SUPPLY

Summary

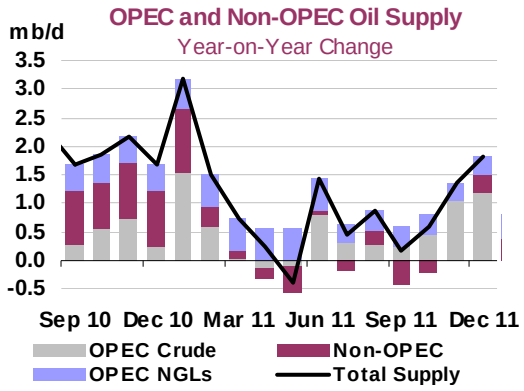
- **Global oil supply rose by 100 kb/d to 90.0 mb/d in December, with rebounding output from Libya and Saudi Arabia partially offset by declines in non-OPEC countries.** Compared to December 2010, global oil production stood 1.8 mb/d higher, 80% of which stemmed from increasing output of OPEC crude and NGLs.

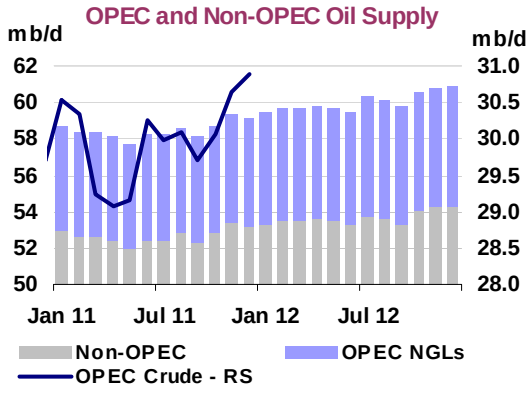
- **Non-OPEC supply fell by 140 kb/d to 53.2mb/d in December, as rising production in the North Sea only partially offsetting a steep seasonal decline in biofuels production and lacklustre output from the Former Soviet Union.** On a quarterly basis, unrest in the Middle East and other unplanned outages meant 4Q11 output grew by 610 kb/d from the prior quarter (but only 25 kb/d compared to last year) and should grow further by 340 kb/d in 1Q12 to 53.5 mb/d.

- **OPEC crude oil supply rose by 240 kb/d, to an average of 30.89 mb/d in December. The rapid recovery in supplies from Libya,** and to a lesser extent increases from Saudi Arabia and the UAE, combined to push year-end output to the highest level in more than three years.

- **A looming escalation in economic sanctions imposed on Iran by the US and proposed by the EU has sparked market concerns** in Europe and Asia over potential crude availability, as well as raising alarm over the possibility of military action in the Gulf.

- **OPEC ministers agreed a higher collective production target of 30 mb/d for 2012 at their 14 December meeting in Vienna.** It is the first new output agreement in three years and the first to include Iraq in the group's target system in more than two decades. OPEC's new target is broadly in line with our own estimates for the underlying 'call on OPEC crude and stock change' of 30 mb/d for 2012.





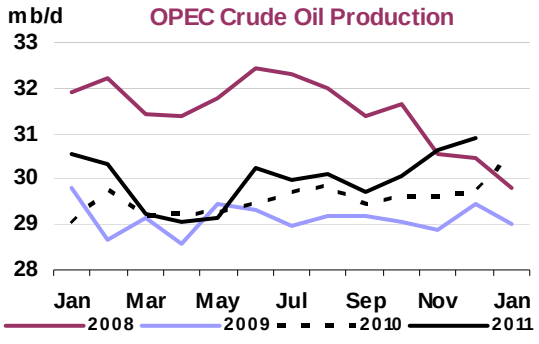
All world oil supply figures for December discussed in this report are IEA estimates. Estimates for OPEC countries, Alaska, and Russia are supported by preliminary December supply data.

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 -200 kb/d for non-OPEC as a whole, with downward adjustments focused in the OECD.

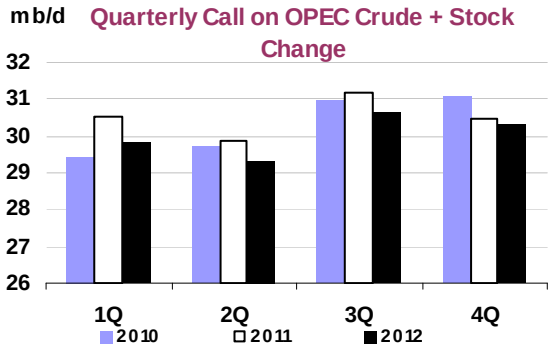
OPEC Crude Oil Supply

OPEC crude oil supply averaged 30.89 mb/d in December, up by 240 kb/d over November levels. Increased supplies from Libya, and to a lesser extent Saudi Arabia and the UAE, combined to push year-end output to the highest level in more than three years. The higher output levels are behind a decline in OPEC's 'effective' spare capacity, to 2.85 mb/d from 3.18 mb/d in November. Saudi Arabia accounts for 75% of effective spare capacity at 2.15 mb/d.

Preliminary tanker data suggest OPEC supply is on course to rise further in January. Iran is under siege from new US sanctions on the country's central bank, which are expected to come into effect over the next several months, and the proposed EU embargo on all purchases of Iranian oil (*see 'International Sanctions Tighten Chokehold On Iran'*). As a result, customers have been aggressively seeking alternative supplies from other OPEC members, especially Saudi Arabia. UK-based *Oil Movements* forecasts that sailings from the Middle East may rise 300 kb/d above December levels.



Entire series based on OPEC Composition as of January 2009 onwards (including Angola & Ecuador & excluding Indonesia)

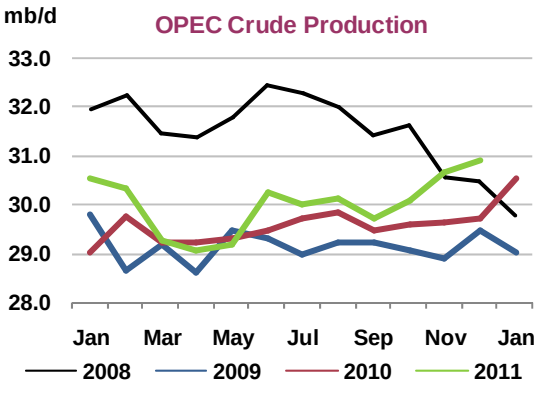


Entire series based on OPEC Composition as of January 2009 onwards (including Angola & Ecuador & excluding Indonesia)

OPEC ministers agreed a higher collective production target of 30 mb/d for 2012 at their 14 December meeting in Vienna. It is the first new output agreement in three years and the first to include Iraq in the group's target system in more than two decades. In stark contrast to last June's divisive gathering that ended without a communiqué, the mid-December meeting produced a consensus agreement, albeit somewhat vague and short on detail. No individual country quotas were allocated as part of the agreement; instead the 30 mb/d was reportedly arrived at based on the OPEC Secretariat's anticipated "call" on its crude for 2012. The communiqué left ample room for interpretation and suggested there would be scope for voluntary downward production adjustments as necessary and subject to prevailing economic and oil demand uncertainty. OPEC set its next ministerial meeting for 14 June in Vienna.

OPEC's new 30 mb/d target is in line with our own estimates for the underlying 'call on OPEC crude and stock change' for 2012. Downward revisions in global oil demand in this month's report see the 2012 'call' reduced by an average 200 kb/d, to 30 mb/d. 1Q12 see the largest revision to the 'call', lowered by 400 kb/d to 29.8 mb/d.

The group's 30 mb/d target also mirrors average 2011 output levels. OPEC 2011 production averaged 29.97 mb/d, which is 500 kb/d up on 2010 levels. War-torn Libya saw production decline an average 1.09 mb/d to 460 kb/d in 2011. Saudi Arabia posted the largest increase at 950 kb/d to 9.34 mb/d, followed by Iraq, rising by 310 kb/d to 2.67 mb/d. Fellow Gulf producers also posted substantial increases in 2011, with Kuwait up by 210 kb/d to 2.5 mb/d and the UAE up by 190 kb/d to



2.5 mb/d. Nigeria also saw a rise in production, up by 100 kb/d to 2.18 mb/d. While the ceasefire agreement enabled the country's IOCs to carry out repairs and restart long shut-in production, a fresh wave of militant activity in the later part of 2011 reduced volumes.

By contrast, year-on-year, Iranian production fell by 130 kb/d to an average 3.58 mb/d last year, its lowest levels since 2002. Angola also posted a decline, down by 90 kb/d to 1.64 mb/d on average in 2011, due almost entirely to chronic technical problems at the BP-operated Greater Plutonio complex.

December **Saudi Arabian** crude oil output was pegged at 9.85 mb/d, up 100 kb/d from November levels. Latest tanker data suggest production may be closer to the 10 mb/d mark in January, with an increase in shipments expected, especially westbound cargoes.

OPEC Crude Production

(million barrels per day)

	Oct 2011 Supply	Nov 2011 Supply	Dec 2011 Supply	Sustainable Production Capacity[1]	Spare Capacity vs Dec 2011 Supply	2011 Annual Average	Vol Chg 2011 vs 2010
Algeria	1.29	1.29	1.29	1.30	0.01	1.28	0.02
Angola	1.72	1.69	1.75	1.90	0.15	1.64	(0.09)
Ecuador	0.50	0.50	0.48	0.51	0.03	0.50	0.03
Iran	3.53	3.55	3.45	3.51	0.06	3.58	(0.13)
Kuwait[2]	2.65	2.67	2.62	2.84	0.22	2.50	0.21
Libya	0.35	0.55	0.80	0.75	(0.05)	0.46	(1.09)
Nigeria[3]	2.02	2.10	2.06	2.48	0.42	2.18	0.10
Qatar	0.81	0.82	0.82	0.90	0.08	0.80	0.02
Saudi Arabia[2]	9.45	9.75	9.85	12.00	2.15	9.34	0.95
UAE	2.51	2.52	2.58	2.74	0.16	2.50	0.19
Venezuela[4]	2.55	2.53	2.50	2.55	0.05	2.52	(0.01)
OPEC-11	**27.38**	**27.97**	**28.20**	**31.47**	**3.27**	**27.30**	**0.20**
Iraq	2.69	2.68	2.69	3.21	0.53	2.67	0.31
Total OPEC	**30.07**	**30.64**	**30.89**	**34.68**	**3.80**	**29.98**	**0.51**
(excluding Iraq, Nigeria, Venezuela and Libya					*2.85)*		

1 Capacity levels can be reached within 30 days and sustained for 90 days.
2 Includes half of Neutral Zone production.
3 Nigeria's current capacity estimate excludes some 200 kb/d of shut-in capacity.
4 Includes upgraded Orinoco extra-heavy oil assumed at 430 kb/d in December.

Iraqi supply averaged 2.69 mb/d in December, up 10 kb/d from the previous month. November levels were revised down by 40 kb/d, to 2.68 mb/d from 2.72 mb/d, on reduced domestic use. Crude exports averaged 2.15 mb/d last month, up 10 kb/d month-on-month. Exports of Basrah crude from the southern terminals rose by 25 kb/d to 1.74 mb/d. Exports of Kirkuk crude from the Turkish port of Ceyhan on the Mediterranean were off by around 15 kb/d, to 410 kb/d.

For 2011, Iraqi crude exports averaged 2.17 mb/d, an increase of 275 kb/d over 2010 levels, with shipments from the southern ports accounting for almost 85% of the increase. Basrah exports averaged 1.71 mb/d, up around 230 kb/d, while Northern volumes of Kirkuk rose by 50 kb/d to 450 kb/d.

Iraqi crude export growth in 2012 is likely to be constrained by a number of issues, including delays with infrastructure projects. The Oil Ministry has forecast crude exports to reach 2.6 mb/d in 2012 but analysts project volumes to fall short of that target. The planned expansion of southern export facilities on the Gulf is behind schedule, and now the first of the three new single-point moorings (SPMs) is not expected to be operational by end March, compared with the original 1 January start date. Though nameplate capacity for each SBM is 900 kb/d, industry experts say operational capacity may only be 500 kb/d. The full plan calls for the installation of three 48-inch land pipelines between the production hubs of Zubair and Rumaila to the Fao onshore terminal, the construction of storage tanks to raise capacity by around 16 mb and new pumping, power and metering facilities. So far, only one pipeline is

under construction, with completion also slated for the end of first quarter 2012. Three tanks at Fao have been completed, but work on the critical gas supply pipeline has not begun, and contracts for the main electrical generators have been only just awarded. Temporary generators and booster pumps may be installed, which would enable an increase in flow rates to offshore terminals by an estimated 250 kb/d by mid 2012.

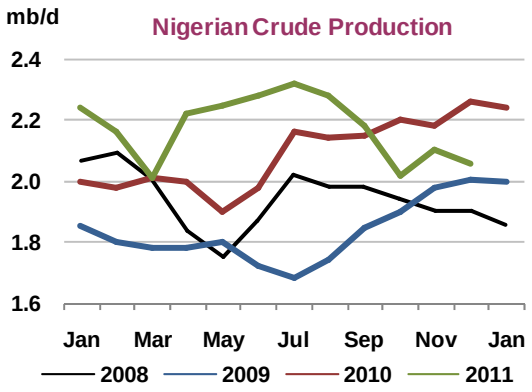
Iranian supplies declined by 100 kb/d to 3.45 mb/d in December, with increasing volumes going into floating storage. EA Gibson shipbrokers report Iranian storage increased by 4.3 mb to 32.3 mb at end-December.

After rising for six straight months, **Kuwaiti** output declined by 50 kb/d to 2.62 mb/d in December. **UAE** production, by contrast, rose by 60 kb/d to 2.58 mb/d last month.

Libya posted the single largest monthly increase, up 250 kb/d to 800 kb/d on average in December. Total's 40 kb/d Mabruk oil field was the latest to restart production. Officials reported production breached the 1 mb/d mark in December but output reportedly has been throttled back so engineers can conduct tests on wells and pipelines, where numerous leaks have been reported.

Angolan output in December was around 1.75 mb/d, about 60 kb/d more than November. The new Total-operated Pazflor field has now ramped up to capacity of around 160 kb/d.

Nigeria's supply fell 40 kb/d to 2.06 mb/d in December. Shell was forced to shut down the massive 200 kb/d offshore Bonga facility after a leak during a tanker loading operation on 20 December. Production was restarted on 5 January. Shell's offshore 115 kb/d EA oil field was also undergoing maintenance work through much of December, with production restarted on 27 December. In early January, Shell declared force majeure on its benchmark Bonny Light crude exports following a leak caused by theft incidents on the Nembe Creek trunk line in the Niger Delta.

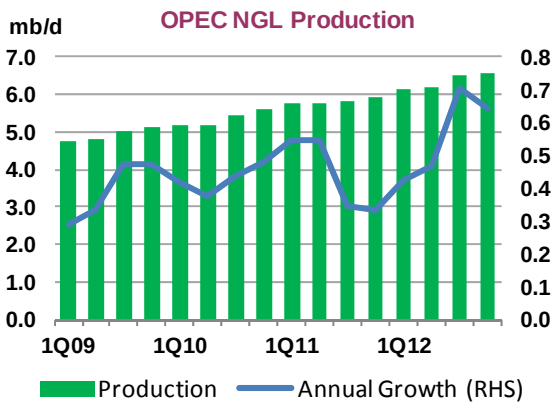


A nationwide strike against the ending of fuel subsidies that more than doubled gasoline prices threatened to shutdown the country's oil production and exports this month but the labour action was averted following an eleventh hour agreement (*see Demand*, '*Goodluck Removing Subsidies*').

Venezuelan output was down 30 kb/d to 2.5 mb/d in December, largely due to maintenance at the Petroanzoategui heavy crude upgrader. Total Orinoco output was estimated at 450 kb/d in December.

OPEC NGLs

OPEC NGLs are on course to average 6.2 mb/d in 1Q12, up 200 kb/d from 4Q11. Qatar is slated to provide around 40% of the increase, with incremental supplies expected from LNG Trains 6 & 7 and Pearl NGLs. Kuwait, the UAE, Algeria, Nigeria and Angola will see smaller increases. For full-year 2011 OPEC NGLs rose by 400 kb/d to an average 5.8 mb/d. The UAE accounted for 250 kb/d of the increase with the ramp-up in output from the Habshan condensate and NGL complex providing the bulk of the increase. OPEC NGLs are forecast in 2012 to increase by a further 600 kb/d to 6.4 mb/d.



International Sanctions Tighten Chokehold On Iran

A looming sharp escalation in economic sanctions imposed on Iran by the US and EU has sparked concerns in Europe and Asia over potential crude availability, as well as raising alarms over the possibility of military action in the Middle East Gulf. A new law was signed by President Obama on 31 December 2011 imposing sanctions on financial institutions that deal with Iran's central bank after a certain time, the main clearinghouse through which Iran deals with trading partners around the world. Meanwhile the EU is moving at a brisk pace to finalise a ban on oil imports from Iran by member states. Though neither measure is likely to take meaningful physical effect until mid-year, they have already set in motion a flurry of diplomatic activity, with leaders from Japan, China, South Korea, among others, visiting top Middle East producers in recent weeks to secure assurances that supply will be forthcoming to replace Iranian barrels.

The new US sanctions will force foreign banks and other institutions to terminate financial transactions with Iran in order to avoid being precluded from dealings on the US financial markets. The measures target both private and government-controlled banks, including central banks. The law, however, enables a great deal of latitude for the US Administration on how to implement it and, crucially, allows waivers for countries that demonstrate they are taking measures to significantly reduce their imports of Iranian crude. The US President may also grant waivers deemed to be in the US national security interest or otherwise necessary for energy market stability. The timeframe for implementing the law via-à-vis the petroleum sector is:

- After 60 days (end February), and every 60 days thereafter, the US Energy Information Administration (EIA) has to submit a report on the availability and price of oil from suppliers other than Iran.
- After 90 days (end March), after 180 days thereafter, the US President has to make a finding (based on the EIA report) whether there is sufficient oil supply from countries excluding Iran in order to permit other countries to significantly reduce their purchases from Iran.
- After 180 days (end June): if the US President established that there is sufficient oil available outside Iran, the sanctions shall be applied to financial institutions; the sanctions shall not apply to financial institutions of countries that have significantly reduced their oil purchase from Iran.
- At any time the President may waive the sanctions altogether for up to 120 days, if that is considered to be in the national security interest of the US.
- In addition, the President has to undertake diplomatic initiatives with other countries to:
    - Limit Iran’s imports of non-luxury consumer goods and exclude purchases destined for military/nuclear purposes and ;
    - Encourage other producer countries to produce more oil.

In Brussels, the EU has agreed in principle to impose an oil import ban on Iranian oil but details such as timing and implementation are still being discussed. A decision could be taken at the next EU Foreign Ministers’ meeting on 23 January. If the ministers agree on the new regulation (which would be directly applicable, with no transposition into national law needed), it would take about two weeks to formalise. One critical issue for the market is the date for implementation of the import ban, with current proposals ranging anywhere from three months to a year. However, a target of six months is gaining traction, since it would dovetail with the US law. This would tend to suggest a measure that would have a material impact on physical supplies from Iran from mid-summer onwards, similar in timing to the US measures. Italy has asked for, and is considered likely to receive, a full exemption for the oil that ENI receives as payment of their share in upstream production in Iran (some 10 kb/d). Greece, Italy and Spain may receive an exemption for a limited amount of time after the implementation, to be able to find alternative supplies.

Iran meanwhile has upped its brinkmanship with the west as well as with its fellow OPEC members and regional neighbours. In recent weeks it has conducted major naval exercises close to the Strait of Hormuz, and claimed to have successfully tested anti-ship missiles and a new mid-range missile, comparable to the cruise missiles of Western forces. Iran claimed also to have practiced for an effective closure of the Strait of Hormuz, although the waterway was not actually blocked at any moment. Secondly, Iran announced it would close the Strait of Hormuz, if confronted with an embargo on its oil exports. This would not only physically prevent significant additional exports by Saudi Arabia and other Gulf producers, but could

International Sanctions Tighten Chokehold On Iran (continued)

potentially hinder the majority of oil exports from the Gulf, albeit for a short period. The Strait of Hormuz in recent months has seen the transit of some 17 mb/d of crude oil and refined product. Most military analysts believe any closure would be short term, especially as the US and UK said they would never allow the Strait to be closed given its vital importance to global energy markets. In the event of temporary or partial closure of the Strait, Saudi Arabia has the capacity to ship a further 2.5 mb/d via the East-West pipeline to the Red Sea.

The long-awaited 1.5 mb/d Abu Dhabi pipeline, which offers a further bypass route of the Strait of Hormuz, will be operational by June. The pipeline will move crude to the port of Fujairah, on the UAE's eastern coast, facing the Gulf of Oman.

By mid-January, Iran was warning its fellow OPEC members, threatening serious consequences if other producers stepped in to replace banned Iranian crude supplies. Iranian OPEC Governor Mohammad Ali Khatibi said 16 January that there would be serious consequences for regional producers, alluding to blockage of the Straits. Much to the anger of Iran, high-level diplomatic efforts are under way to secure alternative supplies, with the leaders from Iran's biggest customers – China, Japan and South Korea – visiting Saudi Arabia and other Middle East producers to receive assurances that alternative supplies will be available.

Destination of Exports Passing Through the Straits of Hormuz - January to October 2011

(million barrels per day)

OECD Europe	**0.83**	**Middle East**	**0.05**
Crude	0.70	Crude	0.00
Products	0.14	Products	0.05
OECD N America	**1.74**	**Other Asia**	**5.45**
Crude	1.74	Crude	4.83
Products	0.00	Products	0.62
OECD Pacific	**5.42**	**Other Europe**	**0.01**
Crude	5.02	Crude	0.00
Products	0.40	Products	0.01
Africa	**0.32**	**SUMED Pipeline**	**0.63**
Crude	0.27	Crude	0.63
Products	0.05	Products	0.00
China	**2.14**	**Unknown**	**0.02**
Crude	2.13	Crude	0.01
Products	0.01	Products	0.00
Latin America	**0.14**	**S Arabia (Red Sea)**	**0.10**
Crude	0.12	Crude	0.09
Products	0.02	Products	0.02
Grand Total	**16.85**		
Total Crude	15.54		
Total Products	1.31		

Source: Lloyds Marine Intelligence

IEA import data for January-October 2011 and preliminary estimates for other destinations suggest Iranian crude exports averaging 2.5 mb/d (including over 200 kb/d of condensates). Around one-third of these were destined for IEA European destinations, with Italy, Turkey, Spain and Greece accounting for about 80% of these sales into Europe. Both Turkey and Greece have so far met around 30% of their oil demand with Iranian imports. These data imply EU imports of around 600 kb/d.

Japan and South Korea imported a collective 550 kb/d of Iranian crude, with deliveries into China and India estimated at 550 kb/d and 310 kb/d respectively (including at least 90 kb/d of condensate into China). South Africa purchased around 80 kb/d. All told, eastbound exports accounted for 65% of total Iranian exports.

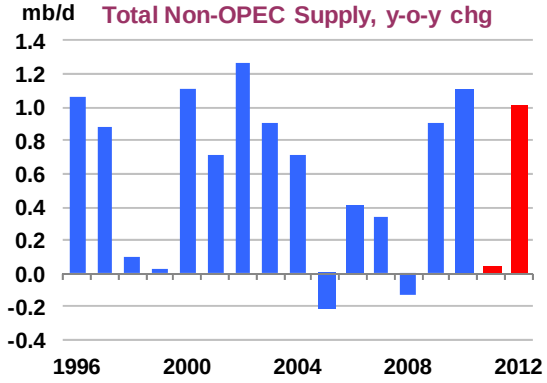
Japan has not yet committed to the US Administration to reduce imports of Iranian crude, with the country's foreign minister visiting Saudi Arabia and the UAE to gain assurances that substitute crude for Iranian barrels will be available. China has not implemented any sanctions, with Iran its second largest supplier after Saudi Arabia. Chinese Premier Wen Jiabao, though openly opposed to sanctions on Iran, recently travelled to Saudi Arabia, the UAE and Qatar in a bid to secure assurances over crude supplies. Separately, China, whose 2011 purchases from Iran were up by around 20% from 2010, this month cut in half its Iranian term contract volumes over a pricing dispute.

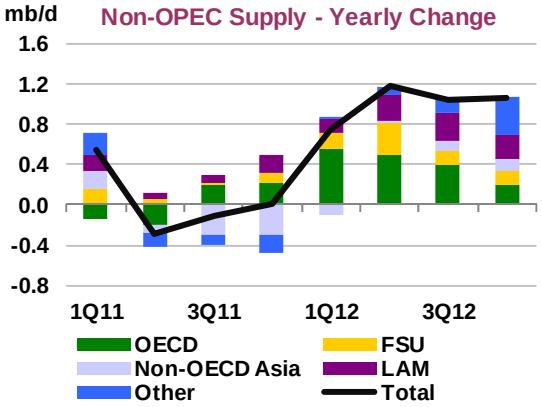
For European refiners the new EU sanctions will force them into the difficult task of finding alternative comparable crudes, especially for Iran's heavy crudes. Iran's two main export grades, produced from onshore fields, are Iranian Heavy (29.5° API and 1.99% sulphur) and Iranian Light (33.4°API and 1.36% sulphur). Historically, Iranian Heavy has accounted for around one half of Iranian exports, and Iranian Light for a further one third. In 2011, IEA European importers' purchases have comprised around 30% Iranian Light and 70% Iranian Heavy or sourer (higher sulphur) grades. For 2011 sales so far into the IEA Pacific, less than 10% comprised Iranian Light, the remainder comprising Iranian Heavy and sourer grades. Both the main export grades are shipped from the terminal of Kharg Island, towards the northern end of the Middle East Gulf. Kharg accounts for around 85% of total Iranian exports, with shipments of Iran Light and Iran Heavy and offshore Foroozan. Other offshore crudes such as Sirri, Lavan and Soroosh are exported from Sirri and Lavan Islands and from floating facilities, respectively. Crude is also made available into the Mediterranean 'free on board' from Sidi Kerir in Egypt, the northern end of the Sumed pipeline.

Non-OPEC Overview

Non-OPEC oil production is estimated to have fallen by 0.1 mb/d to 53.2 mb/d in December, largely due to seasonally lower biofuels output and reduced production in Latin America and the Former Soviet Union. Preliminary data show North Sea volumes increased by 140 kb/d from November levels. Non-OPEC supply in 4Q11 is estimated to have risen by 0.6 mb/d from the third quarter, but grew by only 25 kb/d year-on-year.

The major source of a 110 kb/d downward revision to our estimate for 4Q11 non-OPEC supply is centred in China and is offset by 50 kb/d upwards revisions based on new historical data in Malaysia and the US light tight oil production totalled 740 kb/d in 4Q11, and exponential growth rates continue to exceed initial expectations, especially in Texas and in North Dakota. All told, non-OPEC supply grew on an annual basis by only 50 kb/d in 2011, the third-lowest performance in the last decade.





Overall, we have not altered our outlook for non-OPEC oil production in 2012, when production is expected to rebound by around 1.0 mb/d to average 53.7 mb/d. Since last month, more pessimistic expectations for the return to production of the Peng-Lai 19-3 field in China (-110 kb/d), continued violence in Yemen (-10 kb/d), and weather-related shut-ins and project delays in Australia (-20 kb/d) reduced non-OPEC supply growth. These downward revisions are equally offset by earlier than expected field start-ups in the Gulf of Mexico and higher production estimates for light tight oil in Texas.

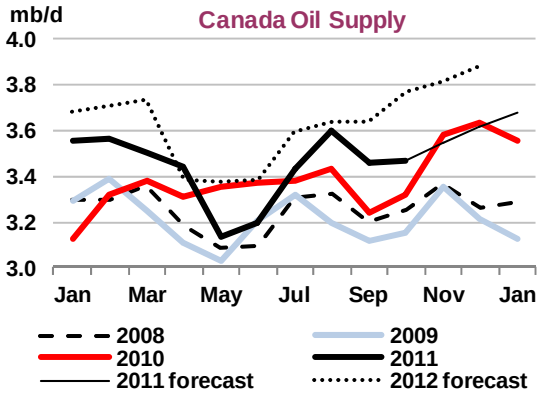
OECD

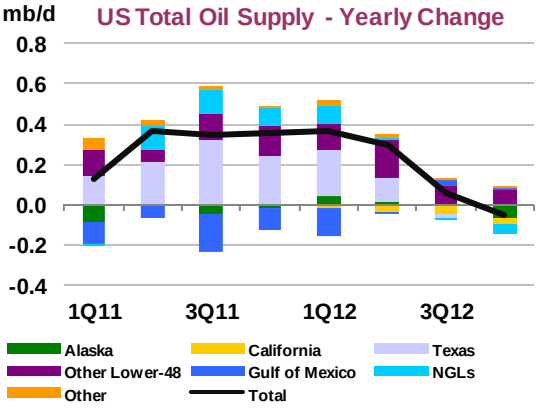
North America

US – December, Alaska actual, other states estimated: Gulf of Mexico and Alaskan production, as well as light tight oil output from Texas, and North Dakota, led to an increase in total US liquids output of around 60 kb/d to 8.3 mb/d in November. North Dakota's crude and condensate production reached almost 510 kb/d in December according to preliminary state estimates, only 50 kb/d shy of Alaskan production in 2011. After a light hurricane season, Gulf of Mexico production should stay at 2011 levels with additions from the Petrobras-led Cascade and Chinook development in 1Q12 (+40 kb/d on average for 2012), Anadarko's Caesar and Tonga (+20 kb/d), and LLOG's Mandy and Who Dat (+30 kb/d) offsetting declining production elsewhere. We have increased our expectations for Texas oil production by 25 kb/d to 1.5 mb/d in 2012 in this outlook to reflect a higher production baseline from the second half of 2011. NGL output in 4Q11 also exceeded our expectations by 20 kb/d. We estimate that the US will produce 8.2 mb/d in 2012, which is around 170 kb/d higher than preliminary 2011 output estimates and around 30 kb/d higher than last month's forecast.

Canada – October actual: Rising output from the oil sands brought Canadian oil production to 3.5 mb/d in October, a slight increase from the prior month. Planned maintenance kept the Terra Nova field producing 10 kb/d lower than 1H11 average levels at 30 kb/d, while maintenance and a fire at the

Syncrude project kept production around 60 kb/d lower than average at 250 kb/d in 4Q11. As discussed last month, 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 has been increased by 20 kb/d from last month to take into account additional output from CNRL's Primrose project. In sum, total liquids output should grow by around 180 kb/d to average 3.6 mb/d.

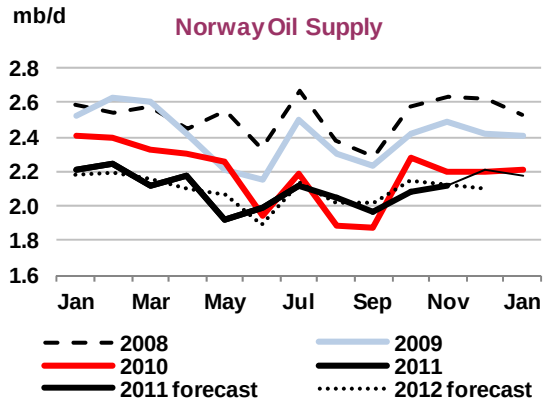


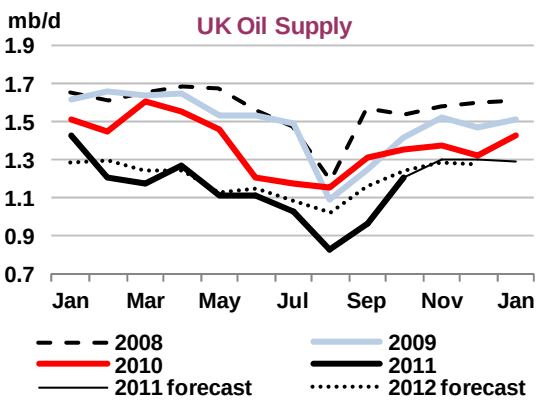


North Sea

Production from the North Sea returned to around 3.2 mb/d in 4Q11, 240 kb/d lower than last year's levels. We estimate that on a monthly basis, North Sea production rebounded by 140 kb/d in December to 3.3 mb/d, mainly due to rising production from the UK's Buzzard field. Pending further unplanned outages, it should remain at these levels through 1Q12. Overall, rebounding production from unplanned outages should keep North Sea production in 2012 close to the 2011 levels of 3.1 mb/d.

UK—September actual, October preliminary: UK offshore crude production increased from a record low of 0.7 mb/d in August to around 1.0 mb/d in October with the completion of summer maintenance and other unplanned outages. With the benefit of field level detail for the majority of the maintenance season, it is worth observing that oil production fell by 225 kb/d in 3Q11 from 2Q11 and around 80 kb/d less than during the 2010 maintenance season. Offshore loaded production fell by 35 kb/d during this period, Brent and Ninian systems' output fell by 10 kb/d each, Teal area production fell by 25 kb/d, and Forties production fell by almost 50 kb/d. Notably, production problems at the Buzzard field did not cause any of the 3Q11 decline in the Forties area, but we have tempered our expectations for output from the field in 4Q11, which should average around 160 kb/d, or 40 kb/d less than capacity. Other revisions for 2012 this month stem from one-year delays at the Alder and Athena field. Also, the 25-30 kb/d Gryphon FPSO, which came loose from its moorings in February 2011 after a storm, will not be returning to production until 3Q12, or one quarter later than planned, according to Maersk Oil. The FPSO aggregates production from the Tullich, Maclure, and Gryphon fields. Downwards revisions are offset by slightly higher 4Q11 baseline production in the Forties and Ninian systems, leaving 2012 production estimates of 1.2 mb/d (+40 kb/d from 2011), unchanged from last month.





Norway—October actual, November preliminary: Norwegian production also increased by 100 kb/d in October to 2.0 mb/d and is expected to average 2.1 mb/d in 4Q11. The Grane field remained at around 100 kb/d in October, in line with expectations, and around 50 kb/d below normal levels due to post-maintenance problems. Preliminary data from the Norwegian Petroleum Directorate suggest crude, condensate and NGL output increased by around 30 kb/d in November, meaning that 4Q11 production is on track to average around 2.1 mb/d.

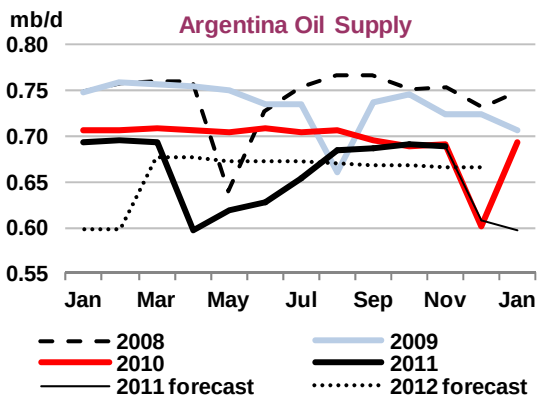
OECD Asia

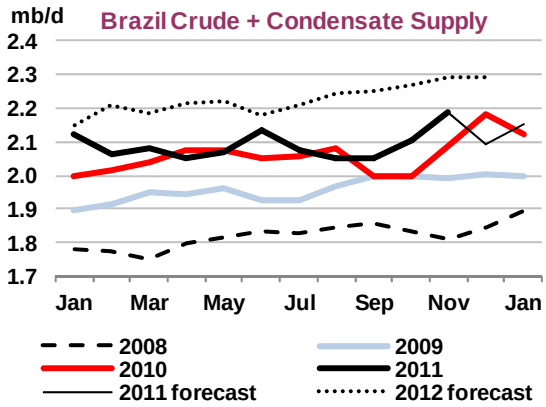
Australia—September actual, October preliminary: Australian oil production increased by around 10 kb/d in October to 430 kb/d. We expect that production in January will fall by around 60 kb/d from December's estimate to 490 kb/d on the impact of Cyclone Heidi that reduced production at the Waenea/Cossack, Stybarrow, and Vincent fields as well as at the Mutineer/Exeter FPSO. 2012 production estimates have been reduced by 20 kb/d on this weather-related impact, and due to continued delays at the PTTEP-led Skua and Montara project, that was expected to add 35 kb/d in 2012. We estimate that the project has been delayed six times since October 2008. However, other field additions should raise total Australian oil output by 130 kb/d y-o-y to 570 kb/d in 2012.

Non-OECD

Latin America

Brazil – November actual: Brazilian crude and condensate production reached a new record of 2.2 mb/d in November 2011, despite leaks at the Frade field and the Marlim Sul P-40 platform. Even though news articles reported that output had been reduced by 75% at the P-40 platform from a gas reinjection line, November output from the field remained near average levels of 260 kb/d, although we now forecast that December's output will be around 100 kb/d lower than the prior month. Notably, in January the pre-salt Guara field in the Santos basin was declared commercial after a five-month extended well test and will officially begin the production phase under the name Sapinhoa. Based on field level data, production in the Santos basin has reached around 120 kb/d in November, with the addition of oil from the Carioca Nordeste extended well test and a new well at the Lula field. OGX's Waimea project received a green light for production to begin in late January, yet we remain cautious about the ultimate production rates for 2012. We expect further increases from the Santos basin to sustain Brazilian crude and condensate production at levels of 2.2 mb/d in 2012, an increase of 140 kb/d over 2011 levels.



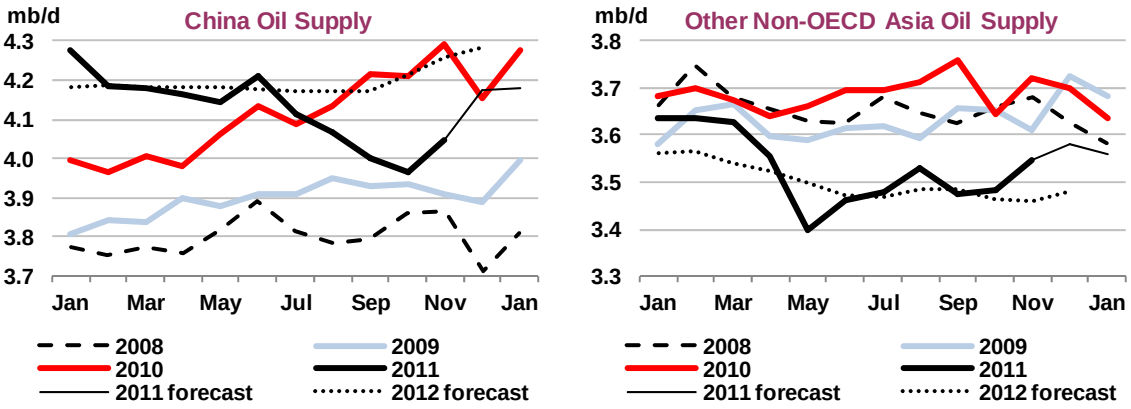


Argentina—November actual: Argentina produced around 580 kb/d of crude oil in November, slightly higher than the 3Q11 average. Earlier, strikes had dented output by 70-100 kb/d in March-June and by 90 kb/d in December 2010. At that time an oil worker strike and teacher protests in the Santa Cruz province kept production from attaining normal levels. Recently, news reports surfaced that strikes were again reducing output at Pan America Energy's 90 kb/d Cerro Dragon oil and natural gas field in the

Chubut province. Workers blocked access to the field due to dissatisfaction with their salaries and because they are seeking compensation pay for days lost during a previous strike. Output from the field represents 80% of the company's output, and shares are held 60/40 by BP and Bridas respectively. We have reduced our outlook for 2012 by 20 kb/d (and -60 kb/d in 1Q12) based on the likely continuation of these labour issues in the neighbouring Santa Cruz and Chubut provinces. These contingencies will restrain production close to 2011 levels of 660 kb/d in 2012.

Asia

China—November actual: Chinese production is estimated to have fallen to 4.1 mb/d in 4Q11, around 160 kb/d lower than the same quarter in 2010 and at the same rate as 3Q11. November's production increased to 4.0 mb/d. Offshore production averaged over 100 kb/d lower than year-ago levels in October and November, well below our expectations from last month, and onshore production also fell. For example, output stayed at 380 kb/d in October and November or 30 kb/d below August levels at the Changqing complex, and 20 kb/d below August at the Jilin field. The unexpected onshore decline and the more widespread-than-anticipated offshore production decline from leaks at other platforms resulted in a 160 kb/d downward revision to 4Q11 production. Also, we now do not expect production from the 150 kb/d offshore Peng-Lai field to return until late in 2012 amid government caution over re-start. The revised outlook also takes into account the Yangkuang group's new 20 kb/d CTL plant in the Shaanxi province. The first phase of the CTL project will produce 76% diesel, 20% naptha, and 3% LPG. The Peng Lai and CTL adjustments mean that total Chinese oil production should still grow by 1.7% to 4.2 mb/d in 2012, but the growth rate is around 110 kb/d less than last month's estimate.

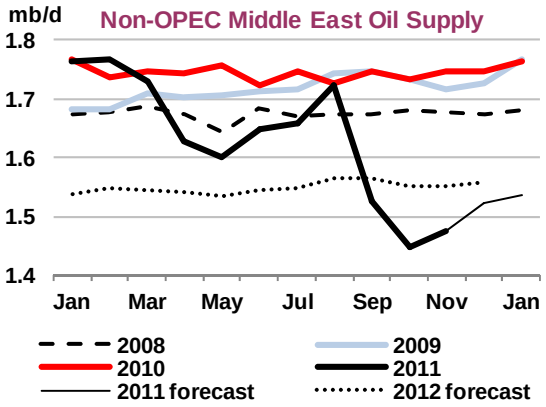


Other Non-OECD Asia: Production in **India** fell below 880 kb/d in October, a level not seen since August 2010, due to poor output performance from the Bombay High offshore platform. But, production from the field rebounded in November, bringing Indian oil production back above 900 kb/d. Production in **Thailand** fell victim to the widespread flooding in October, especially at the Sirikit oil field near the Sirikit hydroelectric dam, where production decreased to 15 kb/d from 25 kb/d. **Malaysian** oil production increased to 660 kb/d in November due to continued workover drilling at the Kikeh project, where operator Murphy Oil has brought three new wells online. The operator expects gross output to reach 100 kb/d from 3Q11 levels of around 60 kb/d. Recent 4Q11 data have exceeded expectations by around 20 kb/d, which we have carried through the outlook for 2012. We currently expect overall production to decline in Malaysia by 20 kb/d to 630 kb/d in 2012, but further upward revisions based on Kikeh's performance may be required in upcoming months.

Middle East

Unrest in the Middle East continued to reduce non-OPEC supply in December 2011 and in January 2012. In **Yemen,** an explosion at a Hunt Oil subsidiary's well reportedly shut in around 10 kb/d. The field is located in the Jannah Block, where the company produced around 42 kb/d in 2010 according to the

Yemeni government. A number of attacks have occurred in Yemen in the last several months, reducing output to around 150 kb/d in 4Q11. News reports indicated this month that OMV's pipeline from Block S2 have also been attacked 13 times since October. The 400 kb/d pipeline from the Block 18 Marib fields to the Ras Isa port is still offline, meaning Yemen's Aden refinery has been shut in due to lack of feedstock. We expect violence will continue to impact production in Yemen, keeping output in 2012 at around 150 kb/d.



Syria is also suffering from attacks on its energy infrastructure that have led to power and petroleum product shortages. Violence between government military forces and the opposition has escalated in the last month and shows no signs of abating. To add fuel to the fire, reports indicate petroleum product prices have doubled, and cooking gas prices have tripled. The head of the Arab League, which sent a mission to Syria in January, recently indicated he feared a civil war was in the making, which could also have wider implications for neighbouring countries. Numerous foreign companies have suspended operations, and skilled personnel are bound to be departing the country. Economic sanctions and these factors mean that production should average only 270 kb/d in 2012, down from 330 kb/d in 2011.

Former Soviet Union

Russia—December actual: Data for December show production fell slightly from 10.0 to 9.9 mb/d, with notable 10 kb/d monthly declines from TNK-BP's Samotlor oil field and from LUKoil and ConocoPhillips' Yuzhnoye Khylchuyu field. With the benefit of a full year of Ministry of Energy data, it is useful to take stock of major Russian companies' performance over the last year in the table below. In 2011, oil output hit a new post-Soviet record and increased in the second half of the year. All companies except for LUKoil exceeded their initial guidance on brownfield and greenfield production. Overall crude and condensate output rose by 1.2% in 2011 led by Surgutneftegaz, other private companies, and Rosneft, offset by a 5.3% decline from LUKoil. In 2012, crude and condensate output in Russia will receive strong support from associated natural gas liquids production from Gazprom and Novatek. Gazprom's liquids output reached over 300 kb/d in 2011, or an increase of 8% y-o-y, and we expect this growth to continue in 2012 with added condensates from the Zapolyarnoye gas field and the start of production from the offshore Prirazlomnoye field. Increasing production in East Siberia from Surgutneftegaz's Talakan group of fields and at Rosneft's Vankor oil field will offset mature field declines at these companies, raising Russian oil production by 1.4% to 10.7 mb/d in 2012.

Russian Oil Output by Company
(million barrels per day)

	2010	2011	y-o-y	*2012E*	y-o-y
Rosneft	2.46	2.51	1.8%	2.61	3.9%
LUKOil	1.81	1.71	-5.3%	1.66	-3.1%
TNK-BP	1.45	1.46	0.9%	1.45	-0.5%
Surgutneftegaz	1.20	1.22	2.1%	1.24	1.4%
Other Private Companies	0.81	0.89	9.4%	0.93	3.9%
Gazprom Neft	0.60	0.61	1.1%	0.64	5.7%
Tatneft	0.52	0.53	0.3%	0.52	-1.1%
Slavneft	0.37	0.36	-2.1%	0.35	-2.8%
Gazprom (NGLs)	0.31	0.34	8.1%	0.36	6.0%
JVs and PSAs	0.30	0.31	4.6%	0.32	3.9%
Bashneft	0.28	0.30	6.8%	0.30	-0.1%
Total Russian Oil	**10.45**	**10.58**	**1.2%**	**10.72**	**1.4%**

Kazakhstan Government Reacts Swiftly to Recent Labour Unrest

In both the summer and December 2011, oil workers' strikes at national oil company Kazmunaigas (KMG) facilities halted operations at the Uzen field in Zhanaozen near the Caspian Sea. In December 2011, over 15 people were killed in clashes between police and protesters. With proven oil reserves of 30 billion barrels, Kazakhstan has attracted over $100 billion in foreign investment since the discovery of the giant Tengiz oil deposit in the 1980s and the Kashagan field in the 1990s. Although the potential for a serious disruption from Kazakhstan is relatively small, unrest near the Caspian producing areas might set a precedent for future strike movements. Kazakhstan's leadership will likely continue to contain the unrest at the cost of economic expediency. The unrest compromises KMG's role in the three major consortia because it must now employ the fired workers, not to mention the additional threat the unrest poses to KMG's legacy production output. In addition to threatening domestic investment, strikes and labour issues will complicate and continue to slow the pace of billions of dollars of existing and planned foreign investments that should make Kazakhstan a key potential source of non-OPEC supply.

Violence at Zhanaozen exposes Kazakhstani labour tensions. This summer, an eight-month-long strike began when workers demanded higher wages and a stronger union. KMG's exports plummeted by 37% in 3Q11 due to the strike, but output was normalised after August. Despite normalisation, nearly 2 000 workers were fired, planting the seeds for further unrest. The workers continued to occupy Zhanaozen's main square, and violence erupted during Independence Day commemorations. Local/foreign wage discrepancy and labour union restrictions contributed to the Mangistau unrest and other instances of violence over the last several years. But, the government and especially foreign operators have moved quickly to contain these problems to prevent them from spiralling out of control. To insure against further problems, President Nursultan Nazarbayev had the head of KMG replaced with a veteran deputy energy minister and Mangistau native Lyazzat Kiinov, and he put the old KMG head in Kiinov's old position. President Nazarbayev also removed Timur Kulibayev, his son-in-law and a very influential energy player, from his position at the head of Samruk-Kazyna, the sovereign wealth fund and government holding company. Now that the unemployed KMG workers will be given temporary jobs in newly created KMG subsidiaries, it is less likely that the unrest will continue there. President Nazarbayev also reinstated the region's right to vote in parliamentary elections after a state of emergency had been imposed. Although difficult to verify, foreign operators may also have increased the amount they are spending on local workers and on local sustainability projects.

Despite the immediate threat to output from KMG's Mangistau fields, KMG also holds shares in all major additions to Kazakhstani oil production. KMG's waxy and salty Uzen field, situated in the Mangistau region close to the Caspian Sea, once produced more than 300 kb/d in the mid-1970s, but declined to around 110 kb/d in 1H10. Around 50% of KMG's Mangistau region oil flows via the Atryrau-Samara pipeline to Russia, 30% goes via the Tengiz-Novorossiysk line to the Black Sea, and the remainder is used domestically. With the agreement last month for KMG to take a 10 percent share in the 280 kb/d Karachaganak gas and gas condensate field, KMG represents the Kazakh state's stake in the country's major fields. However, KMG's workers will play a key role in new production additions in Kazakhstan, and local content restrictions will make project execution and negotiations more complicated for foreign investors.

Complex geology and rising capital costs have hindered Kazakhstan's near-term contribution to non-OPEC supply. Kazakhstan produced around 1.6 mb/d in 2011, and is forecast to reach 1.8 mb/d by 2016 and 4 mb/d by 2035. With government approval, around 200 kb/d of new production will be added to TengizChevroil's current 520 kb/d output but not until after 2016. With the inclusion of KMG as a 10% shareholder and the settlement of other disputes, Karachaganak (KPO B.V.) shareholders will begin to reconsider the sanctioning of additional phases of the gas and gas condensate project that would add around 80 kb/d to production. Also, ConocoPhilips and UAE-based Mubadala have begun exploratory drilling

Kazakhstan Government Reacts Swiftly to Recent Labour Unrest (continued)

in the highly prospective offshore Nursultan block. Last but not least, Phase 1 of the oft-delayed Kashagan project should come online by the end of 2013, adding as much as 370 kb/d to the country's output.

In sum, although labour unrest could flare up in upcoming months, it is unlikely to spread to the Atryau region where foreign operators have ensured local workers are satisfied. President Nazarbayev will inevitably ensure that further unrest is contained so that it does not damage the country's investment standing or further rattle oil markets. This comes at a cost to KMG and to foreign companies operating in Kazakhstan. The creation of new KMG subsidiaries inevitably raises the cost of production and could hinder KMG's ability to fulfil its shareholder obligations.

FSU Net Exports of Crude & Petroleum Products

(million barrels per day)

	2009	2010	4Q2010	1Q2011	2Q2011	3Q2011	Sep 11	Oct 11	Nov 11	Latest month vs. Oct 11	Latest month vs. Nov 10
Crude											
Black Sea	2.28	2.10	2.02	2.06	1.87	1.87	1.97	1.85	2.05	0.20	0.15
Baltic	1.60	1.60	1.60	1.48	1.57	1.37	1.45	1.52	1.68	0.15	0.20
Arctic/FarEast	0.46	0.74	0.78	0.70	0.69	0.65	0.65	0.72	0.60	-0.12	-0.18
BTC	0.80	0.77	0.80	0.72	0.76	0.69	0.69	0.68	0.61	-0.06	-0.15
Crude Seaborne	**5.15**	**5.22**	**5.19**	**4.96**	**4.89**	**4.58**	**4.76**	**4.77**	**4.94**	**0.17**	**0.02**
Druzhba Pipeline	1.11	1.13	1.14	1.14	1.12	1.18	1.22	1.20	1.24	0.04	0.08
Other Routes	0.40	0.42	0.43	0.53	0.54	0.54	0.54	0.48	0.49	0.01	0.02
Total Crude Exports	**6.66**	**6.76**	**6.76**	**6.63**	**6.55**	**6.30**	**6.51**	**6.45**	**6.68**	**0.22**	**0.12**
Of Which: Transneft[1]	3.93	4.00	4.02	4.15	4.16	4.09	4.22	4.22	4.48	0.26	0.59
Products											
Fuel oil[2]	1.41	1.54	1.51	1.43	1.82	1.59	1.54	1.45	1.50	0.05	0.04
Gasoil	0.95	0.88	0.81	0.90	0.79	0.72	0.67	0.70	0.69	0.00	-0.09
Other Products	0.53	0.43	0.37	0.48	0.53	0.36	0.32	0.36	0.27	-0.08	-0.12
Total Product	**2.89**	**2.85**	**2.69**	**2.81**	**3.14**	**2.66**	**2.53**	**2.51**	**2.47**	**-0.03**	**-0.18**
Total Exports	**9.54**	**9.61**	**9.45**	**9.44**	**9.68**	**8.96**	**9.04**	**8.96**	**9.15**	**0.19**	**-0.06**
Imports	0.06	0.06	0.08	0.06	0.06	0.08	0.09	0.05	0.09	0.04	0.00
Net Exports	**9.49**	**9.55**	**9.37**	**9.39**	**9.62**	**8.88**	**8.95**	**8.91**	**9.06**	**0.15**	**-0.06**

Sources: Argus Media Ltd, IEA estimates

[1]Transneft data exclude Russian CPC volumes.

[2]Includes Vacuum Gas Oil

FSU net oil exports increased by 150 kb/d to 9.1 mb/d in November, the first time since June that net exports have exceeded 9 mb/d. The rise was propelled by increasing Transneft crude shipments which rose strongly by 260 kb/d on the month and offset falling volumes of BTC blend and non-Transneft cargoes shipped via the Arctic port of Varandey. Black Sea cargoes rose by 200 kb/d, and Primorsk exports rebounded by 200 kb/d to 1.5 mb/d upon the conclusion of maintenance on the Baltic Pipeline System. In the East, deliveries of ESPO blend shipped through Kozmino remained below 300 kb/d at 270 kb/d for a second consecutive month, which was their lowest level since February 2010. It is likely that newly restarted Russian crude exports via the Kazakhstan-China pipeline were diverted from ESPO exports. Exports of products from FSU countries fell for the seventh consecutive month, contracting by 30 kb/d to 2.5 mb/d. Total exports are now 180 kb/d below a year ago, with 'Other Products' (-120 kb/d y-o-y) (including gasoline and naphtha) leading the yearly fall due to the introduction of the 90% light product export duty.

The start-up of the much heralded BPS-2 pipeline and its outlet of Ust Luga on the Gulf of Finland has been delayed to 1Q12 from November 2011. The first crude cargo was initially held over until December, but reports suggest that the terminal will now not commence operations until later than planned due to subsidence at a number of tanker berths. However, even the 1Q12 assessment looks to be optimistic due to the reported complexity of the required repairs and the onset of ice. Related to increasing Baltic and Arctic exports, reports indicate that Russia has begun to modernise its ice-breaker fleet with state controlled shipyards engaged to build a number of new ice-breakers to operate in the Gulf of Finland and along the Northern Sea Route, where Russia hopes to establish a major trade route. Additionally, the Russian government plans to construct ten emergency centres by 2016 with the capability to deal with any accidents occurring along Russia's arctic coast.