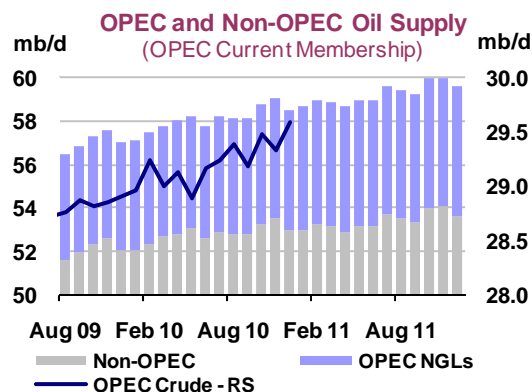
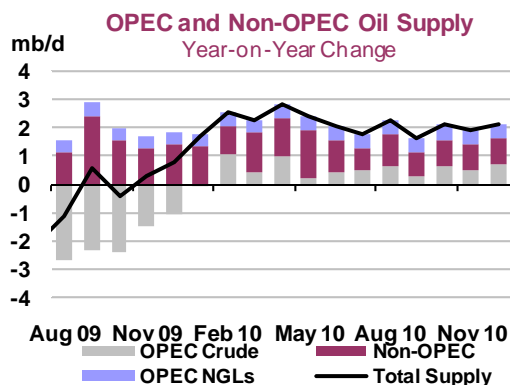


# SUPPLY

## Summary

- **Global oil production fell by 0.3 mb/d in December, to 88.1 mb/d**, as non-OPEC supply decreased largely due to weather-related and technical outages. Year-on-year, global supply is 2.1 mb/d higher, shared evenly between non-OPEC, OPEC crude and OPEC NGL production.
- **Non-OPEC supply was down by 0.5 mb/d in December from November, to 53.0 mb/d**, largely on outages in Argentina, Australia, Azerbaijan, Norway and Russia, which curbed 0.3 mb/d of output. Some of these were rapidly resolved, but a pipeline leak in Alaska and a fire at a Canadian oil sands upgrader kept January total shut-in volumes at the same level. Overall, 2010 and 2011 non-OPEC estimates remain unchanged at 52.8 mb/d and 53.4 mb/d, respectively.
- **OPEC supply gained 250 kb/d to reach 29.58 mb/d in December, continuing a rising trend evident since the spring.** In light of stronger demand now apparent for second-half 2010, both the group's unchanged production targets and actual output levels in 3Q10 and 4Q10 have been lagging the underlying 'call on OPEC crude and stock change'. OPEC effective spare capacity has nudged below 5 mb/d for the first time in two years.
- **Higher demand estimates have led to an upward revision in the 'call on OPEC crude and stocks' for 1Q11 of 0.7 mb/d, to an estimated 29.8 mb/d.** The 2011 'call' now averages 29.9 mb/d, around 0.4 mb/d higher than previously and a rise of 0.3 mb/d from 2010.
- **A high-level panel investigating the blowout at BP's Macondo oil well** and subsequent huge oil spill in the US Gulf last year found no justification for a blanket ban on deepwater drilling. The panel's report did however recommend a range of measures designed to prevent another such accident, finding that the causes were systemic, even though it put much of the blame on a 'failure of management' at BP, Transocean and Halliburton. Regulatory structures were also criticised.



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

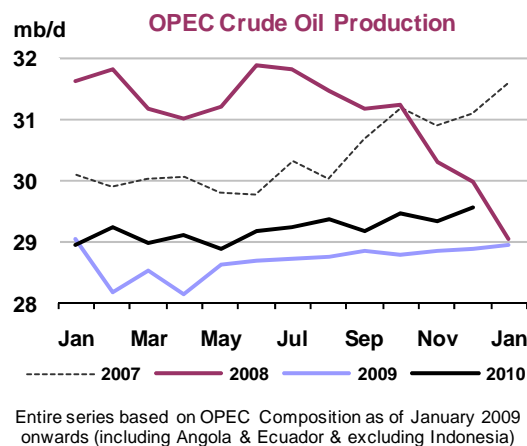
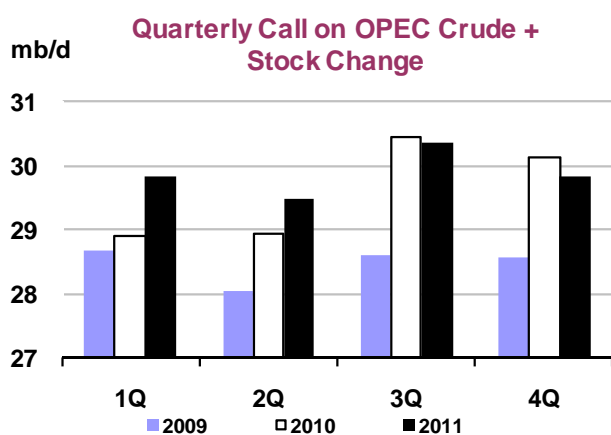
Note: Random events present downside risk to the non-OPEC production forecast contained in this report. These events can include accidents, unplanned or unannounced maintenance, technical problems, labour strikes, political unrest, guerrilla activity, wars and weather-related supply losses. Specific 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 –410 kb/d for non-OPEC as a whole, with downward adjustments focused in the OECD.

## OPEC Crude Oil Supply

OPEC crude oil supply ended the year at the highest level since December 2008, when the producer group last agreed to cut output targets. December supply rose by around 250 kb/d, to 29.58 mb/d, with crude oil production by OPEC-11 averaging 27.15 mb/d, up 240 kb/d from the previous month. The group is now producing about 2.3 mb/d above its notional 24.845 mb/d output target.

The steady increase in prices over the past few months appears to have prompted a number of producers to increase supplies to capture higher revenues and/or to moderate price increases. Saudi Arabia, Iraq, Kuwait, the UAE, Nigeria, Ecuador and Venezuela all increased supplies in December. Only Angola saw output slip last month, apparently due to continued technical problems at some fields.

OPEC's crude production rose steadily throughout the year, with preliminary 2010 output averaging 29.22 mb/d. That is an increase of 528 kb/d over 2009 levels of 28.69 mb/d but still some 2 mb/d below 2008 levels. Nigeria and Saudi Arabia provided the lion's share of the higher output, up a combined 490 kb/d. Supplies from Iran, Iraq and Ecuador were marginally lower.



As expected, OPEC ministers left production targets unchanged at their 11 December meeting in Quito and agreed to meet again in Vienna on 2 June 2011. However, with prices nudging beyond \$95/bbl and with the global oil burden (nominal expenditures as a percentage of nominal GDP) reaching levels that in the past have coincided with weakening economic activity, there appears to be tacit recognition by some producers of a need to adjust actual production levels to try to take some of the steam out of the market. The consensus view on oil demand showing record growth in 2010, followed by slowing but still robust growth in 2011 would seem to justify that flexible policy. Our own estimates for the 'call on OPEC crude and stock change' have been revised up by 0.7 mb/d for 1Q11 and by 0.4 mb/d for 2010 (largely on demand upgrades), to average 29.9 mb/d.

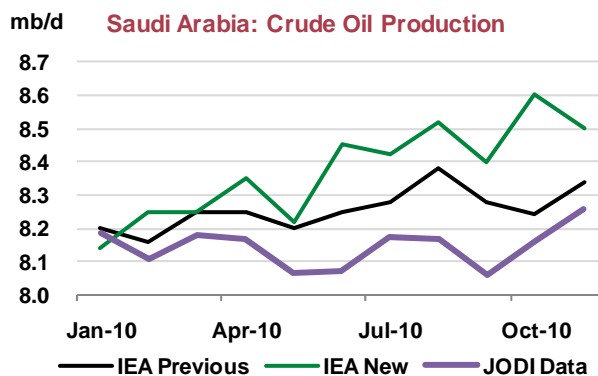
In Quito, Saudi Oil Minister Ali Naimi refuted earlier suggestions that the Kingdom now sees \$70-90/bbl as necessary, and reiterated \$70-80/bbl was the preferred target, echoing statements from a year previously when he described a range of \$70-80/bbl as "a perfect price for the world." Oil prices have been well above these levels in recent months, with WTI futures averaging just over \$89/bbl in December and trading above \$92/bbl in early January. Brent futures posted even sharper gains, to \$92.25/bbl in December and above \$98/bbl in January.

With the next scheduled gathering still six months away, some veteran OPEC analysts believe the group's leading members will quietly increase production. Indeed, it appears Saudi Arabia has been making more crude available to the market in the past six months, judging by export data from independent tanker trackers. Having reviewed export data from a number of sources, we have revised our production

estimates for Saudi Arabia higher by an average 135 kb/d for 2010. The most significant upward revisions pertained to 2H10, up by just under 200 kb/d to an average of 8.5 mb/d.

IEA estimates of Saudi production have historically been slightly higher than data submitted to the Joint Organisations Data Initiative (JODI) but the disparity has become especially sharp following this month's revisions. In particular, crude export data submitted to JODI by Saudi Arabia show a sharp downturn this year compared with independent trackers' assessments showing a steady upturn in exports of crude and NGLs. However, definitional issues likely also cloud the picture.

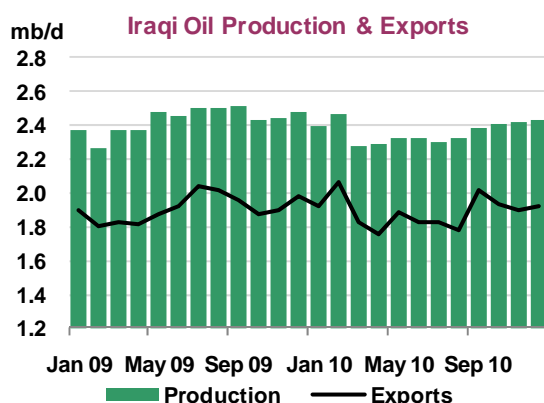
In December, **Saudi** output was assessed at 8.6 mb/d, up 100 kb/d from a revised November estimate of 8.5 mb/d. Preliminary market data indicate that the Kingdom is on track to increase production again in January. In addition, Saudi Aramco lowered prices for a number of key grades for February, making sales more attractive. Following in Aramco's footsteps, other Gulf member countries have reduced prices for next month's liftings, including Iraq, Kuwait, and the UAE.



**Kuwait** and the **UAE** both increased supplies in December by 30 kb/d, to 2.32 mb/d. For the year, UAE output rose by 1.6% to 2.31 mb/d on average while Kuwait posted a smaller 1.1% increase to 2.28 mb/d. Judging by the current list of projects in the pipeline, the UAE is on course to significantly increase nameplate capacity above neighbouring Kuwait in the next few years. The UAE's production capacity is forecast to increase from 2.7 mb/d in 2010 to 3.0 mb/d in 2013 as a number of projects come online, including expansion of Umm Shaif, both the Lower and Upper Zakum fields plus other enhanced recovery projects onshore. By contrast, protracted political wrangling in Kuwait is behind the anticipated decline in productive capacity, from 2.59 mb/d in 2010, falling to 2.51 mb/d in 2012 before inching higher to 2.54 mb/d in 2013.

**Iraqi** supplies in December were up a marginal 15 kb/d, to 2.44 mb/d from a revised 2.42 mb/d the previous month. *OMR* Iraqi production estimates are based on export volumes plus crude runs for domestic use at refineries and power plants, less reinjected oil and spiked fuel oil. Exports averaged 1.92 mb/d for December compared with 1.90 mb/d in November. Exports of Basrah crude from the southern ports were down by just under 20 kb/d, to 1.5 mb/d due to weather-related loading disruptions. Exports of Kirkuk, largely from the Turkish port of Ceyhan rose by an estimated 43 kb/d, to 423 kb/d in December.

For 2010, Iraqi exports declined on average by just under 20 kb/d, to 1.89 mb/d compared with 1.91 mb/d in 2009. Increased exports of Basrah crude in the south of around 34 kb/d, to 1.48 mb/d, partially offset lower shipments of Kirkuk crude from the northern region, down 54 kb/d to around 400 kb/d.

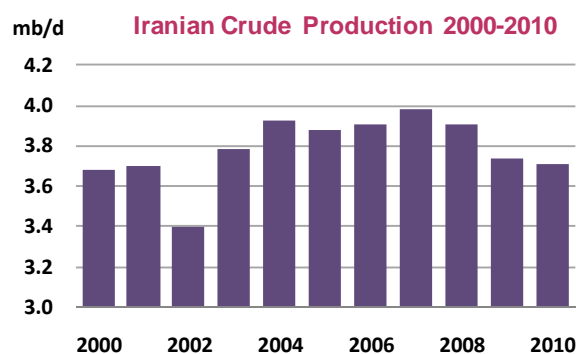


The government's plans to increase output failed to materialise in 2010, with production actually declining year-on-year, off by around 70 kb/d to 2.36 mb/d. However, 2011 holds the promise of an increase in production to 2.7 mb/d by 4Q11. IOCs appear to be making headway in expanding output via

remedial work and debottlenecking at fields already producing, such as at the BP-CNPC Rumaila project and ENI's Zubair development. IOCs are reporting that they have reached contractual levels of increasing output by 10%, which enables them to start recovering costs.

The long-awaited formation of a new government in Iraq last month should also help improve the operating environment for IOCs, with challenging logistical and capital-intensive infrastructure funding a key priority, according to new Oil Minister Abdul Kareem Luaibi. Former Oil Minister Hussein al-Shahristani has been elevated to a new position that effectively controls the strategic vision for the country's oil sector. Still uncertain is the fate of the fields controlled by the Kurdistan Regional Government (KRG). After ramping up production at the Tawke and Taq Taq fields in mid-2009, a dispute over payments to operating companies and the broader question of whether the government in Baghdad or the one in Erbil will control production in the region forced the shut-in of around 90 kb/d of production and left further production increases in limbo. As part of the new 2011 budget, the ministry has pencilled in increases of production from the region of 150 kb/d, but there are many thorny political issues that need to be overcome to reach this goal.

**Iran's** oil production in December is assessed at 3.68 mb/d, unchanged from the previous month. For the full year, Iranian supplies declined by 0.9%, to an average 3.71 mb/d. The year 2010 proved to be an *annus horribilis* for Iran's oil production outlook, as escalating tensions between Tehran and the international community over the country's nuclear enrichment plans culminated in the implementation of the most severe global sanctions to date. The immediate impact of the new sanctions has been the disruption of normal crude flows due to banking and other credit-related problems. European refiners slowed Iranian imports in the latter half of the year, and now Iranian exports of some 400 kb/d are in jeopardy due to stricter banking regulations being enforced by India.



In the medium term, sanctions have exacerbated the downward trend in the country's production profile as foreign operators withdraw from projects, and expectations of steeper field decline rates now that much-needed access to technology and equipment has been effectively cut off. Our latest medium-term update projects a decline in Iranian crude capacity to just 3.10 mb/d by 2015.

**Nigeria** accounted for about 40% of higher OPEC production in December, with supplies up 100 kb/d, to 2.28 mb/d. Repairs to damaged infrastructure led to higher output of Qua Iboe crude and prompted Shell to lift the *force majeure* on Bonny Light that had been in place since November. However, militants in the volatile Niger Delta region attacked critical pipeline infrastructure in late December, forcing the state oil company to shut down three of the country's four refineries.

Last year, the success of the government's ceasefire accord underpinned the 14% jump in production levels, to an average 2.08 mb/d. Nigerian production will likely remain volatile near term ahead of April presidential elections.

**Angolan** output slipped to 1.62 mb/d last month, down by 40 kb/d from November levels. An array of technical problems at the country's complex deep-water fields is behind the steady decline in supply over the year. Greater Plutonio has been producing well below 200 kb/d capacity this year due to chronic problems with its water injection system. As a result, Angolan production was nearly unchanged from 2009 levels at 1.77 mb/d in 2010.

Production from OPEC's South American members in December edged up by a slight 10 kb/d, with **Venezuelan** supplies rising to 2.2 mb/d and **Ecuador** to 480 kb/d. In 2010, Venezuela output ebbed and flowed in line with operational problems at the country's four heavy crude oil upgraders but overall gained around 75 kb/d year-on-year, to 2.23 mb/d. Ecuador intensified its efforts to nationalise its oil industry last year, with output slipping 1% to 465 kb/d.

OPEC's loftier production levels in December have led to a downward revision in our estimate for the group's effective spare capacity. At the same time, assessed production capacity levels in a number of countries edged lower in the new year, especially in Algeria, Iran and Angola. As a result, OPEC's current effective spare capacity has fallen below 5 mb/d for the first time in two years. Effective spare capacity, which excludes notional spare capacity in Iraq, Nigeria and Venezuela, is estimated at 4.9 mb/d compared to 5.56 mb/d in November.

Higher OPEC production of some 250 kb/d in December accounts for roughly 40% of the 660 kb/d decline. A hiatus in new capacity additions combined with natural decline rates are behind lower production capacity estimates for Algeria, Iran and Angola, which combined equate to just under 370 kb/d of adjustment in 1Q11. Overall OPEC installed capacity is seen declining in 2011 compared with 2010, from 35.5 mb/d to 35.2 mb/d, then slowly recovering in 2012 and reaching 36.9 mb/d by 2015.

### OPEC Crude Production

(million barrels per day)

	Oct 2010 Supply	Nov 2010 Supply	Dec 2010 Supply	Sustainable Production Capacity <sup>1</sup>	Spare Capacity vs Dec 2010 Supply	Estimated 2010 Production	Vol. Change 2010-2009	% Change 2010-2009
Algeria	1.27	1.27	1.27	1.31	0.04	1.26	0.005	0.4%
Angola	1.68	1.66	1.62	1.92	0.30	1.77	0.004	0.2%
Ecuador	0.47	0.47	0.48	0.50	0.02	0.47	-0.005	-0.9%
Iran	3.65	3.68	3.68	3.70	0.02	3.71	-0.034	-0.9%
Kuwait <sup>2</sup>	2.30	2.29	2.32	2.54	0.22	2.30	0.024	1.1%
Libya	1.56	1.56	1.56	1.80	0.24	1.55	0.004	0.3%
Nigeria <sup>3</sup>	2.20	2.18	2.28	2.50	0.22	2.08	0.258	14.2%
Qatar	0.80	0.82	0.82	1.00	0.18	0.80	0.002	0.3%
Saudi Arabia <sup>2</sup>	8.60	8.50	8.60	12.10	3.50	8.39	0.229	2.8%
UAE	2.33	2.29	2.32	2.69	0.37	2.31	0.036	1.6%
Venezuela <sup>4</sup>	2.21	2.19	2.20	2.35	0.15	2.23	0.073	3.4%
<b>OPEC-11</b>	<b>27.07</b>	<b>26.91</b>	<b>27.15</b>	<b>32.43</b>	<b>5.28</b>	<b>26.86</b>	<b>0.597</b>	<b>2.3%</b>
Iraq	2.41	2.42	2.44	2.58	0.15	2.36	-0.070	-2.9%
<b>Total OPEC</b>	<b>29.48</b>	<b>29.33</b>	<b>29.58</b>	<b>35.01</b>	<b>5.42</b>	<b>29.22</b>	<b>0.528</b>	<b>1.8%</b>
<i>(excluding Iraq, Nigeria, Venezuela)</i>					<i>4.90</i>			

<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 250 kb/d of shut-in capacity.

<sup>4</sup> Includes upgraded Orinoco extra-heavy oil assumed at 440 kb/d in December.

## Non-OPEC Overview

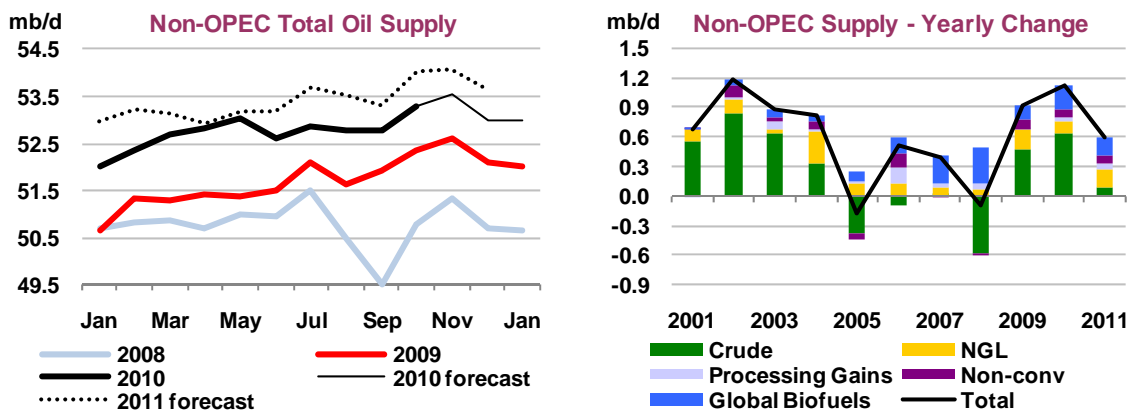
Non-OPEC oil supply fell by 0.5 mb/d to 53.0 mb/d in December, with around half of the drop stemming from a range of production outages in Argentina, Australia, Azerbaijan, Norway and Russia. Several of these were resolved by January, but were then replaced by output shut-ins in Alaska due to a pipeline leak and in Canada, after a fire at an oil sands upgrader. January is expected to see 0.3 mb/d of oil production curbed as a result, and Canadian shut-ins are expected to tail off in March and

### Oil Production Outages Dec 2010 to Mar 2011

(thousand barrels per day)

	Dec	Jan	Feb	Mar
Alaska		-135		
Argentina	-50			
Australia	-50	-50		
Azerbaijan	-35			
Canada		-90	-60	-50
Norway	-80	-7		
Russia	-50			
<b>TOTAL</b>	<b>-265</b>	<b>-282</b>	<b>-60</b>	<b>-50</b>

April. In contrast, reported data for October through December brought relatively minor revisions to preliminary estimates, but showed higher recent production in the US, Canada and China. Estimated 2010 production is therefore left unchanged at 52.8 mb/d.



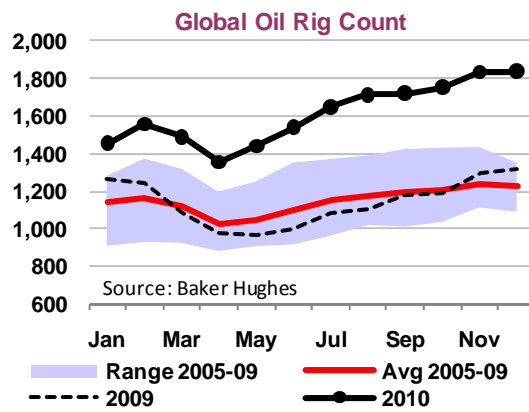
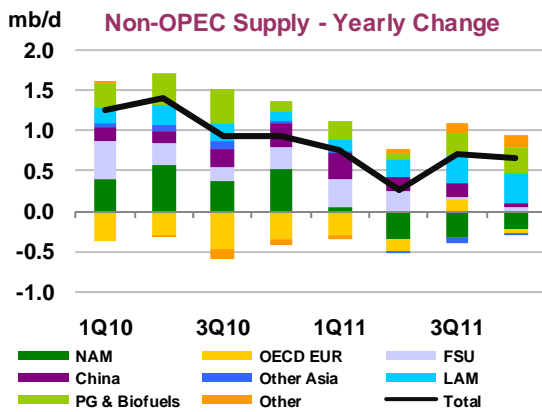
Projected 2011 non-OPEC supply is also left unchanged, at 53.4 mb/d, with higher estimated Chinese oil production of nearly 0.1 mb/d offset by marginally lower output in the OECD Pacific, the FSU, Latin America and global biofuels. As such, incremental 2011 supply in non-OPEC countries remains unchanged from last month's report at 0.6 mb/d, following 2010's estimated 1.1 mb/d increment, the highest annual growth since 2002.

### Non-OPEC Supply

(million barrels per day)

	1Q09	2Q09	3Q09	4Q09	2009	1Q10	2Q10	3Q10	4Q10	2010	1Q11	2Q11	3Q11	4Q11	2011
North America	13.5	13.5	13.7	13.8	13.6	13.9	14.0	14.1	14.3	14.1	14.0	13.7	13.8	14.1	13.9
Europe	4.9	4.5	4.2	4.5	4.5	4.5	4.2	3.8	4.2	4.2	4.2	4.0	3.9	4.1	4.1
Pacific	0.7	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.6
<b>Total OECD</b>	<b>19.0</b>	<b>18.6</b>	<b>18.6</b>	<b>18.9</b>	<b>18.8</b>	<b>19.1</b>	<b>18.8</b>	<b>18.5</b>	<b>19.0</b>	<b>18.9</b>	<b>18.8</b>	<b>18.3</b>	<b>18.4</b>	<b>18.9</b>	<b>18.6</b>
Former USSR	13.0	13.3	13.4	13.5	13.3	13.5	13.5	13.5	13.7	13.6	13.8	13.8	13.6	13.8	13.7
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
China	3.8	3.9	3.9	3.9	3.9	4.0	4.1	4.1	4.2	4.1	4.3	4.3	4.3	4.3	4.3
Other Asia	3.6	3.6	3.6	3.6	3.6	3.7	3.6	3.7	3.7	3.7	3.7	3.6	3.6	3.6	3.6
Latin America	3.8	3.9	3.9	4.0	3.9	4.0	4.1	4.1	4.1	4.1	4.2	4.3	4.4	4.5	4.3
Middle East	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Africa	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.7	2.7	2.6
<b>Total Non-OECD</b>	<b>28.7</b>	<b>29.0</b>	<b>29.2</b>	<b>29.4</b>	<b>29.1</b>	<b>29.6</b>	<b>29.7</b>	<b>29.9</b>	<b>30.1</b>	<b>29.8</b>	<b>30.5</b>	<b>30.4</b>	<b>30.4</b>	<b>30.6</b>	<b>30.5</b>
Processing Gains	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.3
Global Biofuels	1.1	1.6	1.8	1.7	1.6	1.4	1.9	2.1	1.8	1.8	1.5	2.0	2.4	2.1	2.0
<b>Total Non-OPEC</b>	<b>51.1</b>	<b>51.4</b>	<b>51.9</b>	<b>52.3</b>	<b>51.7</b>	<b>52.4</b>	<b>52.8</b>	<b>52.8</b>	<b>53.3</b>	<b>52.8</b>	<b>53.1</b>	<b>53.1</b>	<b>53.5</b>	<b>53.9</b>	<b>53.4</b>
Annual Chg (mb/d)	0.3	0.6	1.4	1.4	0.9	1.3	1.4	0.9	0.9	1.1	0.8	0.2	0.7	0.6	0.6
Changes from last OMR (mb/d)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	-0.1	0.0	0.0	0.0	0.0

Higher prices are encouraging investment and helping to sustain supply growth. A survey published by Barclays Capital in December indicated that 2011 upstream investment is expected to grow by 11% year-on-year, to just under \$500 billion. Rigs drilling for oil in December 2010 were up by 40% year-on-year, according to Baker Hughes, largely driven by increased activity in the US and Canada, where the combined rig count has doubled year-on-year (in the US, not least due to many smaller rigs working on shale oil formations). Key sources of incremental oil production in 2011 include China (+185 kb/d), global biofuels (+180 kb/d), Brazil (+160 kb/d), the FSU (+160 kb/d), Colombia (+120 kb/d), Ghana (+85 kb/d), India (+60 kb/d) and Oman (+45 kb/d). Production is expected to fall in North America (-215 kb/d, shared equally among the US, Canada and Mexico), Malaysia (-60 kb/d) and, to a lesser extent than in previous years, the North Sea (-75 kb/d).



## Global Biofuels

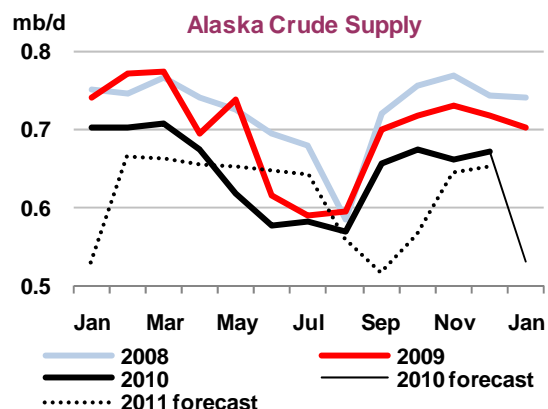
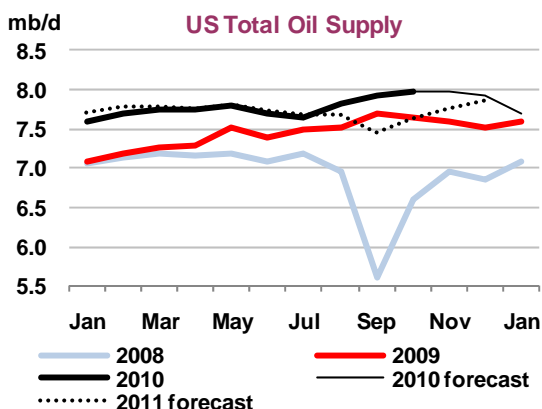
Global biofuels production is revised down by 25 kb/d in 4Q10 and by 15 kb/d for 2011 as a whole (the latter to 1.8 mb/d), largely due to lower expected Brazilian ethanol output. In Brazil, dry weather in the Centre-South resulted in lower November cane production versus the prior year and high sugar prices have encouraged some switching from ethanol to sugar production. Expectations for 2011 ethanol production in Brazil are trimmed by 15 kb/d to 510 kb/d versus an estimated 465 kb/d in 2010.

Meanwhile, US ethanol production reached 885 kb/d in October, with weekly data suggesting production exceeding 900 kb/d at times in December. US ethanol and biodiesel producers both benefitted from the government’s renewal of blenders’ tax credits of 45 cents/gallon and \$1/gallon, respectively, in late December. The credits were left unchanged from previous levels and the biodiesel credit was applied retroactively to the beginning of 2010. Nevertheless, the credits were extended only through end-2011, leaving concerns over the industry’s medium-term economics. We see US ethanol production averaging 900 kb/d in 2011, up from 860 kb/d in 2010.

## OECD

### North America

**US – December Alaska actual, others estimated:** December US oil production dipped by 0.1 mb/d to 7.9 mb/d, even while preliminary weekly data prompted an upward revision of 0.1 mb/d to the month. A leak forced the closure of a key export pipeline and around 600 kb/d of crude production from Alaska on 8 January. The shut-down of the Trans-Alaska Pipeline System (TAPS), which links North Slope production with the Valdez export terminal in the south, forced a halt to production in the north, although crude continued to be loaded at the terminal, reducing stock holdings there. Alaska produced an average 610 kb/d in 2010, most of which is North Slope crude.



At the time of writing, the pipeline had been restarted, at a reduced rate of 300-400 kb/d, even though the leak had not yet been fully repaired. This was in order to prevent crude and water within from freezing. Plans were for a short section of the pipeline to be circumvented with a bypass. Assuming production is offline for a week, average January Alaskan production is estimated to be 140 kb/d lower than in December. Total 2010 oil production in the US is left virtually unchanged, at 7.8 mb/d, and is estimated to fall to 7.7 mb/d in 2011.

### **Report Finds No Need for Deepwater Drilling Ban, but Recommends Tighter Rules**

On 11 January, the first of several investigations into the causes of the Macondo oil spill last year published its findings. The *National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling* ([www.oilspillcommission.gov](http://www.oilspillcommission.gov)) cited a 'failure of management' by BP and service companies Transocean and Halliburton as leading to the well blowout, the sinking of the Deepwater Horizon drilling rig and the subsequent spill of 5 mb of oil into the Gulf of Mexico. It was judged to be a systemic failing and thus seen as a far wider problem than simple negligence by individuals or one company. In addition, regulatory oversight, safety standards and oil spill response practices failed to keep pace with the push into deeper and increasingly challenging offshore areas.

However, arguing that the expected US energy needs will continue to rely upon oil for the foreseeable future, and that for energy security reasons a substantial proportion of this should stem from domestic sources, the Commission saw no need for a blanket ban on deepwater oil drilling. Rather, it recommended a much-improved safety culture, based on wide-ranging reforms of both industry and the regulatory regime. Specifically, the Commission recommended that:

- Besides boosting the capability of the existing regulator, a **new, politically independent safety body** should be created along the lines of the nuclear industry's Institute for Nuclear Power Operations.
- **The liability cap for companies implicated in offshore disasters should be raised** by an unspecified amount (it currently stands at \$75 million), although the Commission shied away from earlier proposals for unlimited liability, which might have led to an exodus of smaller operators from the Gulf.
- **Regulators should comply with a new 60-day review period for applications** to drill, a compromise between the existing 30-day limit and a new 90-day limit sought by the Department of the Interior.
- **New regulations should be underpinned by a risk-based approach** placing responsibility on companies to prove that they have evaluated all risks and are as up-to-date as possible with best drilling, safety and response practices. This would put the US in line with the approach long taken by other countries with substantial offshore production, notably the UK and Norway.

The report encountered widely different responses on its release and will be reviewed by Congress before its recommendations are passed into law, although some of its proposals may be implemented by executive order. In all likelihood, legislators and authorities will also wait to review the publication of other investigations into the disaster, notably those of the US Coast Guard/Bureau of Ocean Energy Management and the Chemical Safety Board.

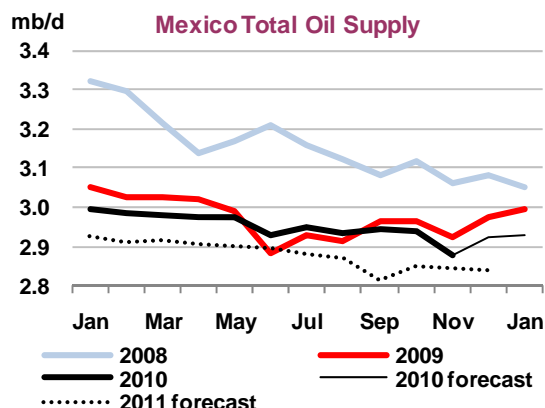
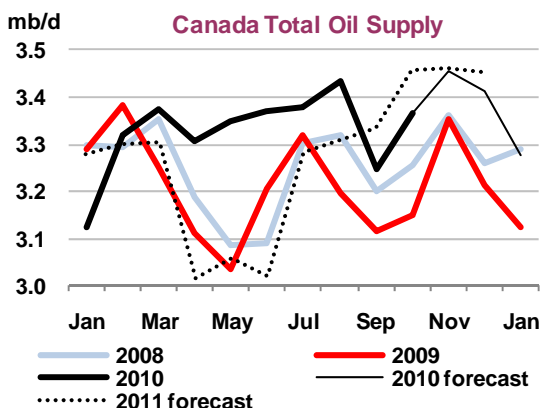
What seems clear is that reforms widely accepted as necessary for reasons of safety and environmental protection will nonetheless add to offshore project costs and lead times.

**Canada – Newfoundland November actual, others October actual:** In December, total Canadian oil supply dipped marginally to 3.4 mb/d, as constraints on pipelines into the US forced some minor shut-ins. Preliminary October data were 200 kb/d higher than expected, with stronger output in conventional crude, bitumen and NGL production. However, on 6 January, a fire at CNRL's Horizon oil sands upgrader forced a complete halt to operations, including related bitumen production. The upgrader converts heavy, viscous bitumen into synthetic crude oil, which can be processed in regular oil refineries. With a capacity of 110 kb/d, Horizon produced an average 90 kb/d of synthetic crude oil in 2010.

On past experience, fire damage at upgraders can take several months to repair, but preliminary investigations reportedly indicate that around half of the plant's coking capacity is unaffected and could

be brought back online soon. We assume a gradual return to around 50% production levels by February and March, followed by the return of the remaining capacity in April. CNRL hopes to complete some seasonal maintenance now, rather than in the summer, which should largely compensate for the outage in terms of total expected 2011 production.

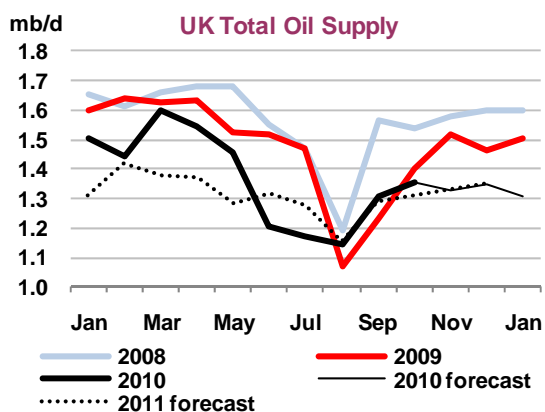
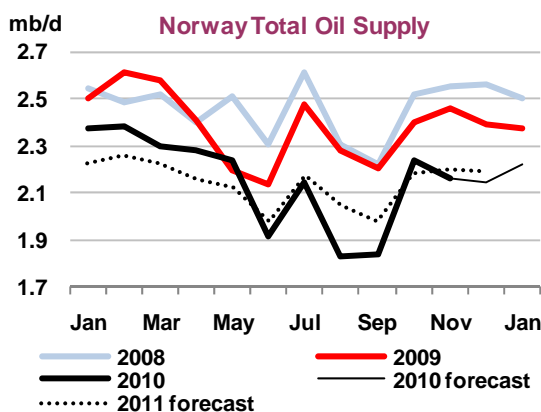
Higher 4Q10 output raises average 2010 total Canadian oil production marginally, to 3.34 mb/d. Output in 2011 is estimated at a slightly lower 3.27 mb/d, with declining conventional oil and NGL production more than offsetting increased oil sands output (though subsequent years will see the opposite, as substantial new oil sands production capacity comes online).



**Mexico – November actual:** Mexican oil production in November dipped slightly below 2.9 mb/d on lower-than-expected output numbers. Production at key fields Ku-Maloob-Zaap (KMZ) and Cantarell fell by 40 kb/d and 20 kb/d respectively month-on-month, to 800 kb/d and 435 kb/d. As a consequence, yearly production estimates were nudged down, with 2010 now expected to average 2.95 mb/d, and 2011 estimated at 2.88 mb/d, as the country’s mature base continues to decline.

**North Sea**

**Norway – October actual, November provisional:** December total oil production in Norway was steady at 2.15 mb/d. High temperatures at a gas turbine forced the shut-in of the Kristin and Tyrihans fields from early December until the end of the month, curbing total supply by 80 kb/d for the month. On 11 January, a gas leak briefly shut in the Snorre A platform and neighbouring Vigdis field. Both regained full production within 24 hours however. Overall, 2010 and 2011 production estimates are unchanged, averaging 2.15 mb/d in both years. In contrast with average annual decline of 150 kb/d in 2010 and 2009, 2011 is expected to see flat aggregate production, with 180 kb/d of new field production coming onstream, and lighter maintenance expected than in 2010.



**UK – October actual:** UK total oil production was broadly steady at 1.35 mb/d in 4Q10, and 2010 production is estimated to average 1.37 mb/d, declining to 1.32 mb/d in 2011.

The UK's Parliamentary Energy & Climate Change Committee, weighing supply security considerations, concluded in January that there was insufficient evidence of risk of a Macondo-style blowout in UK waters to justify a deepwater drilling moratorium, but tightened regulations requiring insurance and oil-spill response systems.

## Pacific

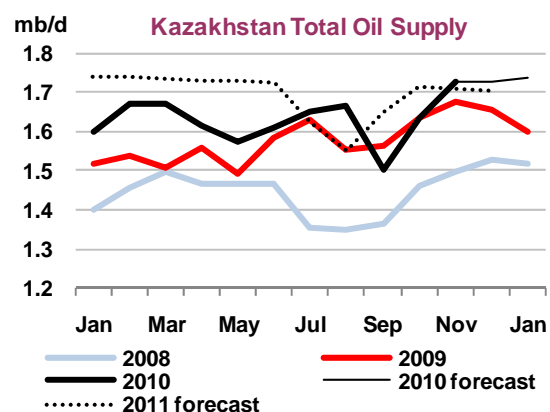
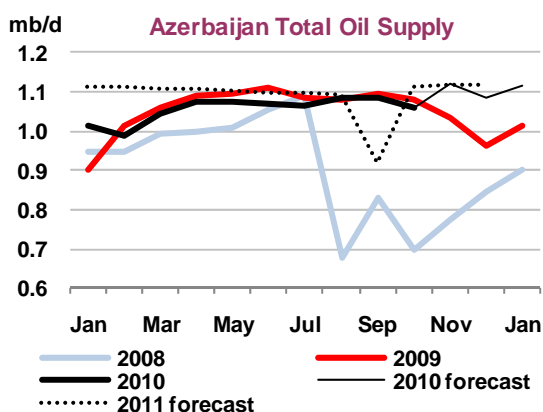
**Australia – October actual:** Australian total oil supply fell to around 480 kb/d in December and January, as severe offshore storms briefly forced a halt to nearly half the country's output capacity (recent catastrophic flooding in Queensland did not materially affect oil production). An estimated 50 kb/d was curbed for each month. The Cossack oil field will be taken offline for an estimated 90 days in February to April, while its FPSO unit is exchanged. This is estimated to cut output by around 35 kb/d for that period. In sum, 2010 and 2011 Australian oil production is adjusted down by 10 kb/d and 20 kb/d, to 515 kb/d and 545 kb/d respectively. 2011 production will receive a boost from the ramp-up of the Pyrenees oil field and the delayed start at Montara.

## Former Soviet Union (FSU)

**Russia – November actual, December provisional:** Russian oil production dipped by 55 kb/d to just below 10.5 mb/d in December, partly due to the impact of harsh winter weather, although outages are not assumed to last long. Nonetheless, Russian oil supply in 2010 rose by 240 kb/d to average 10.45 mb/d, its highest annual post-Soviet level.

However, downward-adjusted company guidance stemming from uncertainty over tax breaks has prompted a revision of 35 kb/d to the 2011 forecast; production is now expected to average 10.53 mb/d. In particular, state-controlled Rosneft said its new Vankor field will see average production rise to only 300 kb/d in 2011, rather than the previously reported 340 kb/d, as export tax breaks are due to expire in May. In December, the Duma voted to hike the Mineral Extraction Tax (MET) amid conflicting imperatives to boost revenues but maintain hydrocarbon activities. The uncertain tax situation remains key to assessing the likely trajectory of Russian oil production.

**Azerbaijan – October actual:** October oil production in Azerbaijan was revised down by 60 kb/d to 1.06 mb/d. In addition, December saw the Chirag platform at the Azeri-Chirag-Guneshli (ACG) complex, shut-in for around 10 days in mid-month, curbing 35 kb/d from output. National production is expected to rise from 1.06 mb/d in 2010 to 1.09 mb/d in 2011.



**Kazakhstan – October actual:** Kazakhstani oil production rose 130 kb/d to 1.63 mb/d in October, after seasonal maintenance had curbed operations at the Karachaganak field in September. All told, 2010 production is expected to average 1.64 mb/d, rising to 1.69 mb/d in 2011.

In December, the go-ahead was given for the expansion of the Caspian Pipeline Consortium (CPC) pipeline, which feeds Kazakhstani crude to an export terminal near Novorossiysk on the Russian Black Sea coast. Capacity will be more than doubled to 1.35 mb/d by 2015, which will mainly be used to accommodate rising production from the Tengiz and Karachaganak fields and eventually also some of the initial volumes from the huge Kashagan field, from which we expect to see first output in late 2013. The CPC expansion should help to solve the expected export capacity crunch, though only partly so, as Kashagan output gradually increases to an expected 350 kb/d by end-2015 and potentially much more thereafter. Talks on the other main proposed export solution, the Kazakhstan Caspian Transportation System (KCTS), which would involve using tankers to transport crude across the Caspian Sea and into new-build export infrastructure on the western shores of the Caspian, remain stalled.

### FSU Net Exports of Crude & Petroleum Products

(million barrels per day)

	2008	2009	4Q2009	1Q2010	2Q2010	3Q2010	Sep 10	Oct 10	Nov 10	Latest month vs.	
										Oct 10	Nov 09
<b>Crude</b>											
Black Sea	2.06	2.21	2.15	1.79	1.99	2.08	1.89	1.89	1.91	0.02	-0.20
Baltic	1.46	1.62	1.64	1.60	1.61	1.56	1.46	1.50	1.48	-0.02	-0.10
Arctic/FarEast	0.29	0.46	0.48	0.71	0.76	0.66	0.68	0.78	0.76	-0.02	0.30
BTC	0.67	0.78	0.76	0.69	0.79	0.80	0.76	0.80	0.82	0.02	0.06
<b>Crude Seaborne</b>	<b>4.48</b>	<b>5.07</b>	<b>5.04</b>	<b>4.78</b>	<b>5.16</b>	<b>5.10</b>	<b>4.79</b>	<b>4.97</b>	<b>4.97</b>	<b>0.00</b>	<b>0.05</b>
Druzhba Pipeline	1.08	1.12	1.14	1.13	1.10	1.16	1.20	1.12	1.17	0.05	0.03
Other Routes	0.42	0.37	0.30	0.44	0.37	0.40	0.45	0.38	0.34	-0.03	0.05
<b>Total Crude Exports</b>	<b>5.98</b>	<b>6.56</b>	<b>6.48</b>	<b>6.36</b>	<b>6.63</b>	<b>6.67</b>	<b>6.44</b>	<b>6.47</b>	<b>6.48</b>	<b>0.01</b>	<b>0.13</b>
Of Which: Transneft	3.98	4.14	4.13	3.94	3.88	3.95	3.72	3.76	3.75	-0.01	-0.31
<b>Products</b>											
Fuel oil	1.14	1.15	1.19	1.13	1.28	1.31	1.30	1.21	1.30	0.09	0.00
Gasoil	1.03	1.15	1.12	1.20	1.14	1.09	1.00	1.14	1.20	0.07	0.09
Other Products	0.60	0.69	0.59	0.73	0.63	0.62	0.58	0.57	0.60	0.03	-0.03
<b>Total Product</b>	<b>2.77</b>	<b>2.99</b>	<b>2.90</b>	<b>3.06</b>	<b>3.06</b>	<b>3.02</b>	<b>2.87</b>	<b>2.92</b>	<b>3.10</b>	<b>0.19</b>	<b>0.06</b>
<b>Total Exports</b>	<b>8.74</b>	<b>9.55</b>	<b>9.38</b>	<b>9.42</b>	<b>9.69</b>	<b>9.69</b>	<b>9.31</b>	<b>9.39</b>	<b>9.58</b>	<b>0.20</b>	<b>0.19</b>
Imports	0.04	0.04	0.05	0.05	0.04	0.08	0.10	0.08	0.08	0.00	0.03
<b>Net Exports</b>	<b>8.70</b>	<b>9.51</b>	<b>9.33</b>	<b>9.37</b>	<b>9.65</b>	<b>9.61</b>	<b>9.22</b>	<b>9.31</b>	<b>9.50</b>	<b>0.20</b>	<b>0.16</b>

Sources: Petro-Logistics, IEA estimates

Note: Transneft data has been revised to exclude Russian CPC volumes.

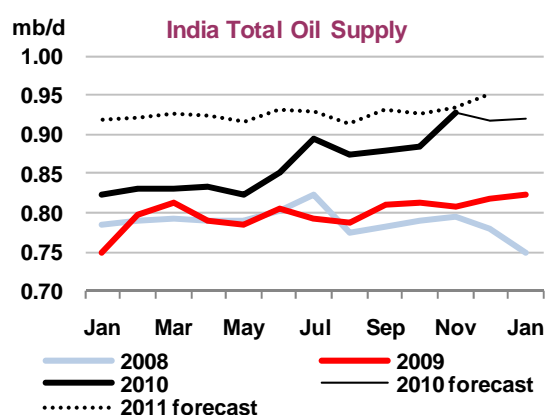
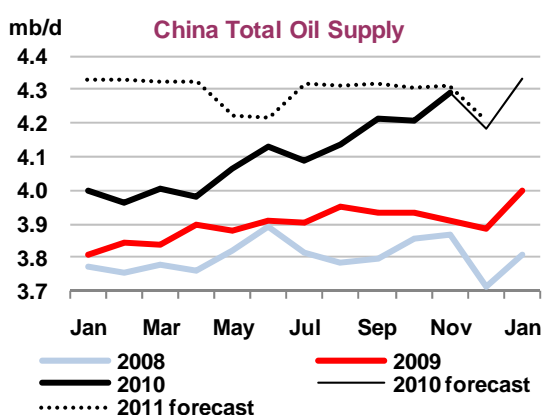
**FSU net oil exports continued their upward momentum in November**, increasing by 200 kb/d from October to 9.5 mb/d. In contrast to previous months, product exports drove the hike, increasing by 190 kb/d to 3.1 mb/d, while crude shipments inched up by 10 kb/d to 6.5 mb/d. Seaborne shipments of FSU crude remained constant at 5.0 mb/d, with small increases in Black Sea and Ceyhan cargoes offsetting minor declines in the Baltic, Arctic and Far East regions. Flows through the Druzhba pipeline increased by 50 kb/d, balancing falls elsewhere. It should be noted that although the ESPO spur to China began line fill of around 70 kb/d in November, these volumes have not been considered as exports.

November's product exports were the highest since July 2010 as fuel oil, gasoil and 'other products' increased by 90 kb/d, 70 kb/d and 30 kb/d, respectively. These hikes resulted from increased refinery runs (+200 kb/d) and exporters increasing shipments ahead of the December rise in export duties. Over the short term, a surplus of Russian fuel oil is expected to be shipped abroad, as domestic demand wanes due to a number of power stations, notably in the Arctic and Far East, switching from fuel oil to cheaper natural gas. However, looking towards the medium term, shipments of fuel oil could actually fall in response to an equalised product export duty (see OMR dated 10 December 2010) and Russian refinery investment in upgrading to increase middle distillate output at the expense of heavy products.

Recent reports have indicated that there are still creases to be ironed out in the customs union agreement between Russia and Belarus. Deliveries of Russian crude to Belarusian refineries are reported to have halted on 1 January after producers raised their prices in response to the removal of export duties. At present shipments to Europe are not adversely affected. Offsetting incremental supplies are now reaching Belarus, piped northwards from the Black Sea port of Odessa via Brody. A recent long-term deal has now been signed where oil will be supplied by Azerbaijan on behalf of Venezuela.

## Other Non-OPEC

**China – November actual:** November oil supply in China is revised up by 100 kb/d to 4.3 mb/d, a new record high, on stronger-than-expected offshore output. This results in higher estimated 2010 production of 4.1 mb/d and is largely carried into 2011, now adjusted higher to 4.3 mb/d. Since first publishing detailed supply estimates for 2011 (estimated at 3.9 mb/d in the OMR of 13 July 2010), successive upward revisions, partly due to baseline revisions, but also stronger expected growth, have resulted in China now being one of the largest contributors to short-term non-OPEC supply growth.



**India – November actual:** Indian oil production in November is revised up by 50 kb/d to 930 kb/d, also a new record-high level, as output at the Mangala complex in Rajasthan ramps up more rapidly than expected. Combined production from Mangala, soon to be augmented by output from the Aishwariya field and later from the Bhagyama field, is expected to reach a total production capacity of around 240 kb/d by the end of 2012. India's total oil supply is estimated to average 865 kb/d in 2010, rising to 925 kb/d in 2011.

**Sudan:** On 9 January, a referendum on a possible secession from the north was held in southern Sudan. Most observers expect southerners to vote in favour of secession, which could pave the way for the peaceful creation of a new sovereign state in July this year. The outcome is yet to be announced, however, and there is still the possibility of disruptions due to an outbreak of violence.

Moreover, the crucial issue of how to share oil revenues is far from resolved. The majority of oil production – around 75-80% – is located in the south, while export infrastructure and refineries are in the north. According to news reports, production of Dar Blend, which represents around half the country's total output, was nearly shut-in in December, due to fears for oil workers' safety, though this was avoided after political intervention. Sudan's total oil production is estimated at 0.5 mb/d in 2010, and assumed to remain at this level in 2011. Sustaining these production levels clearly depends on continued investment and the evolving political situation.

**Ghana:** December saw the start-up of the first phase of the large Jubilee oil field, heralding Ghana's emergence as a significant sub-Saharan oil producer. In a first phase, Jubilee is expected to ramp-up production volumes to 120 kb/d by 3Q11. However, delays in finalising an oil law, which would determine the state's share of oil revenues, is causing uncertainty over a possible second phase. We estimate that 2011 oil production should average 90 kb/d, rising from 7 kb/d in 2010.