</b>																	
Industry	-	-	-	-	-	-	-	-	-	-0.2	-	-	-	-	-	-	-
Government	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-0.2	-	-	-	-	-	-	-
Floating Storage/Oil in Transit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous to balance	-	-	-	-	-	-	-	-	0.1	0.1	-	-	-	-	-	-	-
<b>Total Stock Ch. &amp; Misc</b>	-	-	-	-	-	-	-	-	0.1	-0.1	-	-	-	-	-	-	-
<b>Memo items:</b>																	
Call on OPEC crude + Stock ch.	-	-	-	-	-	-	-	0.1	-	-	-0.1	-	-0.1	-0.1	-0.1	-0.3	-0.1
Adjusted Call on OPEC + Stock ch.	-	-	-	-	-	-	-	0.1	-	0.1	-0.1	-	-0.1	-0.1	-	-0.2	-0.1

When submitting their monthly oil statistics, OECD Member countries periodically update data for prior periods. Similar updates to non-OECD data can occur.

**Table 2**  
**SUMMARY OF GLOBAL OIL DEMAND**

	2009	1Q10	2Q10	3Q10	4Q10	2010	1Q11	2Q11	3Q11	4Q11	2011	1Q12	2Q12	3Q12	4Q12	2012
<b>Demand (mb/d)</b>																
North America	23.29	23.41	23.69	24.07	23.85	23.76	23.76	23.29	23.54	23.42	23.50	23.44	23.10	23.48	23.45	23.37
Europe	14.66	14.31	14.25	14.92	14.82	14.58	14.18	14.11	14.69	14.35	14.33	13.92	13.81	14.52	14.28	14.14
Pacific	7.69	8.23	7.34	7.62	8.07	7.82	8.35	7.11	7.68	8.33	7.87	8.57	7.40	7.53	8.04	7.89
<b>Total OECD</b>	<b>45.64</b>	<b>45.95</b>	<b>45.29</b>	<b>46.62</b>	<b>46.74</b>	<b>46.15</b>	<b>46.29</b>	<b>44.52</b>	<b>45.91</b>	<b>46.10</b>	<b>45.70</b>	<b>45.94</b>	<b>44.31</b>	<b>45.53</b>	<b>45.78</b>	<b>45.39</b>
Asia	18.19	18.99	19.60	19.06	20.21	19.47	20.23	20.22	19.65	20.41	20.13	20.92	21.14	20.65	21.29	21.00
Middle East	7.53	7.42	7.83	8.29	7.72	7.82	7.62	7.97	8.43	7.85	7.97	7.87	8.25	8.69	8.11	8.23
Latin America	5.99	6.05	6.29	6.46	6.39	6.30	6.27	6.47	6.64	6.56	6.49	6.48	6.68	6.85	6.78	6.70
FSU	4.18	4.38	4.33	4.56	4.58	4.46	4.45	4.62	4.83	4.84	4.69	4.59	4.60	4.86	4.91	4.74
Africa	3.33	3.33	3.43	3.38	3.43	3.39	3.40	3.33	3.23	3.37	3.33	3.50	3.53	3.46	3.52	3.50
Europe	0.71	0.67	0.68	0.68	0.70	0.68	0.67	0.69	0.72	0.71	0.70	0.69	0.71	0.72	0.72	0.71
<b>Total Non-OECD</b>	<b>39.93</b>	<b>40.84</b>	<b>42.17</b>	<b>42.43</b>	<b>43.02</b>	<b>42.12</b>	<b>42.64</b>	<b>43.30</b>	<b>43.50</b>	<b>43.74</b>	<b>43.30</b>	<b>44.03</b>	<b>44.91</b>	<b>45.22</b>	<b>45.34</b>	<b>44.88</b>
<b>World</b>	<b>85.57</b>	<b>86.79</b>	<b>87.45</b>	<b>89.05</b>	<b>89.77</b>	<b>88.27</b>	<b>88.93</b>	<b>87.82</b>	<b>89.41</b>	<b>89.84</b>	<b>89.00</b>	<b>89.97</b>	<b>89.22</b>	<b>90.76</b>	<b>91.12</b>	<b>90.27</b>
of which: US50	18.77	18.87	19.15	19.47	19.23	19.18	19.17	18.82	18.89	18.81	18.92	18.89	18.66	18.90	18.86	18.83
Europe 5*	8.98	8.87	8.75	9.15	9.01	8.95	8.70	8.57	8.89	8.69	8.71	8.55	8.39	8.80	8.64	8.60
China	8.06	8.63	9.06	8.92	9.66	9.07	9.53	9.52	9.29	9.64	9.50	9.91	10.07	9.89	10.12	10.00
Japan	4.39	4.82	4.07	4.36	4.57	4.45	4.86	3.92	4.32	4.83	4.48	5.10	4.17	4.24	4.55	4.51
India	3.26	3.38	3.45	3.13	3.38	3.34	3.50	3.57	3.26	3.49	3.46	3.64	3.69	3.37	3.62	3.58
Russia	3.03	3.16	3.17	3.41	3.36	3.28	3.20	3.43	3.65	3.61	3.48	3.31	3.38	3.65	3.66	3.50
Brazil	2.54	2.60	2.71	2.82	2.80	2.73	2.69	2.76	2.87	2.88	2.80	2.75	2.82	2.94	2.95	2.87
Saudi Arabia	2.47	2.33	2.73	3.02	2.54	2.66	2.47	2.84	3.09	2.63	2.76	2.60	2.95	3.20	2.76	2.88
Canada	2.16	2.15	2.17	2.26	2.25	2.21	2.25	2.15	2.27	2.23	2.23	2.21	2.12	2.23	2.21	2.19
Korea	2.19	2.31	2.18	2.16	2.35	2.25	2.36	2.04	2.21	2.33	2.23	2.33	2.09	2.14	2.31	2.22
Mexico	2.07	2.07	2.10	2.05	2.07	2.07	2.03	2.05	2.09	2.08	2.06	2.03	2.04	2.06	2.07	2.05
Iran	2.11	2.10	2.08	2.08	2.09	2.09	2.09	2.05	2.05	2.04	2.05	2.12	2.09	2.08	2.06	2.09
<b>Total</b>	<b>60.03</b>	<b>61.30</b>	<b>61.61</b>	<b>62.84</b>	<b>63.31</b>	<b>62.27</b>	<b>62.84</b>	<b>61.72</b>	<b>62.88</b>	<b>63.26</b>	<b>62.68</b>	<b>63.44</b>	<b>62.48</b>	<b>63.50</b>	<b>63.80</b>	<b>63.31</b>
% of World	70.2%	70.6%	70.5%	70.6%	70.5%	70.5%	70.7%	70.3%	70.3%	70.4%	70.4%	70.5%	70.0%	70.0%	70.0%	70.1%
<b>Annual Change (% per annum)</b>																
North America	-3.7	-0.1	3.3	3.4	1.3	2.0	1.5	-1.7	-2.2	-1.8	-1.1	-1.3	-0.8	-0.3	0.1	-0.6
Europe	-4.7	-5.2	-1.3	2.2	2.0	-0.6	-0.9	-1.0	-1.6	-3.2	-1.7	-1.8	-2.1	-1.2	-0.4	-1.4
Pacific	-4.6	1.2	0.4	4.7	0.6	1.7	1.5	-3.1	0.8	3.2	0.7	2.7	4.0	-1.9	-3.4	0.3
<b>Total OECD</b>	<b>-4.2</b>	<b>-1.5</b>	<b>1.3</b>	<b>3.3</b>	<b>1.4</b>	<b>1.1</b>	<b>0.7</b>	<b>-1.7</b>	<b>-1.5</b>	<b>-1.4</b>	<b>-1.0</b>	<b>-0.8</b>	<b>-0.5</b>	<b>-0.8</b>	<b>-0.7</b>	<b>-0.7</b>
Asia	4.4	12.0	6.8	3.2	6.6	7.0	6.6	3.1	3.1	1.0	3.4	3.4	4.6	5.1	4.3	4.3
Middle East	3.5	5.0	3.4	2.9	4.3	3.8	2.7	1.8	1.7	1.7	2.0	3.2	3.5	3.1	3.3	3.3
Latin America	0.0	4.6	5.2	6.0	4.5	5.1	3.7	2.8	2.8	2.7	3.0	3.3	3.2	3.2	3.3	3.2
FSU	-1.2	8.1	6.5	5.3	7.3	6.8	1.7	6.7	5.9	5.8	5.0	3.0	-0.5	0.4	1.5	1.1
Africa	1.6	-1.6	2.1	2.3	5.4	2.0	2.1	-3.0	-4.4	-1.7	-1.8	2.7	6.1	7.2	4.4	5.1
Europe	-6.3	-7.5	-6.9	-3.7	1.3	-4.2	-0.2	1.8	5.2	1.2	2.0	2.5	2.4	0.2	1.7	1.7
<b>Total Non-OECD</b>	<b>2.5</b>	<b>7.6</b>	<b>5.2</b>	<b>3.6</b>	<b>5.8</b>	<b>5.5</b>	<b>4.4</b>	<b>2.7</b>	<b>2.5</b>	<b>1.7</b>	<b>2.8</b>	<b>3.2</b>	<b>3.7</b>	<b>4.0</b>	<b>3.6</b>	<b>3.6</b>
<b>World</b>	<b>-1.2</b>	<b>2.6</b>	<b>3.2</b>	<b>3.4</b>	<b>3.4</b>	<b>3.2</b>	<b>2.5</b>	<b>0.4</b>	<b>0.4</b>	<b>0.1</b>	<b>0.8</b>	<b>1.2</b>	<b>1.6</b>	<b>1.5</b>	<b>1.4</b>	<b>1.4</b>
<b>Annual Change (mb/d)</b>																
North America	-0.89	-0.01	0.75	0.80	0.31	0.46	0.35	-0.40	-0.53	-0.43	-0.25	-0.32	-0.19	-0.06	0.03	-0.13
Europe	-0.73	-0.78	-0.18	0.33	0.29	-0.08	-0.13	-0.14	-0.24	-0.48	-0.25	-0.26	-0.30	-0.17	-0.06	-0.20
Pacific	-0.37	0.10	0.03	0.34	0.05	0.13	0.12	-0.23	0.06	0.26	0.05	0.23	0.29	-0.15	-0.28	0.02
<b>Total OECD</b>	<b>-1.98</b>	<b>-0.69</b>	<b>0.60</b>	<b>1.47</b>	<b>0.64</b>	<b>0.51</b>	<b>0.34</b>	<b>-0.77</b>	<b>-0.71</b>	<b>-0.65</b>	<b>-0.45</b>	<b>-0.35</b>	<b>-0.21</b>	<b>-0.38</b>	<b>-0.32</b>	<b>-0.31</b>
Asia	0.77	2.04	1.25	0.59	1.25	1.28	1.24	0.62	0.59	0.20	0.66	0.69	0.92	1.00	0.88	0.87
Middle East	0.25	0.35	0.26	0.24	0.32	0.29	0.20	0.14	0.14	0.13	0.15	0.25	0.28	0.26	0.26	0.26
Latin America	0.00	0.27	0.31	0.36	0.27	0.30	0.22	0.17	0.18	0.18	0.19	0.21	0.21	0.21	0.22	0.21
FSU	-0.05	0.33	0.26	0.23	0.31	0.28	0.07	0.29	0.27	0.26	0.23	0.14	-0.02	0.02	0.07	0.05
Africa	0.05	-0.06	0.07	0.08	0.18	0.07	0.07	-0.10	-0.15	-0.06	-0.06	0.09	0.20	0.23	0.15	0.17
Europe	-0.05	-0.05	-0.05	-0.03	0.01	-0.03	0.00	0.01	0.04	0.01	0.01	0.02	0.02	0.00	0.01	0.01
<b>Total Non-OECD</b>	<b>0.98</b>	<b>2.88</b>	<b>2.10</b>	<b>1.47</b>	<b>2.34</b>	<b>2.19</b>	<b>1.81</b>	<b>1.13</b>	<b>1.07</b>	<b>0.72</b>	<b>1.18</b>	<b>1.38</b>	<b>1.61</b>	<b>1.72</b>	<b>1.60</b>	<b>1.58</b>
<b>World</b>	<b>-1.00</b>	<b>2.18</b>	<b>2.70</b>	<b>2.94</b>	<b>2.99</b>	<b>2.70</b>	<b>2.15</b>	<b>0.37</b>	<b>0.36</b>	<b>0.07</b>	<b>0.73</b>	<b>1.03</b>	<b>1.40</b>	<b>1.34</b>	<b>1.28</b>	<b>1.26</b>
<b>Revisions to Oil Demand from Last Month's Report (mb/d)</b>																
North America	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	-0.03	0.00	-0.03	-0.01	-0.01	-0.04	-0.02
Europe	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.23	-0.06	-0.13	-0.10	-0.08	-0.19	-0.12
Pacific	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	-0.02	0.00	-0.01	-0.01	0.01	-0.01	-0.01
<b>Total OECD</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.02</b>	<b>-0.28</b>	<b>-0.07</b>	<b>-0.17</b>	<b>-0.12</b>	<b>-0.08</b>	<b>-0.24</b>	<b>-0.15</b>
Asia	0.00	0.01	0.01	0.01	0.01	0.01	0.01	-0.09	-0.21	-0.24	-0.13	-0.05	-0.06	-0.11	-0.16	-0.10
Middle East	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.08	0.05	0.04	0.05	0.03	0.07	0.08	0.06
Latin America	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FSU	0.00	-0.01	-0.01	0.00	-0.01	-0.01	-0.01	-0.01	-0.02	0.14	0.03	-0.01	-0.01	-0.01	0.12	0.02
Africa	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-0.05	-0.03	-0.02	-0.01	0.00	-0.05	-0.04	-0.02
Europe	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Non-OECD</b>	<b>0.00</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>-0.10</b>	<b>-0.19</b>	<b>-0.08</b>	<b>-0.09</b>	<b>-0.02</b>	<b>-0.05</b>	<b>-0.09</b>	<b>-0.01</b>	<b>-0.04</b>
<b>World</b>	<b>0.00</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>0.01</b>	<b>-0.10</b>	<b>-0.17</b>	<b>-0.37</b>	<b>-0.16</b>	<b>-0.19</b>	<b>-0.17</b>	<b>-0.17</b>	<b>-0.25</b>	<b>-0.20</b>
<b>Revisions to Oil Demand Growth from Last Month's Report (mb/d)</b>																
World	0.02	0.02	0.00	0.01	0.02	0.01	0.00	-0.11	-0.18	-0.38	-0.17	-0.20	-0.07	-0.01	0.12	-0.04

\* France, Germany, Italy, Spain and UK

**Table 2a**  
**OECD REGIONAL OIL DEMAND<sup>1</sup>**  
(million barrels per day)

	2009	2010	4Q10	1Q11	2Q11	3Q11	Jul 11	Aug 11	Sep 11 <sup>2</sup>	Latest month vs.	
										Aug 11	Sep 10
<b>North America</b>											
LPG&Ethane	2.83	2.95	3.12	3.31	2.71	2.75	2.73	2.77	2.76	-0.01	-0.04
Naphtha	0.31	0.37	0.33	0.36	0.35	0.34	0.35	0.34	0.33	-0.02	-0.05
Motor Gasoline	10.56	10.57	10.51	10.14	10.45	10.48	10.56	10.55	10.32	-0.23	-0.38
Jet/Kerosene	1.61	1.65	1.63	1.60	1.68	1.71	1.70	1.78	1.63	-0.15	-0.03
Gasoil/Diesel Oil	4.61	4.82	5.01	5.04	4.77	4.85	4.48	5.06	5.01	-0.05	0.08
Residual Fuel Oil	0.92	0.93	0.89	0.97	0.87	0.76	0.68	0.76	0.84	0.08	-0.05
Other Products	2.45	2.46	2.36	2.34	2.46	2.66	2.74	2.76	2.47	-0.29	-0.20
<b>Total</b>	<b>23.29</b>	<b>23.76</b>	<b>23.85</b>	<b>23.76</b>	<b>23.29</b>	<b>23.54</b>	<b>23.24</b>	<b>24.02</b>	<b>23.36</b>	<b>-0.66</b>	<b>-0.66</b>
<b>Europe</b>											
LPG&Ethane	0.96	0.96	0.96	1.04	0.96	0.94	0.93	0.95	0.95	0.00	0.07
Naphtha	1.18	1.26	1.27	1.27	1.17	1.13	1.13	1.16	1.09	-0.07	-0.16
Motor Gasoline	2.31	2.21	2.14	2.02	2.18	2.20	2.17	2.24	2.20	-0.03	-0.13
Jet/Kerosene	1.25	1.27	1.26	1.20	1.27	1.35	1.36	1.33	1.38	0.05	0.01
Gasoil/Diesel Oil	6.04	6.13	6.43	6.04	5.73	6.17	5.90	6.21	6.41	0.20	-0.11
Residual Fuel Oil	1.44	1.27	1.30	1.29	1.22	1.25	1.29	1.21	1.25	0.04	-0.05
Other Products	1.50	1.47	1.46	1.32	1.57	1.63	1.61	1.60	1.69	0.10	-0.02
<b>Total</b>	<b>14.66</b>	<b>14.58</b>	<b>14.82</b>	<b>14.18</b>	<b>14.11</b>	<b>14.69</b>	<b>14.38</b>	<b>14.71</b>	<b>14.99</b>	<b>0.28</b>	<b>-0.39</b>
<b>Pacific</b>											
LPG&Ethane	0.86	0.84	0.83	0.88	0.81	0.79	0.80	0.81	0.77	-0.04	-0.08
Naphtha	1.62	1.68	1.75	1.78	1.55	1.73	1.71	1.79	1.70	-0.09	0.03
Motor Gasoline	1.55	1.57	1.59	1.51	1.47	1.61	1.61	1.69	1.54	-0.15	-0.05
Jet/Kerosene	0.85	0.87	0.98	1.18	0.64	0.63	0.59	0.63	0.69	0.06	-0.01
Gasoil/Diesel Oil	1.61	1.62	1.70	1.67	1.53	1.59	1.61	1.56	1.60	0.05	0.02
Residual Fuel Oil	0.77	0.74	0.73	0.80	0.65	0.76	0.72	0.79	0.78	0.00	0.04
Other Products	0.44	0.49	0.48	0.54	0.47	0.56	0.54	0.53	0.60	0.07	-0.01
<b>Total</b>	<b>7.69</b>	<b>7.82</b>	<b>8.07</b>	<b>8.35</b>	<b>7.11</b>	<b>7.68</b>	<b>7.56</b>	<b>7.80</b>	<b>7.69</b>	<b>-0.11</b>	<b>-0.06</b>
<b>OECD</b>											
LPG&Ethane	4.65	4.76	4.91	5.23	4.48	4.49	4.45	4.53	4.48	-0.05	-0.05
Naphtha	3.11	3.31	3.36	3.41	3.07	3.20	3.19	3.29	3.12	-0.17	-0.18
Motor Gasoline	14.41	14.35	14.24	13.67	14.11	14.29	14.33	14.48	14.06	-0.41	-0.56
Jet/Kerosene	3.70	3.80	3.88	3.98	3.58	3.70	3.65	3.74	3.70	-0.04	-0.03
Gasoil/Diesel Oil	12.25	12.57	13.14	12.75	12.04	12.61	11.98	12.83	13.02	0.19	-0.01
Residual Fuel Oil	3.13	2.94	2.92	3.06	2.74	2.78	2.69	2.76	2.88	0.12	-0.06
Other Products	4.39	4.42	4.30	4.19	4.50	4.85	4.88	4.89	4.77	-0.12	-0.22
<b>Total</b>	<b>45.64</b>	<b>46.15</b>	<b>46.74</b>	<b>46.29</b>	<b>44.52</b>	<b>45.91</b>	<b>45.18</b>	<b>46.53</b>	<b>46.03</b>	<b>-0.49</b>	<b>-1.10</b>

<sup>1</sup> Demand, measured as deliveries from refineries and primary stocks, comprises inland deliveries, international bunkers and refinery fuel. It includes crude for direct burning, oil from non-conventional sources and other sources of supply. Jet/kerosene comprises jet kerosene and non-aviation kerosene. Gasoil comprises diesel, light heating oil and other gasoils.

North America comprises US 50 states, US territories, Mexico and Canada.

<sup>2</sup> Latest official OECD submissions (MOS).

**Table 2b**  
**OIL DEMAND IN SELECTED OECD COUNTRIES<sup>1</sup>**  
(million barrels per day)

	2009	2010	4Q10	1Q11	2Q11	3Q11	Jul 11	Aug 11	Sep 11 <sup>2</sup>	Latest month vs.	
										Aug 11	Sep 10
<b>United States<sup>3</sup></b>											
LPG	2.05	2.17	2.32	2.47	1.96	1.99	1.94	1.99	2.05	0.05	-0.04
Naphtha	0.25	0.26	0.22	0.27	0.27	0.25	0.27	0.25	0.23	-0.01	0.00
Motor Gasoline	9.00	8.99	8.92	8.61	8.87	8.89	8.98	8.92	8.75	-0.17	-0.36
Jet/Kerosene	1.41	1.45	1.44	1.40	1.49	1.50	1.48	1.57	1.43	-0.14	-0.03
Gasoil	3.63	3.80	3.94	3.95	3.75	3.78	3.45	3.97	3.94	-0.03	0.05
Residual Fuel Oil	0.51	0.54	0.52	0.61	0.51	0.36	0.31	0.32	0.47	0.15	-0.05
Other Products	1.92	1.97	1.87	1.86	1.97	2.12	2.19	2.21	1.96	-0.26	-0.18
<b>Total</b>	<b>18.77</b>	<b>19.18</b>	<b>19.23</b>	<b>19.17</b>	<b>18.82</b>	<b>18.89</b>	<b>18.62</b>	<b>19.23</b>	<b>18.82</b>	<b>-0.40</b>	<b>-0.61</b>
<b>Japan</b>											
LPG	0.50	0.48	0.47	0.54	0.50	0.45	0.46	0.46	0.44	-0.02	-0.02
Naphtha	0.72	0.77	0.81	0.79	0.65	0.74	0.73	0.79	0.70	-0.09	-0.03
Motor Gasoline	0.99	1.00	1.00	0.95	0.92	1.04	1.03	1.10	0.98	-0.12	-0.06
Jet/Kerosene	0.55	0.55	0.62	0.80	0.36	0.34	0.31	0.33	0.38	0.04	-0.03
Diesel	0.43	0.41	0.43	0.41	0.39	0.41	0.42	0.39	0.42	0.02	-0.03
Other Gasoil	0.42	0.43	0.44	0.48	0.36	0.36	0.39	0.35	0.35	0.00	-0.05
Residual Fuel Oil	0.41	0.40	0.39	0.42	0.36	0.48	0.44	0.51	0.48	-0.02	0.05
Other Products	0.39	0.41	0.40	0.47	0.38	0.51	0.47	0.50	0.55	0.04	0.00
<b>Total</b>	<b>4.39</b>	<b>4.45</b>	<b>4.57</b>	<b>4.86</b>	<b>3.92</b>	<b>4.32</b>	<b>4.24</b>	<b>4.44</b>	<b>4.29</b>	<b>-0.15</b>	<b>-0.17</b>
<b>Germany</b>											
LPG	0.10	0.10	0.09	0.10	0.10	0.11	0.10	0.11	0.10	-0.01	0.00
Naphtha	0.36	0.41	0.41	0.44	0.40	0.39	0.39	0.41	0.37	-0.04	-0.02
Motor Gasoline	0.47	0.46	0.45	0.43	0.47	0.47	0.44	0.49	0.48	-0.01	-0.01
Jet/Kerosene	0.19	0.18	0.18	0.17	0.19	0.19	0.19	0.18	0.19	0.01	-0.02
Diesel	0.64	0.67	0.69	0.63	0.67	0.71	0.67	0.73	0.74	0.01	0.00
Other Gasoil	0.42	0.43	0.47	0.37	0.23	0.42	0.36	0.48	0.43	-0.05	-0.12
Residual Fuel Oil	0.16	0.15	0.16	0.16	0.14	0.15	0.15	0.15	0.14	-0.01	-0.02
Other Products	0.11	0.09	0.09	0.05	0.12	0.12	0.13	0.12	0.12	-0.01	-0.02
<b>Total</b>	<b>2.45</b>	<b>2.49</b>	<b>2.53</b>	<b>2.35</b>	<b>2.34</b>	<b>2.55</b>	<b>2.43</b>	<b>2.67</b>	<b>2.56</b>	<b>-0.10</b>	<b>-0.21</b>
<b>Italy</b>											
LPG	0.10	0.11	0.11	0.12	0.08	0.08	0.08	0.08	0.09	0.01	-0.01
Naphtha	0.10	0.12	0.11	0.11	0.10	0.08	0.07	0.08	0.09	0.01	-0.03
Motor Gasoline	0.25	0.24	0.24	0.22	0.24	0.24	0.23	0.24	0.24	0.00	-0.01
Jet/Kerosene	0.09	0.10	0.09	0.09	0.10	0.12	0.12	0.11	0.12	0.00	0.01
Diesel	0.49	0.49	0.50	0.47	0.51	0.50	0.51	0.46	0.52	0.06	0.00
Other Gasoil	0.13	0.12	0.14	0.11	0.09	0.10	0.09	0.10	0.11	0.02	-0.01
Residual Fuel Oil	0.18	0.13	0.12	0.10	0.11	0.13	0.15	0.13	0.12	0.00	0.00
Other Products	0.20	0.23	0.25	0.21	0.24	0.22	0.22	0.20	0.24	0.04	-0.02
<b>Total</b>	<b>1.54</b>	<b>1.53</b>	<b>1.56</b>	<b>1.43</b>	<b>1.47</b>	<b>1.47</b>	<b>1.48</b>	<b>1.40</b>	<b>1.54</b>	<b>0.14</b>	<b>-0.07</b>
<b>France</b>											
LPG	0.12	0.15	0.17	0.17	0.12	0.12	0.12	0.12	0.12	0.00	-0.02
Naphtha	0.13	0.13	0.10	0.13	0.14	0.13	0.14	0.14	0.11	-0.03	0.00
Motor Gasoline	0.20	0.19	0.18	0.17	0.20	0.19	0.20	0.19	0.18	-0.01	-0.01
Jet/Kerosene	0.15	0.15	0.14	0.14	0.15	0.16	0.16	0.16	0.16	0.00	0.00
Diesel	0.67	0.69	0.69	0.69	0.71	0.71	0.70	0.69	0.73	0.04	0.00
Other Gasoil	0.32	0.30	0.34	0.35	0.19	0.28	0.23	0.28	0.32	0.04	-0.02
Residual Fuel Oil	0.10	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.09	0.01	0.01
Other Products	0.18	0.17	0.15	0.13	0.19	0.20	0.20	0.16	0.23	0.06	0.02
<b>Total</b>	<b>1.87</b>	<b>1.86</b>	<b>1.86</b>	<b>1.86</b>	<b>1.79</b>	<b>1.87</b>	<b>1.83</b>	<b>1.84</b>	<b>1.95</b>	<b>0.12</b>	<b>-0.02</b>
<b>United Kingdom</b>											
LPG	0.15	0.14	0.13	0.14	0.15	0.13	0.14	0.13	0.13	-0.01	0.01
Naphtha	0.02	0.03	0.02	0.03	0.03	0.02	0.02	0.02	0.02	0.00	-0.01
Motor Gasoline	0.37	0.35	0.34	0.34	0.34	0.33	0.32	0.34	0.34	0.00	-0.03
Jet/Kerosene	0.33	0.33	0.34	0.34	0.32	0.33	0.30	0.33	0.36	0.03	0.03
Diesel	0.43	0.45	0.44	0.45	0.45	0.45	0.43	0.45	0.47	0.02	0.02
Other Gasoil	0.12	0.12	0.12	0.11	0.11	0.13	0.11	0.14	0.13	0.00	0.00
Residual Fuel Oil	0.08	0.06	0.07	0.07	0.06	0.06	0.07	0.06	0.07	0.01	0.01
Other Products	0.14	0.14	0.15	0.15	0.16	0.15	0.16	0.15	0.15	0.00	0.01
<b>Total</b>	<b>1.65</b>	<b>1.62</b>	<b>1.60</b>	<b>1.62</b>	<b>1.61</b>	<b>1.61</b>	<b>1.56</b>	<b>1.61</b>	<b>1.66</b>	<b>0.05</b>	<b>0.03</b>
<b>Canada</b>											
LPG	0.35	0.35	0.36	0.39	0.35	0.35	0.38	0.37	0.30	-0.07	-0.01
Naphtha	0.05	0.08	0.08	0.09	0.08	0.09	0.08	0.09	0.09	0.00	0.00
Motor Gasoline	0.73	0.73	0.73	0.69	0.74	0.76	0.77	0.77	0.74	-0.03	-0.02
Jet/Kerosene	0.11	0.11	0.11	0.11	0.10	0.12	0.13	0.11	0.12	0.01	0.00
Diesel	0.23	0.22	0.23	0.22	0.22	0.23	0.23	0.24	0.23	-0.01	0.00
Other Gasoil	0.28	0.31	0.34	0.36	0.28	0.31	0.29	0.31	0.32	0.01	-0.01
Residual Fuel Oil	0.10	0.10	0.11	0.11	0.09	0.08	0.07	0.10	0.09	-0.01	0.00
Other Products	0.31	0.30	0.30	0.28	0.29	0.33	0.33	0.34	0.31	-0.02	-0.01
<b>Total</b>	<b>2.16</b>	<b>2.21</b>	<b>2.25</b>	<b>2.25</b>	<b>2.15</b>	<b>2.27</b>	<b>2.28</b>	<b>2.34</b>	<b>2.21</b>	<b>-0.13</b>	<b>-0.06</b>

<sup>1</sup> Demand, measured as deliveries from refineries and primary stocks, comprises inland deliveries, international bunkers and refinery fuel. It includes crude for direct burning, oil from non-conventional sources and other sources of supply. Jet/kerosene comprises jet kerosene and non-aviation kerosene. Gasoil comprises diesel, light heating oil and other gasoils.

<sup>2</sup> Latest official OECD submissions (MOS).

<sup>3</sup> US figures exclude US territories.



**Table 3**  
**WORLD OIL PRODUCTION**

(million barrels per day)

	2010	2011	2012	2Q11	3Q11	4Q11	1Q12	2Q12	Sep 11	Oct 11	Nov 11
<b>OPEC</b>											
Crude Oil											
Saudi Arabia	8.13			8.90	9.34				9.10	9.15	9.45
Iran	3.70			3.65	3.53				3.54	3.53	3.55
Iraq	2.36			2.67	2.67				2.70	2.69	2.72
UAE	2.31			2.48	2.53				2.55	2.51	2.52
Kuwait	2.03			2.15	2.26				2.35	2.35	2.37
Neutral Zone	0.53			0.59	0.60				0.60	0.60	0.60
Qatar	0.80			0.82	0.82				0.82	0.81	0.82
Angola	1.73			1.55	1.69				1.70	1.72	1.69
Nigeria	2.08			2.25	2.26				2.18	2.02	2.10
Libya	1.55			0.12	0.04				0.08	0.35	0.55
Algeria	1.25			1.26	1.28				1.29	1.29	1.29
Ecuador	0.47			0.50	0.49				0.50	0.50	0.50
Venezuela	2.53			2.56	2.42				2.29	2.55	2.53
<b>Total Crude Oil<sup>6</sup></b>	<b>29.49</b>			<b>29.49</b>	<b>29.93</b>				<b>29.70</b>	<b>30.07</b>	<b>30.68</b>
Total NGLs <sup>1,6</sup>	5.35	5.80	6.35	5.73	5.80	5.92	6.15	6.20	5.80	5.92	5.92
<b>Total OPEC<sup>6</sup></b>	<b>34.84</b>			<b>35.22</b>	<b>35.74</b>				<b>35.50</b>	<b>35.98</b>	<b>36.60</b>
OPEC: Historical Composition <sup>6</sup>	34.84			35.22	35.74				35.50	35.98	36.60
<b>NON-OPEC<sup>2</sup></b>											
<b>OECD</b>											
<b>North America</b>											
United States <sup>5</sup>	7.77	8.06	8.21	8.04	8.11	8.24	8.17	8.30	8.03	8.24	8.27
Mexico	2.96	2.94	2.85	2.96	2.92	2.91	2.89	2.88	2.87	2.93	2.91
Canada	3.37	3.46	3.62	3.26	3.49	3.54	3.72	3.37	3.44	3.46	3.55
<b>Europe</b>	<b>4.16</b>	<b>3.90</b>	<b>3.90</b>	<b>3.81</b>	<b>3.64</b>	<b>4.08</b>	<b>4.10</b>	<b>3.83</b>	<b>3.63</b>	<b>3.93</b>	<b>4.16</b>
UK	1.37	1.17	1.21	1.17	0.96	1.29	1.30	1.19	1.01	1.22	1.32
Norway	2.14	2.05	2.04	1.98	1.99	2.10	2.12	1.97	1.91	2.02	2.13
Others	0.65	0.68	0.66	0.66	0.68	0.69	0.68	0.66	0.70	0.69	0.71
<b>Pacific</b>	<b>0.61</b>	<b>0.54</b>	<b>0.68</b>	<b>0.50</b>	<b>0.51</b>	<b>0.62</b>	<b>0.66</b>	<b>0.68</b>	<b>0.51</b>	<b>0.60</b>	<b>0.61</b>
Australia	0.51	0.45	0.59	0.42	0.42	0.53	0.57	0.59	0.42	0.51	0.52
Others	0.10	0.09	0.09	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09
<b>Total OECD</b>	<b>18.87</b>	<b>18.90</b>	<b>19.26</b>	<b>18.58</b>	<b>18.66</b>	<b>19.38</b>	<b>19.55</b>	<b>19.05</b>	<b>18.48</b>	<b>19.17</b>	<b>19.50</b>
<b>NON-OECD</b>											
<b>Former USSR</b>											
Russia	10.45	10.58	10.70	10.55	10.58	10.69	10.67	10.72	10.65	10.69	10.68
Others	3.10	3.04	3.07	3.03	2.96	3.05	3.11	3.12	3.03	3.03	3.04
<b>Asia</b>	<b>7.80</b>	<b>7.69</b>	<b>7.76</b>	<b>7.65</b>	<b>7.58</b>	<b>7.70</b>	<b>7.79</b>	<b>7.78</b>	<b>7.55</b>	<b>7.64</b>	<b>7.74</b>
China	4.10	4.18	4.30	4.17	4.09	4.22	4.29	4.32	4.09	4.18	4.27
Malaysia	0.72	0.63	0.59	0.61	0.63	0.58	0.59	0.58	0.59	0.58	0.57
India	0.86	0.90	0.92	0.89	0.89	0.92	0.92	0.92	0.88	0.91	0.92
Indonesia	0.97	0.91	0.86	0.91	0.91	0.89	0.88	0.86	0.91	0.89	0.87
Others	1.14	1.08	1.10	1.06	1.06	1.09	1.11	1.09	1.08	1.09	1.10
<b>Europe</b>	<b>0.14</b>	<b>0.14</b>	<b>0.14</b>	<b>0.14</b>	<b>0.14</b>	<b>0.14</b>	<b>0.14</b>	<b>0.14</b>	<b>0.14</b>	<b>0.14</b>	<b>0.14</b>
<b>Latin America</b>	<b>4.07</b>	<b>4.19</b>	<b>4.43</b>	<b>4.16</b>	<b>4.16</b>	<b>4.27</b>	<b>4.37</b>	<b>4.42</b>	<b>4.12</b>	<b>4.24</b>	<b>4.28</b>
Brazil <sup>5</sup>	2.14	2.17	2.31	2.18	2.13	2.19	2.26	2.30	2.09	2.19	2.18
Argentina	0.69	0.67	0.68	0.61	0.67	0.69	0.68	0.68	0.69	0.69	0.68
Colombia	0.79	0.92	1.02	0.93	0.92	0.96	0.99	1.01	0.89	0.94	0.97
Others	0.45	0.44	0.43	0.44	0.44	0.43	0.43	0.43	0.44	0.42	0.44
<b>Middle East<sup>3</sup></b>	<b>1.74</b>	<b>1.63</b>	<b>1.56</b>	<b>1.63</b>	<b>1.64</b>	<b>1.49</b>	<b>1.57</b>	<b>1.56</b>	<b>1.53</b>	<b>1.46</b>	<b>1.47</b>
Oman	0.87	0.90	0.93	0.88	0.90	0.91	0.92	0.92	0.91	0.91	0.91
Syria	0.39	0.33	0.27	0.38	0.32	0.22	0.28	0.27	0.21	0.19	0.22
Yemen	0.30	0.20	0.16	0.17	0.21	0.15	0.17	0.17	0.20	0.16	0.15
Others	0.19	0.20	0.19	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
<b>Africa</b>	<b>2.52</b>	<b>2.52</b>	<b>2.56</b>	<b>2.50</b>	<b>2.53</b>	<b>2.50</b>	<b>2.57</b>	<b>2.57</b>	<b>2.53</b>	<b>2.54</b>	<b>2.47</b>
Egypt	0.70	0.69	0.68	0.69	0.69	0.68	0.68	0.68	0.69	0.69	0.68
Gabon	0.25	0.24	0.25	0.23	0.24	0.25	0.24	0.24	0.25	0.25	0.25
Others	1.58	1.58	1.64	1.57	1.60	1.57	1.64	1.65	1.60	1.61	1.54
<b>Total Non-OECD</b>	<b>29.83</b>	<b>29.80</b>	<b>30.22</b>	<b>29.66</b>	<b>29.59</b>	<b>29.84</b>	<b>30.21</b>	<b>30.30</b>	<b>29.54</b>	<b>29.75</b>	<b>29.82</b>
Processing Gains <sup>4</sup>	2.10	2.17	2.26	2.14	2.14	2.23	2.28	2.23	2.14	2.23	2.23
Global Biofuels <sup>5</sup>	1.83	1.82	1.93	1.88	2.14	1.80	1.58	1.93	2.18	1.92	1.83
<b>TOTAL NON-OPEC<sup>6</sup></b>	<b>52.62</b>	<b>52.68</b>	<b>53.68</b>	<b>52.25</b>	<b>52.52</b>	<b>53.25</b>	<b>53.62</b>	<b>53.52</b>	<b>52.34</b>	<b>53.07</b>	<b>53.39</b>
Non-OPEC: Historical Composition <sup>6</sup>	52.62	52.68	53.68	52.25	52.52	53.25	53.62	53.52	52.34	53.07	53.39
<b>TOTAL SUPPLY</b>	<b>87.46</b>			<b>87.47</b>	<b>88.26</b>				<b>87.84</b>	<b>89.05</b>	<b>89.99</b>

<sup>1</sup> Includes condensates reported by OPEC countries, oil from non-conventional sources, e.g. Venezuelan Orimulsion (but not Orinoco extra-heavy oil), and non-oil inputs to Saudi Arabian MTBE. Orimulsion production reportedly ceased from January 2007.

<sup>2</sup> Comprises crude oil, condensates, NGLs and oil from non-conventional sources

<sup>3</sup> Includes small amounts of production from Israel, Jordan and Bahrain.

<sup>4</sup> Net volumetric gains and losses in refining and marine transportation losses.

<sup>5</sup> As of the July 2010 OMR, Global Biofuels comprise all world biofuel production including fuel ethanol from the US and Brazil.

<sup>6</sup> Total OPEC comprises all countries which were OPEC members at 1 January 2009. OPEC Historical Composition comprises countries which were OPEC members at that point in time.

Total Non-OPEC excludes all countries that were OPEC members at 1 January 2009. Non-OPEC Historical Composition excludes countries that were OPEC members at that point in time.

**Table 4**  
**OECD INDUSTRY STOCKS<sup>1</sup> AND QUARTERLY STOCK CHANGES**

	RECENT MONTHLY STOCKS <sup>2</sup>					PRIOR YEARS' STOCKS <sup>2</sup>			STOCK CHANGES			
	in Million Barrels					in Million Barrels			in mb/d			
	Jun2011	Jul2011	Aug2011	Sep2011	Oct2011*	Oct2008	Oct2009	Oct2010	4Q2010	1Q2011	2Q2011	3Q2011
<b>North America</b>												
Crude	499.6	486.8	485.0	468.5	468.7	445.1	463.3	512.4	-0.30	0.25	0.02	-0.34
Motor Gasoline	248.4	247.9	246.2	251.2	243.8	225.0	240.0	241.8	0.02	-0.03	-0.01	0.03
Middle Distillate	213.4	231.7	229.5	228.9	210.9	196.8	245.1	237.2	-0.07	-0.24	-0.04	0.17
Residual Fuel Oil	43.9	45.2	46.1	42.5	45.1	47.7	43.1	49.4	0.01	-0.05	-0.01	-0.02
Total Products <sup>3</sup>	679.7	710.7	709.1	709.2	686.6	655.7	723.9	711.3	-0.32	-0.58	0.29	0.32
Total <sup>4</sup>	1339.4	1360.5	1360.8	1344.8	1326.4	1269.8	1351.0	1389.1	-0.77	-0.39	0.49	0.06
<b>Europe</b>												
Crude	318.1	310.1	310.5	307.9	297.1	331.6	323.3	337.0	0.04	0.01	-0.05	-0.11
Motor Gasoline	92.2	92.2	90.8	89.1	89.5	93.2	97.6	96.6	0.02	0.04	-0.09	-0.03
Middle Distillate	274.1	274.8	273.7	264.8	260.7	256.8	287.0	281.1	-0.02	0.09	-0.13	-0.10
Residual Fuel Oil	64.3	63.3	67.7	64.2	63.4	74.7	66.0	71.8	-0.09	-0.01	-0.03	0.00
Total Products <sup>3</sup>	545.6	548.4	552.8	538.3	532.6	541.1	561.6	557.5	-0.07	0.11	-0.22	-0.08
Total <sup>4</sup>	932.1	925.8	929.5	910.2	894.9	946.7	955.2	960.6	0.02	0.06	-0.24	-0.24
<b>Pacific</b>												
Crude	159.5	163.7	155.2	157.2	156.2	163.1	165.5	157.5	0.03	0.00	0.01	-0.03
Motor Gasoline	25.0	25.2	25.1	24.4	24.8	23.9	24.9	24.6	-0.01	0.01	0.01	-0.01
Middle Distillate	66.8	66.5	70.0	67.8	66.7	74.2	68.6	67.5	-0.07	-0.06	0.14	0.01
Residual Fuel Oil	21.3	21.2	19.4	20.2	19.6	20.7	21.1	20.1	-0.03	0.02	0.01	-0.01
Total Products <sup>3</sup>	171.4	176.7	180.7	181.0	181.0	194.1	180.1	182.1	-0.16	-0.09	0.18	0.10
Total <sup>4</sup>	404.9	411.9	409.7	411.6	409.0	433.2	410.2	409.3	-0.13	-0.10	0.26	0.07
<b>Total OECD</b>												
Crude	977.1	960.6	950.7	933.6	921.9	939.8	952.1	1006.8	-0.23	0.26	-0.02	-0.47
Motor Gasoline	365.6	365.3	362.1	364.7	358.0	342.1	362.5	362.9	0.03	0.02	-0.09	-0.01
Middle Distillate	554.2	573.0	573.2	561.5	538.4	527.8	600.8	585.9	-0.16	-0.21	-0.03	0.08
Residual Fuel Oil	129.5	129.7	133.1	126.9	128.1	143.0	130.1	141.3	-0.12	-0.04	-0.04	-0.03
Total Products <sup>3</sup>	1396.7	1435.8	1442.5	1428.5	1400.2	1390.9	1465.6	1450.8	-0.55	-0.56	0.25	0.35
Total <sup>4</sup>	2676.4	2698.2	2700.0	2666.5	2630.2	2649.6	2716.3	2758.9	-0.88	-0.43	0.50	-0.11

**OECD GOVERNMENT-CONTROLLED STOCKS<sup>5</sup> AND QUARTERLY STOCK CHANGES**

	RECENT MONTHLY STOCKS <sup>2</sup>					PRIOR YEARS' STOCKS <sup>2</sup>			STOCK CHANGES			
	in Million Barrels					in Million Barrels			in mb/d			
	Jun2011	Jul2011	Aug2011	Sep2011	Oct2011*	Oct2008	Oct2009	Oct2010	4Q2010	1Q2011	2Q2011	3Q2011
<b>North America</b>												
Crude	726.5	718.2	696.5	696.0	696.0	701.8	725.1	726.6	0.00	0.00	0.00	-0.33
Products	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.00	-0.02	0.00	0.00
<b>Europe</b>												
Crude	184.9	183.4	183.1	183.0	183.0	185.5	185.6	186.6	0.05	-0.01	-0.01	-0.02
Products	237.1	237.0	236.5	235.9	235.9	229.5	239.7	226.2	-0.01	-0.03	0.05	-0.01
<b>Pacific</b>												
Crude	391.1	389.1	390.6	390.7	391.1	384.7	388.4	387.1	0.08	0.02	0.00	0.00
Products	20.0	18.5	18.7	18.7	20.0	19.2	20.0	20.0	0.00	0.00	0.00	-0.01
<b>Total OECD</b>												
Crude	1302.5	1290.8	1270.2	1269.6	1270.0	1272.0	1299.1	1300.3	0.13	0.01	-0.01	-0.36
Products	257.1	255.5	255.2	254.6	255.9	250.6	261.8	248.2	-0.01	-0.05	0.05	-0.03
Total <sup>4</sup>	1560.9	1547.7	1526.8	1525.6	1527.3	1523.6	1562.3	1549.7	0.12	-0.03	0.04	-0.38

\* estimated

1 Stocks are primary national territory stocks on land (excluding utility stocks and including pipeline and entrepot stocks where known) and include stocks held by industry to meet IEA, EU and national emergency reserve commitments and are subject to government control in emergencies.

2 Closing stock levels.

3 Total products includes gasoline, middle distillates, fuel oil and other products.

4 Total includes NGLs, refinery feedstocks, additives/oxygenates and other hydrocarbons.

5 Includes government-owned stocks and stock holding organisation stocks held for emergency purposes.

**Table 5**  
**TOTAL STOCKS ON LAND IN OECD COUNTRIES<sup>1</sup>**

(millions of barrels' and 'days')

	End September 2010		End December 2010		End March 2011		End June 2011		End September 2011 <sup>3</sup>	
	Stock Level	Days Fwd <sup>2</sup> Demand	Stock Level	Days Fwd Demand	Stock Level	Days Fwd Demand	Stock Level	Days Fwd Demand	Stock Level	Days Fwd Demand
<b>North America</b>										
Canada	195.7	86	196.5	86	185.2	84	189.7	83	191.6	-
Mexico	49.0	24	44.5	22	45.0	22	46.5	22	46.1	-
United States <sup>4</sup>	1863.2	97	1796.1	94	1769.5	94	1807.6	96	1780.9	-
<b>Total<sup>4</sup></b>	<b>2130.0</b>	<b>89</b>	<b>2059.2</b>	<b>87</b>	<b>2021.7</b>	<b>87</b>	<b>2065.9</b>	<b>88</b>	<b>2040.7</b>	<b>87</b>
<b>Pacific</b>										
Australia	40.5	41	38.1	39	39.1	39	39.5	39	38.2	-
Japan	581.8	127	588.3	121	575.4	147	593.2	137	601.1	-
Korea	173.5	74	165.4	70	170.2	83	175.2	79	173.6	-
New Zealand	8.2	53	8.2	51	8.0	53	8.2	56	8.1	-
<b>Total</b>	<b>804.0</b>	<b>100</b>	<b>800.0</b>	<b>96</b>	<b>792.7</b>	<b>111</b>	<b>816.0</b>	<b>106</b>	<b>821.0</b>	<b>99</b>
<b>Europe<sup>5</sup></b>										
Austria	18.9	65	19.7	77	19.4	77	19.6	70	18.0	-
Belgium	34.3	51	33.6	50	37.0	59	38.1	58	36.7	-
Czech Republic	21.1	105	21.2	117	21.5	106	21.7	109	20.1	-
Denmark	26.9	159	26.8	171	21.4	132	21.5	134	22.0	-
Finland	28.5	121	27.8	127	26.9	133	27.0	130	26.4	-
France	163.4	88	168.2	91	167.4	94	166.7	89	160.0	-
Germany	285.6	113	286.8	122	289.4	124	290.8	114	282.6	-
Greece	36.3	95	34.3	92	33.9	106	32.6	99	30.9	-
Hungary	15.9	103	15.9	119	17.4	124	17.3	118	16.2	-
Ireland	11.4	68	9.8	63	10.8	79	10.2	73	11.3	-
Italy	126.6	81	133.3	93	131.8	90	130.0	88	130.1	-
Luxembourg	0.7	12	0.6	10	0.5	9	0.6	9	0.7	-
Netherlands	121.2	122	125.8	129	125.7	124	117.8	113	114.3	-
Norway	20.8	77	20.8	81	21.1	93	23.5	96	24.5	-
Poland	64.2	108	65.5	123	62.8	109	64.6	105	65.2	-
Portugal	22.8	84	22.9	89	23.5	87	23.3	86	21.9	-
Slovak Republic	8.6	101	8.3	109	9.0	111	8.9	104	8.3	-
Spain	133.0	92	133.2	93	132.9	97	130.1	94	131.2	-
Sweden	34.4	94	32.4	94	33.7	101	32.5	101	32.7	-
Switzerland	37.7	146	36.8	156	36.6	168	37.2	150	37.0	-
Turkey	58.5	90	58.5	101	58.3	85	56.6	73	56.4	-
United Kingdom	94.5	59	88.8	55	92.8	57	84.9	53	84.0	-
<b>Total</b>	<b>1365.5</b>	<b>92</b>	<b>1371.1</b>	<b>97</b>	<b>1374.0</b>	<b>97</b>	<b>1355.4</b>	<b>92</b>	<b>1330.5</b>	<b>93</b>
<b>Total OECD</b>	<b>4299.5</b>	<b>92</b>	<b>4230.3</b>	<b>92</b>	<b>4188.5</b>	<b>94</b>	<b>4237.3</b>	<b>92</b>	<b>4192.2</b>	<b>91</b>
<b>DAYS OF IEA Net Imports<sup>6</sup></b>	<b>-</b>	<b>145</b>	<b>-</b>	<b>146</b>	<b>-</b>	<b>146</b>	<b>-</b>	<b>147</b>	<b>-</b>	<b>145</b>

1 Total Stocks are industry and government-controlled stocks (see breakdown in table below). Stocks are primary national territory stocks on land (excluding utility stocks and including pipeline and entropot stocks where known) they include stocks held by industry to meet IEA, EU and national emergency reserves commitments and are subject to government control in emergencies.

2 Note that days of forward demand represent the stock level divided by the forward quarter average daily demand and is very different from the days of net imports used for the calculation of IEA Emergency Reserves.

3 End September 2011 forward demand figures are IEA Secretariat forecasts.

4 US figures exclude US territories. Total includes US territories.

5 Data not available for Iceland.

6 Reflects stock levels and prior calendar year's net imports adjusted according to IEA emergency reserve definitions (see [www.iea.org/netimports.asp](http://www.iea.org/netimports.asp)). Net exporting IEA countries are excluded.

### TOTAL OECD STOCKS

CLOSING STOCKS	Total			Total		
	Government <sup>1</sup> controlled	Industry		Government <sup>1</sup> controlled	Industry	
	Millions of Barrels			Days of Fwd. Demand <sup>2</sup>		
3Q2008	4164	1522	2641	88	32	56
4Q2008	4206	1527	2679	90	33	57
1Q2009	4278	1547	2731	96	35	61
2Q2009	4306	1561	2745	95	35	61
3Q2009	4327	1564	2763	94	34	60
4Q2009	4205	1564	2641	92	34	57
1Q2010	4241	1567	2675	94	35	59
2Q2010	4319	1562	2757	93	34	59
3Q2010	4299	1549	2750	92	33	59
4Q2010	4230	1561	2670	92	34	58
1Q2011	4188	1558	2631	94	35	59
2Q2011	4237	1561	2676	92	34	58
3Q2011	4192	1526	2667	91	33	58

1 Includes government-owned stocks and stock holding organisation stocks held for emergency purposes.

2 Days of forward demand calculated using actual demand except in 3QYYYY (when latest forecasts are used).

**Table 6**  
**IEA MEMBER COUNTRY DESTINATIONS OF SELECTED CRUDE STREAMS<sup>1</sup>**  
(million barrels per day)

	2008	2009	2010	4Q10	1Q11	2Q11	3Q11	Jul 11	Aug 11	Sep 11	Year Earlier	
											Sep 10	change
<b>Saudi Light &amp; Extra Light</b>												
North America	0.70	0.52	0.69	0.75	0.71	0.72	0.47	0.53	0.55	0.31	0.70	-0.39
Europe	0.70	0.59	0.66	0.69	0.70	0.79	0.93	0.96	1.00	0.82	0.77	0.05
Pacific	1.22	1.28	1.21	1.26	1.33	1.14	1.21	1.25	1.12	1.27	1.13	0.14
<b>Saudi Medium</b>												
North America	0.64	0.40	0.36	0.36	0.33	0.36	0.40	0.43	0.33	0.45	0.39	0.06
Europe	0.05	0.02	0.00	-	-	0.02	0.05	0.04	0.07	0.03	-	-
Pacific	0.39	0.34	0.34	0.37	0.39	0.38	0.43	0.38	0.47	0.45	0.28	0.17
<b>Saudi Heavy</b>												
North America	0.07	0.03	0.02	0.01	0.02	0.03	0.03	0.02	-	0.07	0.02	0.05
Europe	0.09	0.02	0.00	-	0.00	0.00	0.03	0.04	0.02	0.02	0.00	0.02
Pacific	0.24	0.15	0.22	0.21	0.20	0.21	0.23	0.25	0.19	0.25	0.25	-0.01
<b>Iraqi Basrah Light<sup>2</sup></b>												
North America	0.60	0.40	0.36	0.29	0.21	0.41	0.31	0.22	0.47	0.23	0.25	-0.02
Europe	0.21	0.12	0.09	0.08	0.03	0.10	0.19	0.17	0.21	0.19	0.04	0.15
Pacific	0.15	0.24	0.29	0.38	0.40	0.26	0.38	0.41	0.39	0.35	0.32	0.02
<b>Iraqi Kirkuk</b>												
North America	0.08	0.06	0.03	0.04	0.11	0.07	0.05	-	0.15	0.00	0.04	-0.04
Europe	0.23	0.31	0.27	0.23	0.21	0.31	0.32	0.40	0.29	0.26	0.31	-0.05
Pacific	-	-	-	-	-	-	-	-	-	-	-	-
<b>Iranian Light</b>												
North America	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.23	0.15	0.24	0.18	0.24	0.28	0.20	0.23	0.20	0.17	0.18	0.00
Pacific	0.08	0.07	0.04	0.01	0.06	0.03	0.04	0.03	0.07	0.02	0.04	-0.03
<b>Iranian Heavy<sup>3</sup></b>												
North America	-	-	-	-	-	-	-	-	-	-	-	-
Europe	0.49	0.40	0.49	0.43	0.34	0.59	0.73	0.80	0.68	0.71	0.66	0.04
Pacific	0.61	0.57	0.52	0.52	0.63	0.41	0.51	0.51	0.49	0.53	0.57	-0.04
<b>Venezuelan Light &amp; Medium</b>												
North America	0.62	0.39	0.14	0.16	0.06	0.30	0.22	0.18	0.31	0.19	0.10	0.09
Europe	0.06	0.07	0.02	0.01	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01
Pacific	-	-	-	-	-	-	-	-	-	-	-	-
<b>Venezuelan 22 API and heavier</b>												
North America	0.65	0.75	0.86	0.75	0.89	0.77	0.70	0.79	0.77	0.51	0.83	-0.31
Europe	0.07	0.07	0.06	0.05	0.04	0.05	0.06	0.07	0.07	0.05	0.04	0.01
Pacific	-	-	-	-	-	-	-	-	-	-	-	-
<b>Mexican Maya</b>												
North America	1.02	0.93	0.91	0.92	0.82	0.80	0.84	0.82	0.93	0.76	0.73	0.04
Europe	0.14	0.10	0.11	0.09	0.14	0.12	0.12	0.17	0.09	0.11	0.11	0.00
Pacific	-	-	-	-	-	-	-	-	-	-	-	-
<b>Mexican Isthmus</b>												
North America	0.01	0.01	0.04	0.09	0.05	0.08	0.06	0.05	0.06	0.07	0.05	0.02
Europe	0.01	0.01	0.02	0.05	0.01	0.02	0.00	0.01	-	-	-	-
Pacific	-	-	-	-	-	-	-	-	-	-	-	-
<b>Russian Urals</b>												
North America	0.05	0.15	0.08	0.03	0.01	-	-	-	-	-	0.02	-
Europe	1.81	1.72	1.80	1.71	1.76	1.87	1.52	1.65	1.35	1.56	1.97	-0.41
Pacific	-	-	-	-	-	-	-	-	-	-	-	-
<b>Nigerian Light<sup>4</sup></b>												
North America	0.68	0.54	0.60	0.58	0.62	0.60	0.43	0.59	0.48	0.22	0.64	-0.42
Europe	0.29	0.32	0.34	0.49	0.40	0.40	0.54	0.46	0.62	0.55	0.32	0.23
Pacific	-	0.00	-	-	0.05	0.04	0.06	0.06	0.05	0.06	-	-
<b>Nigerian Medium</b>												
North America	0.27	0.21	0.25	0.22	0.20	0.18	0.18	0.21	0.17	0.17	0.25	-0.08
Europe	0.14	0.13	0.09	0.11	0.14	0.17	0.11	0.06	0.14	0.14	0.06	0.07
Pacific	-	-	-	-	-	-	-	-	-	-	-	-

<sup>1</sup> Data based on monthly submissions from IEA countries to the crude oil import register (in '000 bbl), subject to availability. May differ from Table 8 of the Report.

IEA North America includes United States and Canada.

IEA Europe includes all countries in OECD Europe except Hungary. The Slovak Republic and Poland is excluded through December 2007 but included thereafter.

IEA Pacific data includes Australia, New Zealand, Korea and Japan.

<sup>2</sup> Iraqi Total minus Kirkuk.

<sup>3</sup> Iranian Total minus Iranian Light.

<sup>4</sup> 33° API and lighter (e.g., Bonny Light, Escravos, Qua Iboe and Oso Condensate).

**Table 7**  
**REGIONAL OECD IMPORTS<sup>1,2</sup>**

(thousand barrels per day)

	2008	2009	2010	4Q10	1Q11	2Q11	3Q11	Jul-11	Aug-11	Sep-11	Year Earlier	
											Sep-10	% change
<b>Crude Oil</b>												
North America	8076	7353	7346	6625	6571	6928	6750	6992	6734	6515	7196	-9%
Europe	9776	8893	9076	9110	8901	8903	9389	9303	9580	9279	9033	3%
Pacific	6605	6082	6249	6479	6645	6086	6255	6261	6232	6271	6244	0%
Total OECD	24457	22329	22671	22213	22117	21917	22393	22556	22546	22065	22636	-3%
<b>LPG</b>												
North America	31	13	8	6	21	4	4	4	4	5	5	-7%
Europe	268	260	270	299	313	284	308	280	297	349	234	50%
Pacific	589	529	558	567	569	547	580	642	525	573	503	14%
Total OECD	887	802	836	872	904	836	892	926	825	927	742	25%
<b>Naphtha</b>												
North America	56	22	36	35	34	51	43	41	45	45	50	-10%
Europe	298	352	390	382	292	336	254	353	218	189	322	-41%
Pacific	776	841	900	893	917	830	906	881	928	910	849	7%
Total OECD	1130	1215	1326	1309	1243	1217	1204	1275	1191	1144	1221	-6%
<b>Gasoline<sup>3</sup></b>												
North America	1077	878	788	712	668	981	695	739	779	562	766	-27%
Europe	215	193	174	127	223	221	218	213	228	213	202	6%
Pacific	90	96	64	67	71	61	70	59	87	63	42	52%
Total OECD	1383	1167	1025	907	961	1262	982	1011	1093	839	1009	-17%
<b>Jet &amp; Kerosene</b>												
North America	64	62	76	89	62	86	80	103	71	65	90	-28%
Europe	401	452	417	396	320	367	450	449	450	450	546	-18%
Pacific	34	53	40	46	58	43	45	36	39	61	29	115%
Total OECD	500	567	532	531	440	497	575	588	560	576	665	-13%
<b>Gasoil/Diesel</b>												
North America	74	55	49	14	46	30	30	23	25	42	21	105%
Europe	871	1035	1045	1235	1078	931	910	929	781	1024	1013	1%
Pacific	119	87	97	92	99	153	123	121	113	135	95	42%
Total OECD	1064	1177	1191	1340	1224	1114	1063	1073	919	1201	1128	6%
<b>Heavy Fuel Oil</b>												
North America	288	270	277	254	345	305	193	179	204	195	325	-40%
Europe	458	534	529	502	505	582	644	663	676	593	591	0%
Pacific	125	113	117	101	147	111	156	132	169	169	126	34%
Total OECD	871	917	923	857	997	997	994	974	1049	957	1042	-8%
<b>Other Products</b>												
North America	1078	870	805	906	855	896	900	994	833	871	789	10%
Europe	734	770	666	737	683	776	723	675	857	635	680	-7%
Pacific	298	325	335	352	383	252	343	317	318	394	400	-2%
Total OECD	2110	1964	1806	1996	1921	1924	1965	1986	2008	1900	1869	2%
<b>Total Products</b>												
North America	2667	2171	2038	2017	2032	2355	1944	2083	1960	1785	2046	-13%
Europe	3245	3595	3491	3678	3415	3497	3508	3562	3507	3453	3588	-4%
Pacific	2032	2045	2111	2118	2244	1995	2223	2188	2179	2306	2044	13%
Total OECD	7944	7810	7639	7812	7690	7848	7676	7833	7646	7543	7677	-2%
<b>Total Oil</b>												
North America	10743	9524	9384	8641	8603	9283	8694	9075	8695	8300	9406	-12%
Europe	13022	12488	12567	12788	12316	12401	12896	12865	13087	12732	12620	1%
Pacific	8637	8127	8360	8596	8888	8081	8478	8449	8411	8577	8287	3%
Total OECD	32401	30139	30310	30025	29807	29765	30068	30389	30193	29609	30313	-2%

<sup>1</sup> Based on Monthly Oil Questionnaire data submitted by OECD countries in tonnes and converted to barrels.

<sup>2</sup> Excludes intra-regional trade.

<sup>3</sup> Includes additives.

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## Editorial Enquiries

### Editor

Head, Oil Industry and Markets Division

David Fyfe

☎ (+33) 0\*1 40 57 65 90

✉ [david.fyfe@iea.org](mailto:david.fyfe@iea.org)

### Demand

Matt Parry

☎ (+33) 0\*1 40 57 66 23

✉ [matthew.parry@iea.org](mailto:matthew.parry@iea.org)

### OPEC Supply/Prices

Diane Munro

☎ (+33) 0\*1 40 57 65 94

✉ [diane.munro@iea.org](mailto:diane.munro@iea.org)

### Non-OPEC Supply

Michael Cohen

☎ (+33) 0\*1 40 57 65 22

✉ [michael.cohen@iea.org](mailto:michael.cohen@iea.org)

### Oil Price Formation

Bahattin Buyuksahin

☎ (+33) 0\*1 40 57 65 93

✉ [bahattin.buyuksahin@iea.org](mailto:bahattin.buyuksahin@iea.org)

### Refining

Toril Bosoni

☎ (+33) 0\*1 40 57 67 18

✉ [toril.bosoni@iea.org](mailto:toril.bosoni@iea.org)

### OECD Stocks

Jae Hyung Lee

☎ (+33) 0\*1 40 57 68 30

✉ [jaehyung.lee@iea.org](mailto:jaehyung.lee@iea.org)

### Statistics /Trade/Freight

Andrew Wilson

☎ (+33) 0\*1 40 57 66 78

✉ [andrew.wilson@iea.org](mailto:andrew.wilson@iea.org)

### Editorial Assistant

Esther Ha

☎ (+33) 0\*1 40 57 65 96

✉ [esther.ha@iea.org](mailto:esther.ha@iea.org)

Fax:

☎ (+33) 0\*1 40 57 65 99

\*0 - only within France

## Media Enquiries

### IEA Press Office

(+33) 0\*1 40 57 65 54

✉ [ieapressoffice@iea.org](mailto:ieapressoffice@iea.org)

## Subscription and Delivery Enquiries

### Oil Market Report Subscriptions International Energy Agency

BP 586-75726 PARIS Cedex 15, France

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☎ (+33) 0\*1 40 57 66 90

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