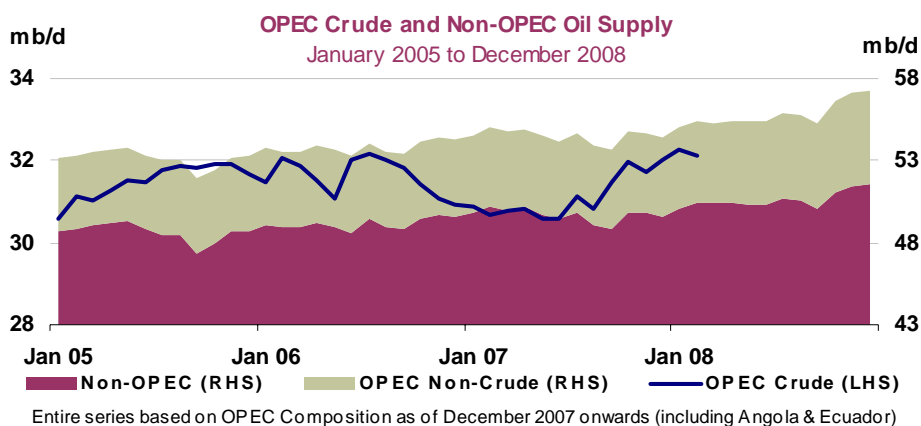


# SUPPLY

## Summary

- **Global oil supply** increased by 185 kb/d in February to 87.5 mb/d. January's total was revised up 110 kb/d, due to higher OPEC crude supply, while 4Q07 supply was raised by 55 kb/d to 86.5 mb/d on non-OPEC revisions. Output recovery in Canada, Mexico and the Caspian republics, offset reductions for Norway and OPEC in February. Seasonal factors may limit OECD production in March and April, and with OPEC likely opting for caution, global supply is likely to level off over the next two months.
- **Non-OPEC production** in February averaged 50.4 mb/d, 0.3 mb/d above January, as the Americas and FSU recovered from disrupted January supply. Forecast 1Q production is cut by 90 kb/d on revisions for Mexico, India, Malaysia and Brazil. Annual 2008 non-OPEC production is trimmed by 50 kb/d, with stronger late-year USA and Canada output partly offsetting now lower supplies from Asia and Latin America. Non-OPEC 2007 supply is nudged up to 49.7 mb/d, with the 2008 total now at 50.6 mb/d.
- **Expected non-OPEC supply growth in 2008** is 910 kb/d, after a 2007 increment of 540 kb/d (netting out the impact of Angola and Ecuador's move into OPEC). Growth is weighted towards the second half of 2008, unlike 2007 when the first six months saw growth averaging 0.9 mb/d before subsequently slowing. Growth in 2008 is split between the FSU, Asia, Latin America, biofuels and Africa. On top of the non-OPEC totals, OPEC NGL supplies reach 5.2 mb/d in 2008, a rise of 375 kb/d from 2007.
- **Assumed net decline for non-OPEC production** in our forecasts remains unchanged at some 4-5% pa. However, decline rates for mature non-OPEC fields have averaged 7.7% pa this decade, net of the inflationary impact of unscheduled field outages. Decline does not seem to have accelerated markedly since 1999, but does vary widely according to depletion, geology, location, extraction rate and reservoir management. Some mature offshore OECD assets face average decline rates closer to 15%.
- **OPEC crude supply in February** averaged 32.1 mb/d, down by 120 kb/d from upward-revised January levels. Amid seasonal adjustments and field outages, Middle East Gulf and West African producers together supplied 0.3 mb/d less crude in February. This was offset in part by a 150 kb/d increase from Iraq, where output reached 2.4 mb/d. Producers chose to roll-over the existing 29.67 mb/d production target at their 5 March meeting, and OPEC effective spare capacity remains near 2 mb/d.
- **The call on OPEC crude and stock change** (including Angola and Ecuador) averages 32.8 mb/d for 1Q08, but then dips seasonally and averages 31.9 mb/d for 2008 as a whole. Downward revisions for the call arising from weaker 4Q07 demand are offset by lower non-OPEC supply through 2008.



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

OPEC crude supply in February averaged 32.1 mb/d, a reduction of 120 kb/d from upward-revised January levels. Estimates for January supply from Iran and Qatar were revised up by a collective 220 kb/d after indications of higher exports and domestic crude runs for Iran, and a lower-than-expected impact from offshore field maintenance for Qatar. In February, field outages and pre-OPEC meeting manoeuvring likely underpinned a 0.3 mb/d reduction from West African and Mid East Gulf producers. Nigeria saw renewed field outages in early February in the troubled Niger Delta area, with shut-ins temporarily breaching 0.7 mb/d at one point in February. However, Iraqi supply increased by 150 kb/d, and output reached 2.4 mb/d following higher northern exports and recovering refinery runs.

OPEC producers chose to roll-over the existing 29.67 mb/d output target at their 5 March meeting, citing their view of a well-supplied market and high prices deriving more from a weak dollar, inflationary pressures and fund flows into the commodity markets than fundamental factors. In the end, arguments about seasonally weakening demand and downside economic risks carried the day in the face of appeals from consumer governments for positive action to help rebuild stocks amid record high prices. The group's next ordinary meeting is scheduled for 9 September in Vienna, although post-meeting comments suggested that the option to convene an extraordinary meeting in the interim remains open.

### OPEC Crude Production<sup>1</sup>

(million barrels per day)

	Dec 2007 Supply	Jan 2008 Supply	Feb 2008 Supply	Sustainable Production Capacity <sup>2</sup>	Spare Capacity vs Feb 2008 Supply	Capacity end- 2008	Current Target	Dec-Feb Supply vs. Current Target
Algeria	1.40	1.40	1.40	1.40	0.00	1.42	1.36	103%
Indonesia	0.84	0.83	0.87	0.88	0.01	0.84	0.87	98%
Iran	3.94	4.05	3.93	3.98	0.04	4.02	3.82	104%
Kuwait <sup>3</sup>	2.55	2.57	2.58	2.62	0.04	2.66	2.53	101%
Libya	1.75	1.77	1.76	1.82	0.07	1.84	1.71	103%
Nigeria <sup>4</sup>	2.10	2.06	2.01	2.47	0.46	2.49	2.16	95%
Qatar	0.82	0.85	0.83	0.90	0.07	0.98	0.83	101%
Saudi Arabia <sup>3</sup>	9.10	9.15	9.10	10.84	1.74	11.25	8.94	102%
UAE	2.54	2.62	2.59	2.85	0.26	2.85	2.57	101%
Venezuela <sup>5</sup>	2.43	2.44	2.44	2.50	0.06	2.40	2.47	99%
<b>OPEC-10</b>	<b>27.45</b>	<b>27.73</b>	<b>27.50</b>	<b>30.25</b>	<b>2.75</b>	<b>30.74</b>	<b>27.25</b>	<b>101%</b>
Angola <sup>1</sup>	1.69	1.80	1.76	1.76	0.00	2.12	1.90	92%
Ecuador <sup>1</sup>	0.50	0.50	0.50	0.50	0.00	0.50	0.52	96%
<b>OPEC-12</b>			<b>29.76</b>	<b>32.51</b>	<b>2.75</b>	<b>33.36</b>	<b>29.67</b>	<b>100%</b>
Iraq	2.35	2.22	2.37		0.03	2.42		
<b>Total OPEC</b>	<b>32.00</b>	<b>32.24</b>	<b>32.12</b>		<b>2.78</b>	<b>35.78</b>		
<i>(excluding Indonesia, Iraq, Nigeria, Venezuela</i>					<i>2.22 )</i>			

1 Angola joins OPEC effective 1 January 2007, Ecuador from December 2007.

2 Capacity levels can be reached within 30 days and sustained for 90 days.

3 Includes half of Neutral Zone Production.

4 Nigeria excludes some 545 kb/d of shut-in capacity.

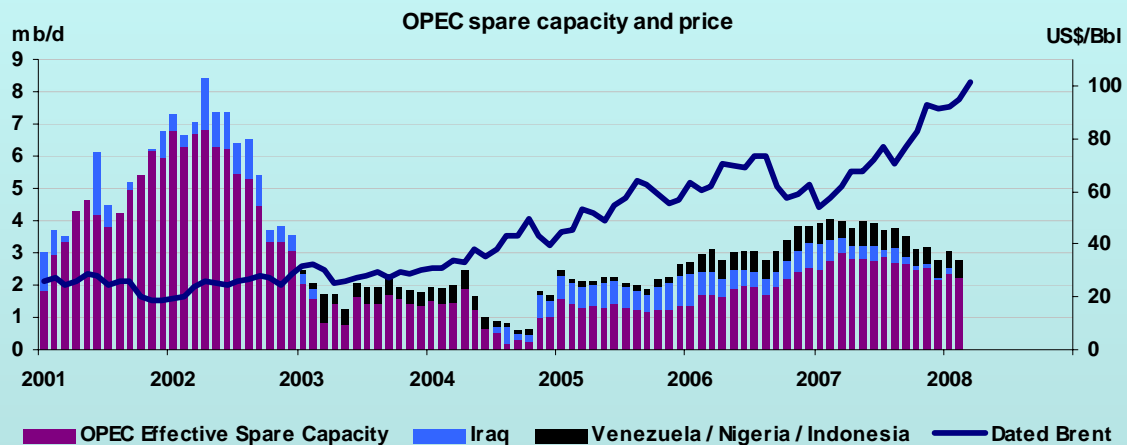
5 Includes Orinoco extra-heavy oil assumed at 555 kb/d in February.

Total February production from the twelve members bound by quotas came in close to the collective target and indeed for the past three months individual producers have generally been producing within a couple of percentage points of the targets briefly published on the OPEC website last November. The only exceptions have been Nigeria and Angola, both producing more than 5% below target, with security-related and technical outages respectively having underpinned this 'shortfall'. Moreover it has been compensated for by above-target output from Algeria, Libya, Saudi Arabia, Kuwait and Iran. From the producers' own viewpoint, the new targets seem to bear closer relationship to output capability than did previous, largely discarded individual quotas.

### Breaking the Spare Capacity Logjam

Effective OPEC spare capacity stands at 2.2 mb/d (net of Indonesia, Iraq, Nigeria and Venezuela – deemed likely to struggle to increase production in the short term). Saudi Arabia and the UAE hold 2.0 mb/d of this total. Recent pipeline outages and border tensions affecting Ecuador and Colombia, weather-related disruptions in the North Sea and Australia and the ongoing susceptibility of Nigerian and Iraqi facilities to insurgent attacks illustrate market vulnerability and suggest that a more comfortable supply cushion is desirable. Delays in completing projects such as Saudi Arabia's 500 kb/d Khursaniyah, while understandable in the currently stretched market for equipment and engineering, nonetheless highlight the minimal spare capacity that has persisted for the past five years.

By accident or design, a trend towards 'just-in-time' capacity development is following on the heels of a previous move towards 'just-in-time' inventory (arguably, the two now coexist, helping explain the strength in prices, though conversely, if tight spare capacity is seen persisting, consumers may actually revert to holding higher stocks again to compensate). Bottlenecks in labour, raw materials, fabrication, drilling and service capacity contribute to slower capacity growth. So too may producer reticence about expanding capacity ahead of uncertain future demand growth in a high price/weaker economy environment. Some OPEC members are also struggling to sustain existing capacity, for security reasons or in the face of reservoir maturity. Finally, high prices are encouraging producers (not just in OPEC) to strike a harder bargain with IOCs over access, contract terms and fiscal take, undermining marginal investments.



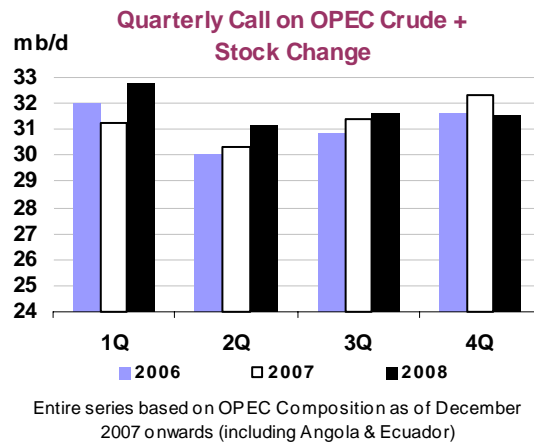
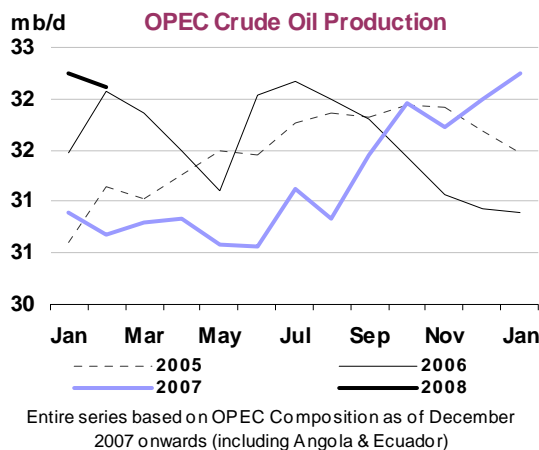
Breaking this investment logjam may require greater clarity and consensus between producers and consumers on demand levels for the future. This report has pointed out for some time that, in our view, demand growth can remain robust even in the face of high prices and OECD economic slowdown. This is not least because the main centres of growth in the developing Asian and Middle Eastern economies are largely insulated from some of the pricing pressures affecting other markets.

Secondly however, the traditional relationship between NOCs and the international companies likely needs to evolve to reflect new industrial realities. Many IOCs already accept the inevitability of contract renegotiation, not only in the face of higher prices, but also as hitherto high-risk, prospective exploration plays become better established as producing areas. However, as regions mature further into late life, this too will require flexibility from OPEC governments and NOCs to sustain investment and maximise recovery from marginal assets. Enjoying a greater share of revenues from producing fields at a time of high prices is one thing. But sustaining, let alone increasing, capacity in future may require more innovative investment models. Iran and Kuwait spring to mind in this regard, but also perhaps Libya and

Algeria, where an initial opening up now looks to have been replaced by more caution. And all eyes are on Iraq to see the eventual shape of the investment regime there and its success or otherwise in rehabilitating production in one of the world's pre-eminent resource holders.

Some producers will need to call on newer technologies to sustain recovery from depleting assets, something the international service companies may be ideally placed to provide. Others may see future oil development prospects lying in more remote or complex formations, often involving large, integrated oil/gas and upstream/downstream facilities. Contract flexibility needs to be a two way street if the integrated operation and project management skills of the IOCs are to be called upon again. Ensuring that hydrocarbon development leads to widespread, maximised local benefits, while at the same time sustaining an attractive climate for long-term foreign investment is a challenge for all host governments.

The main movers of February OPEC supply appeared to be Iraq (+150 kb/d versus January), offset by Iran (-120 kb/d), Nigeria (-50 kb/d) and Saudi Arabia (-50 kb/d). **Iran's** reduction came after January supply estimates were revised up from 3.93 mb/d to 4.05 mb/d. Both export and domestic refinery runs are now adjudged higher, the latter due to refinery maintenance work reportedly slipping into February. Thus, amid signs of Middle East Gulf tanker sailings falling back in February, and with weaker local crude throughput, Iranian supply is assessed to have fallen below 4.0 mb/d once again. This is despite the start-up, as noted in last month's report, of an initial 25 kb/d of new production from the Azadegan field.



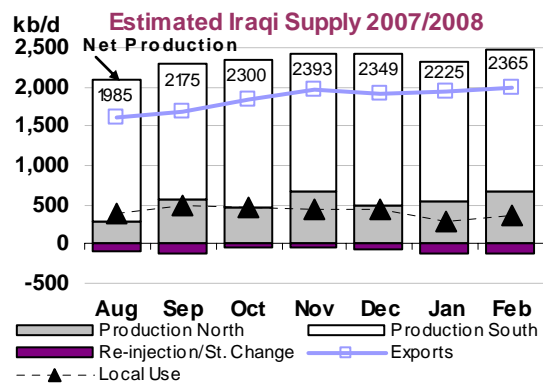
As noted above, **Nigerian** supply was adversely affected by shut-ins affecting Bonny, Forcados and Brass River crude, sending outages to around 700 kb/d at one stage. In all, output is assessed to have slipped from 2.06 mb/d in January to 2.01 mb/d in February. However, some of this disrupted output has now restarted, with current outages assessed at below 0.5 mb/d once again. Specifically, repairs on the Nembe Creek pipeline allowed reinstatement of 130 kb/d of Bonny crude, while earlier pipeline attacks or malfunctions affecting up to 250 kb/d of Forcados and Brass River production were also resolved around mid-month. On 3 March Shell announced that earlier force majeure on Bonny and Forcados exports had been lifted. Resumed crude supplies have also enabled progress in reopening the idled Warri refinery (reactivated in February) and the Kaduna plant which is scheduled back onstream in March.

However, Nigerian supply may remain constrained in March, with maintenance at the deepwater Bonga field likely to remove around 100 kb/d of monthly supply. There have also been reports that recent technical issues have shuttered volumes of Qua Iboe production.

Middle East Gulf tanker sailings data also imply a modest downturn in **Saudi Arabian** crude supply, here assessed to have slipped from 9.15 mb/d in January to 9.1 mb/d in February. Some uncertainty surrounds comments from state-producer Aramco about start-up at the Khursaniyah project. The three constituent fields – Abu Hadriyah, Fadhili and Khursaniyah – were due to begin contributing up to 500 kb/d of Arab Light crude from late 2007. However, delays with the Khursaniyah gas-oil separation plant (GOSP) have

pushed start-up into 2008. There were reports in February that attainment of plateau volumes from Khursaniyah have slipped into April. While our existing capacity estimates envisage 1Q08 start-up, we were already assuming full 500 kb/d output was more likely to occur in 2Q08, although Aramco has suggested that build-up in production will be rapid.

Net **Iraqi** supply (excluding movements of crude into storage or reinjection) rose by 150 kb/d to 2.37 mb/d in February. Partial recovery in domestic refinery runs after widespread outages affecting the Baiji, Daura and Basrah plants in January allowed crude throughput to rise to an estimated 375 kb/d from 280 kb/d the month before. This remains however less than 50% of total Iraqi nameplate refining capacity. Total exports rose from 1.94 mb/d to 1.99 mb/d, comprising 1.57 mb/d from southern ports (unchanged from January), 10 kb/d cross-border to Syria and an estimated 410 kb/d lifted from the Turkish port of Ceyhan, a rise of 55 kb/d from January levels. Exports on the northern route have been unaffected by military engagements between Turkish troops and Kurdish PKK insurgents in the Turkey-Iraq border region.



The oil ministry has received cabinet approval to enter technical support agreements with western companies aimed at boosting production capacity by 500 kb/d at a number of fields (see page 22 of report dated 13 February 2008). However financial and contractual negotiations are seen taking until perhaps mid-2008 to conclude.

**Venezuelan** crude supply is estimated unchanged in February at 2.44 mb/d, despite maintenance at the Petrocedeno (formerly Sincor) heavy oil upgrader, on assumption that sales of unupgraded heavy crude have continued. The communiqué released after the OPEC conference in Vienna expressed support for Venezuela in its ongoing legal dispute with ExxonMobil, effectively condemning moves to freeze PDVSA assets overseas. Venezuelan oil minister Rafael Ramirez announced that, following ExxonMobil's rejection of 80 kb/d shipments of Cerro Negro crude for the two parties' joint venture Chalmette refinery, this crude is being diverted to China, reportedly taking total Chinese imports of Venezuelan crude to 250 kb/d.

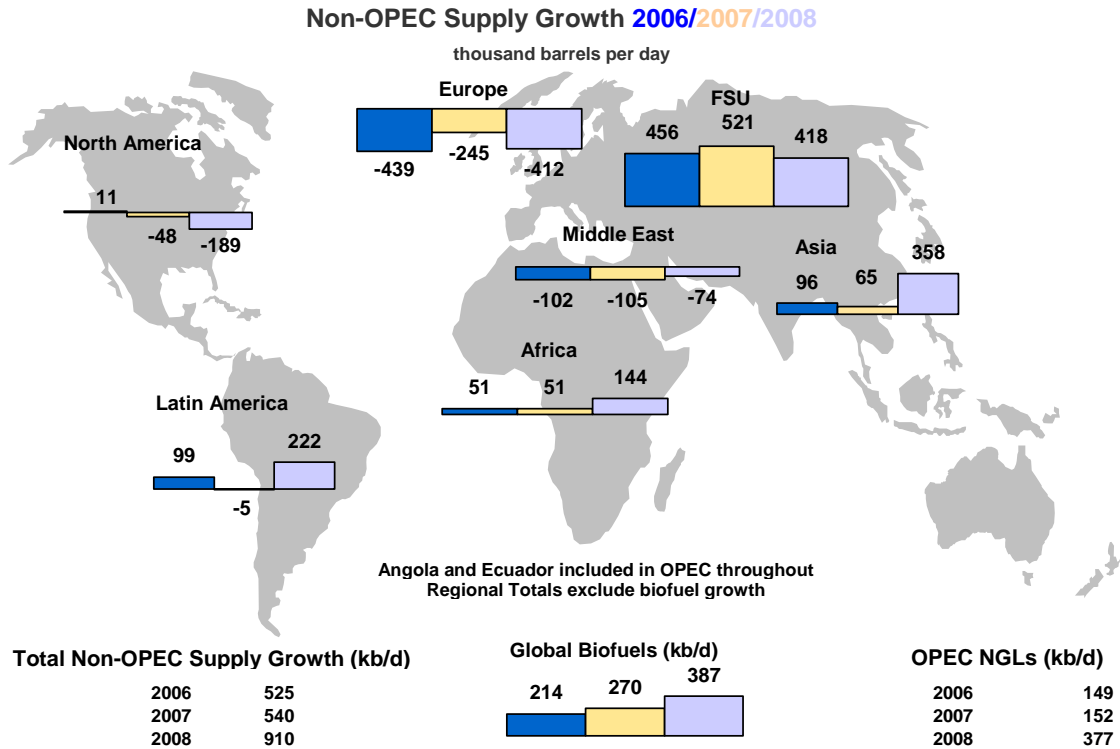
**Ecuadorean** production was also assessed largely unchanged in February at 500 kb/d, despite a brief outage of the SOTE pipeline caused by a landslide. Analysts have played down the likely oil supply impact of increased tensions in the Venezuela-Ecuador-Colombia border area, following the strike by Colombian government troops against FARC rebels inside Ecuadorean territory. Both Venezuela and Ecuador condemned the attack and at one point moved troops closer to the border with Colombia.

## Non-OPEC Overview

Non-OPEC production in February averaged 50.4 mb/d, 0.3 mb/d above January as the Americas and FSU recovered from disrupted January supply. Forecast 1Q production is cut by 90 kb/d on downward revisions for Mexico, India, Malaysia and Brazil. Seasonal factors are likely to kick in from March onwards, potentially capping non-OPEC production at around 50.3 mb/d until June. Robust growth is expected to resume in 4Q08, when non-OPEC production jumps to 51.4 mb/d from 50.4 mb/d in 3Q.

Annual 2008 non-OPEC production is trimmed by 50 kb/d, with stronger late-year USA and Canada output partly offsetting now-lower supplies from Asia and Latin America. Non-OPEC 2007 supply is nudged up to 49.7 mb/d, with the 2008 total now at 50.6 mb/d. Expected non-OPEC supply growth in 2008 is therefore 910 kb/d, after a 2007 increment of 540 kb/d (netting out the impact of Angola and Ecuador's move into OPEC). As noted above, growth is heavily weighted towards the second half of

2008, unlike 2007 when the first six months saw growth averaging 0.9 mb/d, before subsequently slowing. Growth in 2008 is split between the FSU, Asia, Latin America, biofuels and Africa, with Europe, North America and non-OPEC Middle East regions seeing continued decline. In addition to the non-OPEC totals, OPEC gas liquids and condensate supplies (traditionally counted as de facto non-OPEC supply) reach 5.2 mb/d in 2008, a rise of 375 kb/d from 2007.



While we retain a forecast of 4-5% pa for baseload decline applied to all existing non-OPEC production, the mature portion of that output looks to be declining at closer to 7.7% pa once the impact of unscheduled weather, technical and geopolitical outages is netted out. Decline does not appear to have accelerated markedly since 1999. Nonetheless, declines rates vary widely according to reservoir depletion, geology, location, extraction rate and reservoir management practices. As might be expected, mature offshore OECD fields are facing the steepest annual decline rates, at around 15%.

**OECD**

*North America*

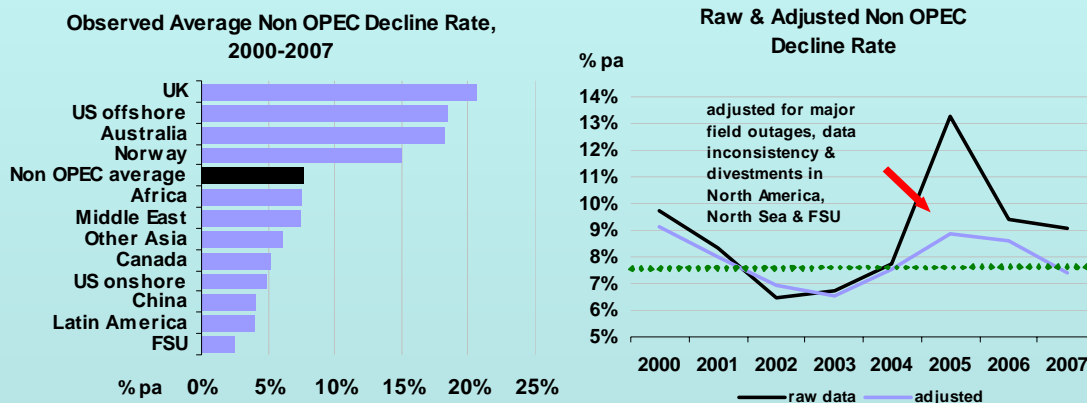
**US – Alaska February actual, others estimated:** Total US oil production is estimated some 50 kb/d lower in February than in January, at 7.4 mb/d (of which some 5.0 mb/d is crude oil). Preliminary data for December however came in around 50 kb/d higher than our earlier estimates, largely on the strength of higher NGL and ethanol production levels. Physical supply for both components has been running ahead of expectation, despite the apparent economic disincentives accruing from high natural gas and grain prices respectively. After several months of upward revisions to baseline data, a combined 30 kb/d upward adjustment for these two components has now been carried through the 2008 US forecast.

### Non-OPEC Decline Rates – Stripping Out the ‘Noise’

Non-OPEC supply has consistently lagged analyst expectations since 2004. Some assign this to accelerating decline rates, with a conclusion that it will preclude material future growth in supply. Our analysis suggests that, while sizeable volumes of non-OPEC crude and condensate have to be replaced due to depletion, averaging nearly 2 mb/d per annum (pa) so far this decade, raw year-on-year production data have to be treated with caution. This data can exaggerate decline due to resource depletion, by masking temporary or systematic reductions in output from other causes. These can include weather-related outages, strikes and security-related disruptions, lower investment and mechanical break-downs. Since our forecast methodology specifically includes adjustments to supply to account for field ‘reliability’, our projected decline rate has to be based on ‘clean’ historical data net of these factors.

This periodic review of non-OPEC oil field decline rates\* focuses on mature crude oil and condensate fields (not NGL and non-conventional oil) showing sustained, yearly output decline over periods of at least 12-18 months. Aggregate decline rates are production weighted, and reflect managed, rather than natural, decline, according to prevailing investment levels. The results from 1999-2007 production data suggest aggregate non-OPEC decline of 7.7% pa, and that this has not accelerated markedly in the period under review (notwithstanding, boosting recovery over the short term can imply faster longer term decline).

We have previously discussed 4-5% as an appropriate forecast *net decline* for all current base load non-OPEC production, encompassing fields in decline and those at, or building to, plateau. This has not changed in light of our recent assessment, since the distinct, 7.7% level applies only to the mature portion of production that is in sustained decline. Moreover, the latest analysis generally accords with the decline rates previously assumed in OMR projections, resulting in only modest, and largely offsetting, alterations in the forecast decline rate. Deviation in non-OPEC outcome versus forecast in 2008 thus seems unlikely to derive primarily from decline rates, unless observed rates shift markedly this year. Put another way, we believe that sluggish non-OPEC performance is being driven by other, largely above-ground constraints, not solely by resource depletion, important though this is for the longer term.



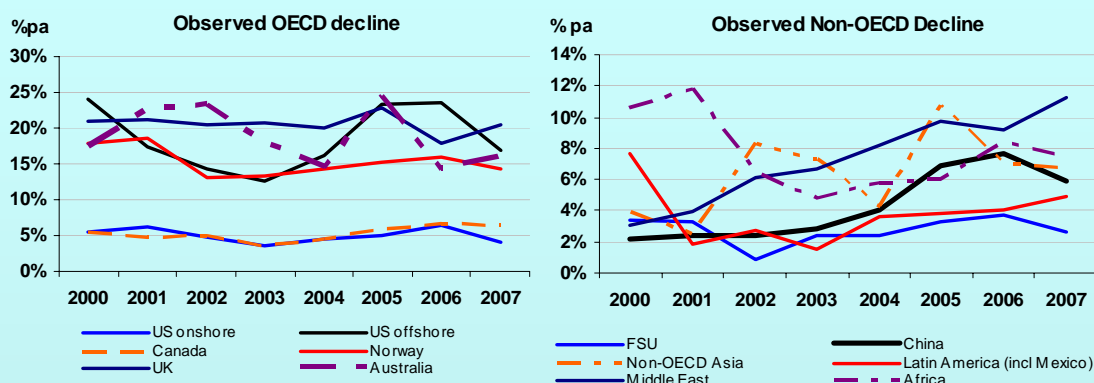
Building from disaggregated data, we have calculated adjusted decline rates for regional and non-OPEC totals, which net out the impact of non-geological factors. Not surprisingly, decline rates vary significantly geographically and over time. However, a surge in ‘raw’ decline rates in 2005 and 2006 to levels at or above 10% needs to be seen in the context of the distortions from Hurricanes Katrina and Rita, extended North Sea field shut-ins, asset divestments in Russia etc. Once these factors are excluded, ‘real’ decline comes in closer to the decade average. We would not claim to have captured all above-ground related field outages, nor to have sufficient field-specific production data to make a definitive judgement on decline rates themselves. But for this nine year snapshot at least, oscillation around a 7.7% pa mean is more representative than widely perceived acceleration.

The mature producing areas of the OECD tend to show the sharpest decline. Depleted assets in the North Sea, Australia and offshore US all exhibit typical decline of at least 15% pa (as indeed do parts of Mexico’s offshore production, included here alongside non-OECD Latin America). Newer fields in these areas - often deepwater, smaller accumulations of oil - are also prone to rapid build to plateau, followed quickly by sharp decline. Deepwater development planning and well configurations differ markedly from onshore fields, aiming to rapidly recoup high up-front expenditures.

One proviso is worth noting however, both for these and for other areas. Detailed data for 2004-2007 field outages are more extensive than for 1999-2003. This raises the possibility that:

- adjusted 1999-2003 decline would be shallower than shown above, and as a consequence, average decline for the entire period in reality is below our headline 7.7% pa level;
- consequently, some acceleration in decline rates did occur in the later years under study.

Notwithstanding this uncertainty due to variable data quality, and while some individual fields undoubtedly show signs of decline accelerating over time, there is no compelling evidence that aggregate decline is picking up speed, after non-geological factors have been accounted for.



Elsewhere in the OECD, decline from onshore US and Canadian production (excluding the Alberta mining and upgrading projects) looks fairly stable at around 5% per annum, close to the industry rule-of-thumb for onshore production. Indeed, the surprisingly static overall profile of decline in OECD basins may actually suggest the beginnings of a price response on the supply side. Renewed drilling and enhanced oil recovery (EOR) may, at the margin, be starting to help offset natural decline, although it is dangerous to be too definitive about this. Indeed there is some evidence that engineering shortages are restricting EOR effort by the IOCs at smaller assets. Nonetheless, EOR projects can be lower profile than new green field developments, and can slip below analysts' radar, being the (albeit more cost-intensive) upstream equivalent of refinery capacity creep.

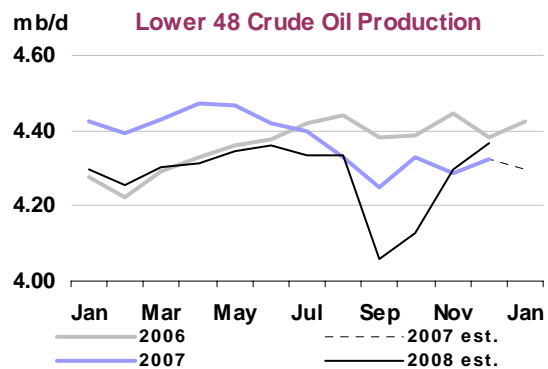
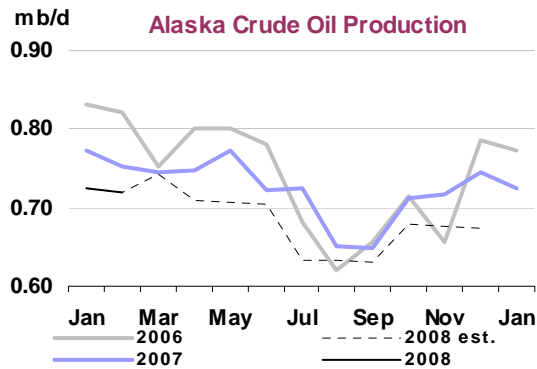
Regional aggregate decline rates for the non-OECD (plus OECD Mexico) vary from 2.5% per annum for the FSU and 4% pa for China and Latin America to 6-7.5% pa for Asia, the Middle East and Africa. The preponderance of Russian onshore production in the FSU total, and an early-decade surge in Russian brown field spending, helps explain low aggregate FSU levels. However, the mix of company and field-specific production data obscures the FSU picture. Latin American decline rates are surprisingly shallow, despite the inclusion of Mexican production. However, Mexico's ageing Cantarell field only entered sustained decline in 2005, having earlier seen production sustained by the application of a nitrogen injection programme. We have for some time assumed that Cantarell decline attains steeper levels around 15% for 2008 and beyond. Decline from Brazil's deepwater Campos Basin fields is also, so far, limited, playing a minor role compared with prevailing shallower onshore declines in determining the regional average. Our longer-term forecasts assume that the pace of deepwater decline accelerates, gaining rising importance for national/regional averages.

On a trend basis, China, other Asia and the Middle East have seen mature field decline accelerate this decade. The ageing onshore Daqing and Shengli fields, plus maturing early-phase offshore developments, have seen Chinese declines gathering pace. The rising proportion of offshore production in Asia and the problems in sustaining output from older, more complex Middle Eastern carbonate reservoirs may underpin the accelerating trend for the other two regions.

- An extensive study of the impact of decline rates on longer-term oil and gas supply will also be included in the *World Energy Outlook (WEO)* for release in November 2008

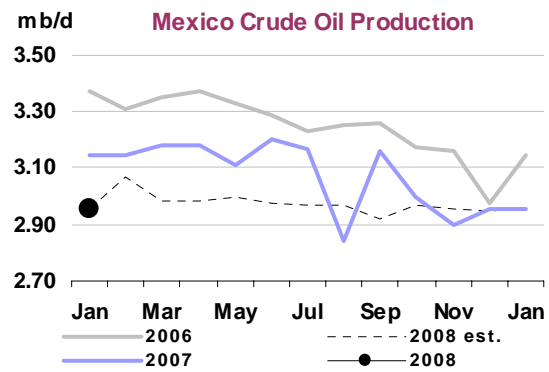
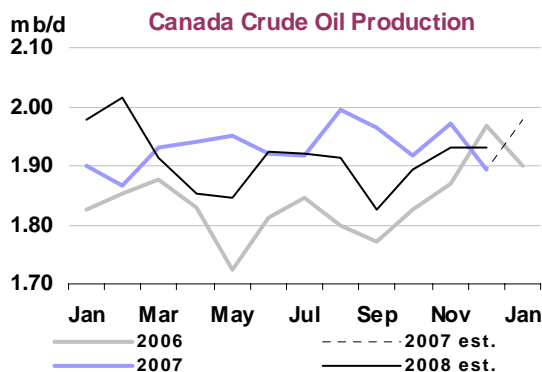
The US crude production forecast is largely unchanged for 2008, at 4.97 mb/d, compared with 5.1 mb/d for 2007. Output levels for 4Q07 from the Gulf of Mexico (GOM) have been trimmed by 45 kb/d to 1.3 mb/d. However, the GOM is likely to prove one of the few bright spots for US crude in 2008, expected to gain a net 70 kb/d to 1.41 mb/d for the year as a whole. Chevron announced in February that its 45 kb/d capacity Blind Faith platform is being towed into position for 2Q08 start-up. BHP's Neptune project is another

April start-up, although otherwise new GOM start-ups are weighted towards the end of the year, when Typhoon, Mirage and Thunder Horse are expected online.



Alaskan production again disappointed in February, with crude output of 720 kb/d some 35 kb/d below expectation. This report sees Alaskan output decline continuing, averaging 685 kb/d for 2008 from 725 kb/d in 2007. However, longer-term prospects may improve after numerous announcements from major companies recently. Shell is hopeful of new discoveries in the remote and challenging Beaufort and Chukchi Sea areas. BP will seek financial sanction in April for the Liberty project, from which 40 kb/d is expected from early 2011. Meanwhile ExxonMobil has submitted a revised development plan for the Point Thomson gas and condensate field, now involving 10 kb/d of liquids output (down from an original 70 kb/d) and gas reinjection. The high pressure nature of the reservoir makes reinjection difficult.

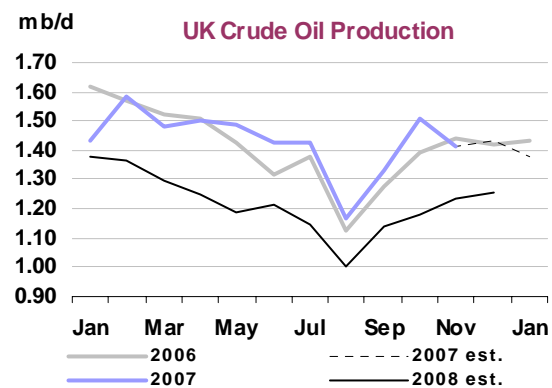
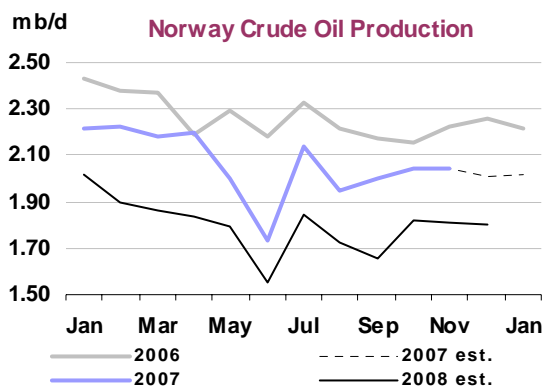
**Canada – December actual:** After two years of 100 kb/d-plus output growth, Canadian production growth in 2008 is seen slowing to 30 kb/d, as total oil output reaches 3.35 mb/d. In fact, over 100 kb/d of growth is expected from bitumen and synthetic crude production capacity in 2008, but this is partly offset by conventional oilfield decline and by a field reliability adjustment that nets around 80 kb/d off the 2008 total. That said, we have revised forecast Albertan conventional output up by 25 kb/d for 2008, after several months of higher-than-expected output.



**Mexico – January actual:** Alongside Brazil, the Mexican 2008 forecast sees the biggest adjustment this month at around -50 kb/d. Weaker than expected January Cantarell field performance was partly offset once more by higher-than-expected output from Ku-Maloob-Zaap. February output from the southern onshore fields has also been adjusted downwards to account for blockades reportedly called by former presidential candidate Lopez Obrador. State oil company Pemex reported in February that it will spend \$16.6 billion on the upstream in 2008. The company has reiterated plans to hold output close to 3.1 mb/d through 2010. This report takes a more cautious view, projecting crude output of 2.97 mb/d for 2008, while NGL output is held steady at some 400 kb/d.

## North Sea

**Norway – December actual, January provisional:** Baseline 2007 data for Norway remains largely unchanged with total 2007 oil output at 2.56 mb/d. Near-200 kb/d declines seen in the past three years are expected to be repeated in 2008, as liquids output slips to 2.36 mb/d, with crude (net of condensate) at 1.8 mb/d and total gas liquids at some 550 kb/d. Loading schedules suggest weaker February production, but, conversely, upward adjustment for March supply. The Volve field came onstream as anticipated in February, although we have trimmed the expected ramp-up in supplies on reports that plateau 50 kb/d will not be attained until 1Q09. Unscheduled outages affected the Nord, Ekofisk, Eldfisk, Aasgard and Kristin fields in February, while Sleipner production has been hampered in March. The impact on our forecast was minimised by the existing field reliability adjustment applied for all forecast months.

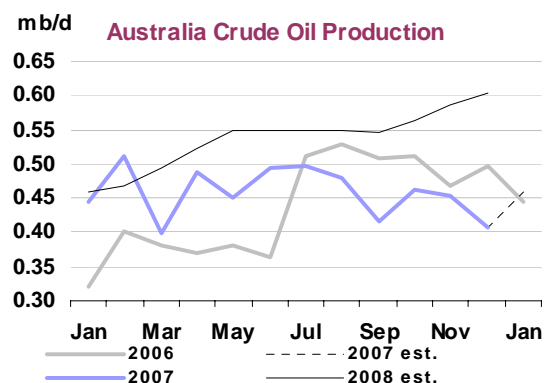


**UK – December actual:** UK offshore production looks to have remained fairly steady at around 1.4 mb/d during the November-February period. However, production is seen declining sharply by as much as 25% in the period through August as seasonal maintenance takes effect. Industry association Oil & Gas UK envisages total oil production averaging a stable 1.6 mb/d during 2008, including some 250 kb/d of NGL and onshore crude production. Our forecast is weaker at 1.48 mb/d but includes a 160 kb/d field reliability adjustment, without which the two forecasts would be broadly similar.

Minor adjustments this month to UK output make little change to overall production levels. A February gas processing unit outage at the Elgin/Franklin fields reduced condensate supply but was resolved within days. Market reports on progress at the Etrick field development have caused us to push back start-up from April to August, while we have also trimmed plateau output for 2008 to 20 kb/d from an earlier-assumed 30 kb/d. New entries in our field-specific database include Duart and Saxon, although again this has no impact on forecast supply as we were previously including these developments as tie-backs to the existing Tartan and Guillemot fields.

## Pacific

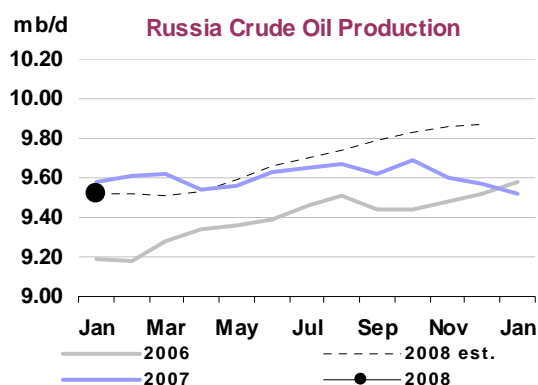
**Australia – December actual:** Australian crude production came in some 100 kb/d lower than earlier estimates, with unscheduled outages in the Carnarvon Basin proving more pervasive than initial information had suggested. Field outages also affected February output, with precautionary outages during the passage of Cyclone Nicholas. A prevailing -35 kb/d cyclone adjustment in our February forecast has subsequently been revised to -50 kb/d. Forecast Bonaparte basin production has been cut by 15 kb/d compared with last month, with water encroachment affecting the recently



started Puffin field. AED Oil Ltd, which was operator of the Puffin and Talbot fields, has just announced the sale of a 60% stake in the two fields to China's Sinopec. Despite recently disappointing performance, Australian crude production is nevertheless expected to increase by some 80 kb/d in 2008 to 535 kb/d, largely on the strength of production build-up from the 80 kb/d Stybarrow field.

## Former Soviet Union (FSU)

**Russia – January actual, February provisional:** Russian total oil output has begun 2008 at a fairly stable 10.0 mb/d (including 9.52 mb/d of crude), marginally below both 4Q07 and levels of a year ago. We have trimmed the Russian 2008 forecast this month by a net 25 kb/d on the basis of latest reported plans from the country's largest producer, Rosneft, and also lower baseline January and February supply from Lukoil and Surgutneftegaz. A partially offsetting 10 kb/d upward adjustment is however applied to NGL supply, after reports of higher Gazprom expenditures on gas processing in 2008. Total Russian production growth for 2008 is now seen at 90 kb/d (+0.9%), less than half the 2007 level. Moreover, analysts see growth remaining constrained going forward unless incoming president Dmitry Medvedev pursues earlier statements about the need for fiscal reform.



Rosneft shows the largest year-on-year production increment in our forecast, although the company may struggle to exceed recent 2.27 mb/d levels in the absence of further acquisitions. A late-year increment of 50 kb/d is also expected with the start-up of year-round production at the Sakhalin 2 project (which presently only produces for six months of the year). We have previously reported on the weaker expectations for 2008 supply from the neighbouring Sakhalin 1 project, where production was supposed to fall towards 170 kb/d from last year's 225 kb/d after permission to drill new wells was refused by the Russian authorities. January/February output data actually show Sakhalin 1 still producing in excess of 200 kb/d, raising the possibility that output may be sustained at higher levels. However, for now we retain the lower planned levels in our forecast.

### FSU Net Exports of Crude & Petroleum Products

(million barrels per day)

	2006	2007	1Q2007	2Q2007	3Q2007	4Q2007	Nov 07	Dec 07	Jan 08	Latest month vs. Dec 07 Jan 07	
<b>Crude</b>											
Black Sea	2.22	2.18	2.30	2.23	2.09	2.10	2.02	2.02	1.89	-0.13	-0.30
Baltic	1.55	1.59	1.58	1.60	1.58	1.61	1.49	1.66	1.58	-0.08	-0.03
Arctic/FarEast	0.15	0.32	0.29	0.30	0.38	0.31	0.30	0.29	0.25	-0.04	-0.01
BTC	0.00	0.55	0.43	0.58	0.57	0.61	0.67	0.64	0.64	0.00	0.31
<b>Crude Seaborne</b>	<b>4.07</b>	<b>4.63</b>	<b>4.60</b>	<b>4.70</b>	<b>4.61</b>	<b>4.62</b>	<b>4.49</b>	<b>4.61</b>	<b>4.36</b>	<b>-0.25</b>	<b>-0.03</b>
Druzhba Pipeline	1.20	1.13	1.17	1.13	1.08	1.13	1.16	1.12	1.16	0.03	0.05
Other Routes	0.38	0.44	0.47	0.46	0.40	0.43	0.43	0.42	0.44	0.03	-0.10
<b>Total Crude Exports</b>	<b>5.64</b>	<b>6.20</b>	<b>6.23</b>	<b>6.29</b>	<b>6.09</b>	<b>6.18</b>	<b>6.08</b>	<b>6.15</b>	<b>5.96</b>	<b>-0.19</b>	<b>-0.08</b>
Of Which: Transneft	4.22	4.27	4.33	4.31	4.19	4.23	4.15	4.18	4.14	-0.04	-0.18
<b>Products</b>											
Fuel oil	0.95	1.10	1.04	1.15	1.13	1.08	1.12	1.14	1.17	0.03	0.26
Gasoil	0.95	0.95	0.94	0.88	1.01	0.96	0.88	1.04	0.98	-0.05	0.12
Other Products	0.61	0.60	0.59	0.69	0.57	0.56	0.57	0.58	0.62	0.03	0.03
<b>Total Product</b>	<b>2.51</b>	<b>2.65</b>	<b>2.57</b>	<b>2.73</b>	<b>2.71</b>	<b>2.60</b>	<b>2.56</b>	<b>2.75</b>	<b>2.77</b>	<b>0.01</b>	<b>0.41</b>
<b>Total Exports</b>	<b>8.16</b>	<b>8.85</b>	<b>8.80</b>	<b>9.02</b>	<b>8.80</b>	<b>8.78</b>	<b>8.64</b>	<b>8.90</b>	<b>8.73</b>	<b>-0.17</b>	<b>0.32</b>
Imports	0.04	0.04	0.02	0.04	0.04	0.04	0.05	0.03	0.04	0.01	0.02
<b>Net Exports</b>	<b>8.12</b>	<b>8.82</b>	<b>8.78</b>	<b>8.98</b>	<b>8.76</b>	<b>8.74</b>	<b>8.60</b>	<b>8.88</b>	<b>8.69</b>	<b>-0.19</b>	<b>0.30</b>

Sources: Petro-Logistics, IEA estimates

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

**Net oil exports from the FSU** averaged 8.69 mb/d in January, according to preliminary data. This was 190 kb/d lower than December's average but 300 kb/d higher than the previous January (due to the 2007 rise in BTC volumes plus higher product exports). January crude exports were down 250 kb/d on the month, with a notable 130 kb/d drop in Black Sea exports as poor weather impeded loadings. Baltic crude exports fell by 80 kb/d in January with fewer of the new, enlarged 135,000-tonne cargoes loading from Primorsk than expected. Far East crude loadings also fell by 40 kb/d. January FSU product exports were almost flat on December. Severe weather reportedly disrupted Black Sea product exports but higher gasoil and gasoline volumes left northern terminals.

An increase in Russian export duties is set to reduce February exports significantly. Transneft crude oil schedules suggest that both Black Sea and Baltic loadings will be lower, with planned pipeline maintenance an added constraint to exports from Primorsk. A pricing dispute also interrupted crude flows from Russia to Germany through the Druzhba pipeline in February.

## Other Non-OPEC

Elsewhere in the non-OPEC fold, a 20 kb/d upward revision is applied for 4Q07 through end-2008 for **Turkmenistan**. This follows stronger than expected 3Q07 output data. Total liquids production in 2008 is seen rising by 20 kb/d to 220 kb/d, broadly in line both with government plans and attainment evident for January-October 2007.

**Brazilian** crude production rises by 225 kb/d in 2008 to 1.97 mb/d, growth having slowed markedly in 2007 due to unplanned field outages and delays in bringing new projects onstream. This month's 2008 forecast has been trimmed by 55 kb/d, largely with a downward revision for the Espadarte field, where enhanced recovery has reportedly achieved less than originally planned. The Brazilian adjustment is partially offset by a 35 kb/d upward revision for **Colombia**, where data through end-2007 shows sharply higher-than-expected output from foreign operated projects. National oil production attained 560 kb/d in 4Q07 and is seen averaging 580 kb/d in 2008. February Colombia supply was affected by a bomb attack on the 60 kb/d Trans Andes pipeline, although government sources expected this to take days, rather than weeks to repair.

**Revisions to Non-OPEC Oil Supply**  
(million barrels per day)

	Last Month's OMR				This Month's OMR				This Month vs. Last Month			
	2007	2008	07 v 06	08 v 07	2007	2008	07 v 06	08 v 07	2007	2008	07 v 06	08 v 07
North America	14.26	14.15	0.05	-0.11	14.27	14.16	0.06	-0.10	0.01	0.02	0.01	0.01
Europe	4.94	4.56	-0.24	-0.39	4.95	4.55	-0.23	-0.40	0.01	-0.01	0.01	-0.01
Pacific	0.63	0.78	0.05	0.15	0.62	0.78	0.04	0.16	-0.01	-0.01	-0.01	0.00
<b>Total OECD</b>	<b>19.84</b>	<b>19.49</b>	<b>-0.14</b>	<b>-0.35</b>	<b>19.84</b>	<b>19.49</b>	<b>-0.14</b>	<b>-0.35</b>	<b>0.00</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>
Former USSR	12.76	13.19	0.51	0.43	12.77	13.19	0.52	0.42	0.01	-0.01	0.01	-0.01
Europe	0.13	0.12	-0.01	-0.01	0.13	0.12	-0.01	-0.01	0.00	0.00	0.00	0.00
China	3.73	3.83	0.05	0.11	3.73	3.83	0.05	0.11	0.00	0.00	0.00	0.00
Other Asia	2.68	2.80	-0.03	0.12	2.68	2.77	-0.03	0.09	0.00	-0.03	0.00	-0.02
Latin America	3.87	4.17	0.01	0.30	3.87	4.14	0.02	0.27	0.00	-0.02	0.00	-0.03
Middle East	1.64	1.56	-0.11	-0.07	1.64	1.56	-0.11	-0.07	0.00	0.00	0.00	0.00
Africa*	2.55	2.69	0.05	0.14	2.55	2.69	0.05	0.14	0.00	0.00	0.00	0.00
<b>Total Non-OECD*</b>	<b>27.36</b>	<b>28.37</b>	<b>0.49</b>	<b>1.01</b>	<b>27.36</b>	<b>28.31</b>	<b>0.50</b>	<b>0.95</b>	<b>0.01</b>	<b>-0.06</b>	<b>0.01</b>	<b>-0.07</b>
Processing Gains	2.07	2.13	0.04	0.06	2.07	2.13	0.04	0.06	0.00	0.00	0.00	0.00
Other Biofuels	0.40	0.65	0.15	0.25	0.40	0.65	0.15	0.25	0.00	0.00	0.00	0.00
<b>Total Non-OPEC*</b>	<b>49.67</b>	<b>50.64</b>	<b>0.53</b>	<b>0.97</b>	<b>49.68</b>	<b>50.59</b>	<b>0.54</b>	<b>0.91</b>	<b>0.01</b>	<b>-0.05</b>	<b>0.01</b>	<b>-0.06</b>

OMR = Oil Market Report

\* adjusted to exclude Angola and Ecuador throughout

Lower baseline production from **India** and **Malaysia** results in forecast 2008 supply from each being cut by 10-15 kb/d. Trends in 2008 production from the two Asian nations diverge, with Indian output expected to slip by 15 kb/d to 800 kb/d. Malaysia on the other hand sees oil output break through the 800 kb/d mark, as the Kikeh field builds towards plateau 100 kb/d output by late 2008.