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Short-Term Energy Outlook Supplement:

Outlook for Non-OPEC Oil Supply Growth in 2008-2009 [1]

Most oil market analysts, including EIA, have pointed to the slow growth in oil supply from countries that are not members of the Organization of the Petroleum Exporting Countries (OPEC) in recent years as a key cause of the current high oil price environment. The widening gap between growth in world oil consumption and non-OPEC oil supply has led to greater reliance upon production by OPEC and a drawdown in the Organization for Economic Cooperation and Development (OECD) commercial inventories. These conditions have contributed to upward pressure on world oil prices in recent years (see Why Are Oil Prices So High?, supplement to the November 2007 *Short-Term Energy Outlook*).

In 2008-2009, EIA expects that non-OPEC petroleum supply growth will surpass that in recent years because of the large number of new oil projects scheduled to come online during the forecast period. In summary:

- Non-OPEC oil supply is expected to grow by 900,000 barrels per day (bbl/d) in 2008 and 1.5 million bbl/d in 2009 compared with growth of 500,000 bbl/d in 2007 (Figure 1).
- The largest contributions to non-OPEC supply growth over the next 2 years are expected to come from Brazil, the United States, Azerbaijan, Russia, Canada, and Kazakhstan.
- Projected declines in production from non-OPEC countries such as the United Kingdom and Mexico will partially offset the growth supply from other non-OPEC countries.
- Because EIA's non-OPEC supply forecast depends on a relatively small number of key projects, it is very sensitive to any delays in project schedules. Project delays can arise because of numerous factors, such as rising costs or delays in procuring necessary materials. All else being equal, if non-OPEC supply growth rates fall short of current expectations, then world oil prices in 2008-2009 would be higher than currently expected.

This outlook represents an acceleration of non-OPEC supply growth compared with recent years. During the last 3 years, annual non-OPEC supply growth has averaged

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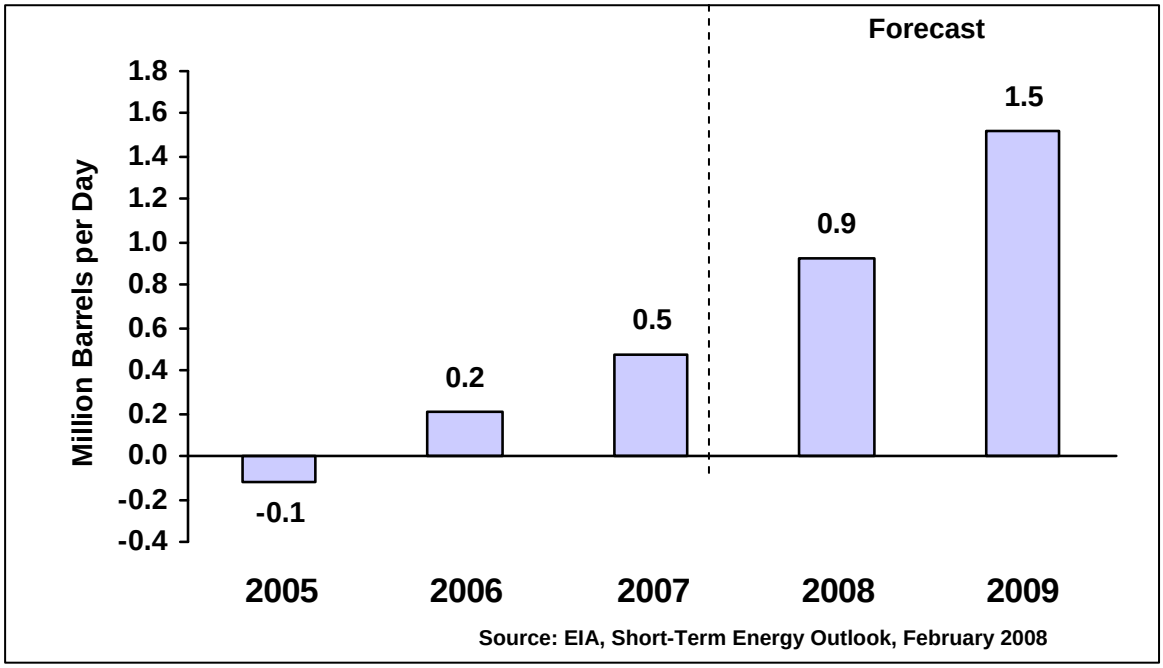
200,000 bbl/d. Some of the projects projected to begin production during the current forecast period were originally scheduled to start up earlier but had been delayed. As a result, the expected acceleration in non-OPEC supply growth is partly explained by the shifting of new oil supplies from prior years to the current period, which has the dual effect of both dampening growth in past years and contributing to higher growth in the forecast period. There is also some evidence that the sustained period of higher oil prices has motivated additional investment in existing assets, which has partially stemmed the decline in production at older, mature oilfields.

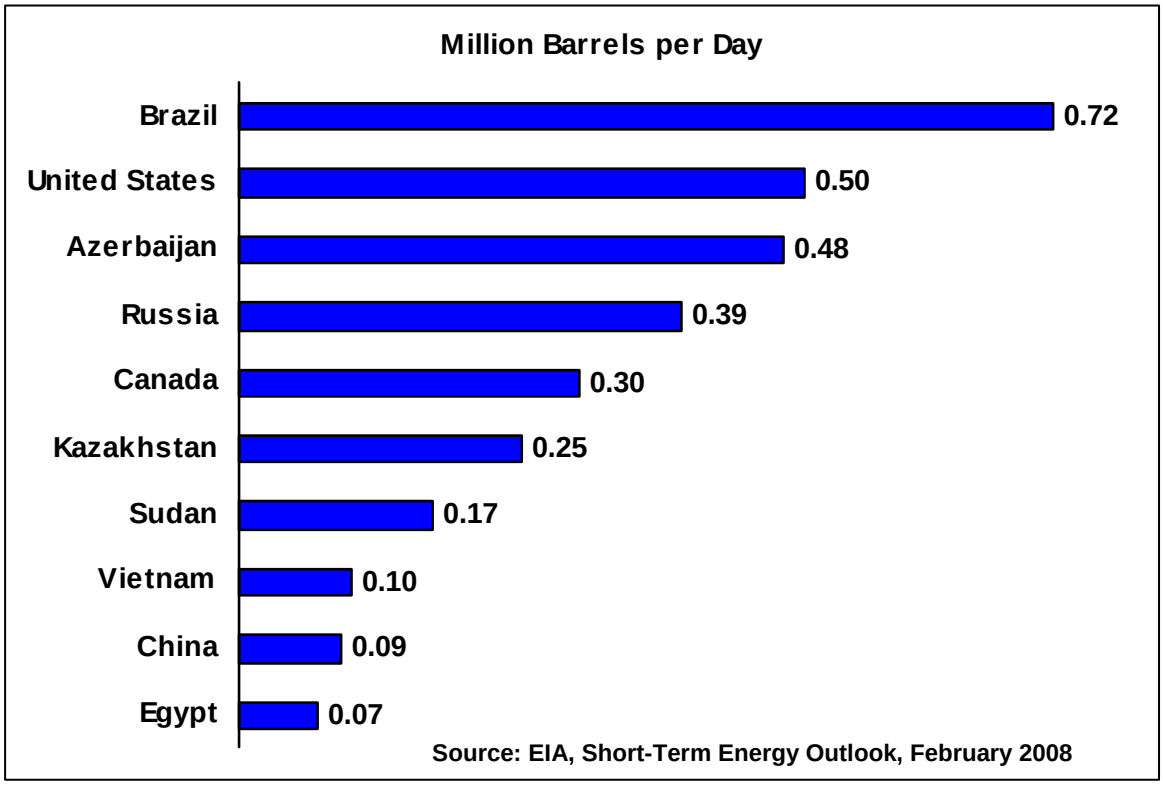
Figure 1. Year-over-Year Change in Non-OPEC Petroleum Supply



1. Largest Increases

A few countries represent the bulk of expected non-OPEC oil supply growth through 2009 (Figure 2). In particular, Brazil and the United States are expected to contribute 1.2 million bbl/d of supply growth in 2008-2009, representing about half of total non-OPEC oil supply growth during that period. Other countries contributing sizable volumes of supply growth include Azerbaijan, Russia, Canada, and Kazakhstan. These volumes represent net increases in oil supply, which take into account declining production at mature fields in those countries.

Figure 2. Projected Petroleum Supply Growth, 2008-2009



Brazil

Brazil is expected to be the largest source of non-OPEC oil supply growth over the next 2 years, driven by several large, offshore projects and increasing ethanol production (Table 1). EIA expects Brazil's oil production (including ethanol) to increase by 440,000 bbl/d in 2008 and 270,000 bbl/d in 2009, versus growth of 120,000 bbl/d in 2007. The continued ramping-up of production at fields brought online in late 2007 and new projects coming onstream in 2008-2009 will fuel this growth. Petrobras brought three projects online in the Campos Basin in late 2007 (Golfinho II, Roncador P-52, and Roncador P-54) that should reach peak production capacity by the end of 2008. In 2009, the company is expected to bring another project online at Golfinho and two projects at the Marlim field. The number, scope, and technical difficulty of the deepwater projects in the Campos Basin could lead to substantial delays in the startup of production, though the projects are assisted by the existing support infrastructure in the area. Also, as mentioned above, much of the incremental oil production growth comes from already-completed projects, which should somewhat reduce the risk to the forecast.

Table 1. Recent and Planned New Crude Oil Projects in Brazil

Name	*Operator*	*(Scheduled) Start Date*	*Peak Production (bbl/d)*
Polvo	Devon Energy	August 2007	50,000
Golfinho Mod II	Petrobras	October 2007	100,000
Roncador P-52	Petrobras	November 2007	180,000
Roncador P-54	Petrobras	December 2007	180,000
Marlim Sul P-51	Petrobras	1st 2009	180,000
Frade	Chevron	1st 2009	100,000
BC-10	Royal Dutch Shell	2nd 2009	100,000
Golfinho Mod III	Petrobras	2nd 2009	100,000

Source: Energy Information Administration.

In addition to Petrobras, the Chevron-led Frade project is expected to come online in 2009, along with the BC-10 project operated by Shell. These new projects will help offset declining production at Brazil's older, mature fields, which is estimated at around 8 percent per year. The forecast also includes 40,000 bbl/d of additional ethanol production in 2008, followed by growth of 60,000 bbl/d in 2009.

United States

Total oil production, including crude oil, natural gas liquids, other liquids, and refinery gain, in the United States is expected to increase by 120,000 bbl/d in 2008 and by 380,000 bbl/d in 2009. New offshore production in the Federal Gulf of Mexico will

represent the largest portion of the increase, offsetting declining production in Alaska and the lower 48 States. Oil production in the Gulf of Mexico is expected to increase by 50,000 bbl/d in 2008 and 350,000 bbl/d in 2009. The Atlantis field came online in late 2007 and production should hit peak capacity by the end of 2008. The Thunder Horse platform is expected to come online by the end of 2008, while the Tahiti platform should come online in early 2009. Increased production of other liquids (including ethanol) should contribute an additional 190,000 bbl/d of growth in 2008-2009.

Azerbaijan

The BP-led Azerbaijan International Operating Company (AIOC) has been the principal engine of growth in Azerbaijan's oil production in the last few years, and EIA expects continued growth in AIOC production in the forecast period. The largest sources of new growth are expected to be the start-up of the Deep Water Guneshli field in 2008. Third and fourth quarter 2008 growth will be especially strong because of heavy maintenance work during the second half of 2007. The maintenance work will also allow AIOC to increase the production capacity at existing fields. On average, EIA expects oil production in Azerbaijan to increase by 230,000 bbl/d in 2008 and by 250,000 bbl/d in 2009.

Russia

The EIA outlook for Russian oil production in 2008-2009 is characterized by the expected startup of several, oft-delayed projects that should compensate for declines at existing, mature fields. EIA forecasts that oil production in Russia will increase by 90,000 bbl/d in 2008 and 300,000 bbl/d in 2009, following growth of 200,000 bbl/d in 2007. The largest increases in oil production are expected to come from the beginning of year-round production at the Sakhalin II project, in Russia's Far East. The Exxon-led Sakhalin-I reached peak output in early 2008.

Rosneft's Vankorskoye field in East Siberia will also provide substantial growth during the forecast period. Much of the production from Vankor is slated for delivery to Asian customers via the Eastern Siberian Pipeline (ESPO). As a result, delays to the completion of the ESPO system could theoretically impact large-scale production at Rosneft's Vankor, although it is possible that initial quantities of oil could be shipped west or used locally instead. Other sources of growth in oil production will be Lukoil's 100,000-bbl/d Yuzhno-Khylchuyu field in the Timan Pechora Basin, along with initial output from the North Caspian in late 2009.

Canada

EIA expects that new production from oil sands projects in Alberta will continue to offset declining conventional oil production. The *Outlook* expects Canadian oil production to increase by 150,000 bbl/d in 2008 and by an additional 150,000 bbl/d in 2009. The forecast includes three project categories: 1) those that continue to ramp-up production after coming online in late 2007 (such as the ConocoPhillips Surmont project), 2) new

projects expected to start operations in 2008-2009 (such as the Canadian Natural Resources Limited (CNRL) Horizon project), and 3) expansions at existing projects (such as the EnCana Foster Creek project). While rising costs, concerns about water availability and other environmental factors, and changing royalty structures may impact longer-term oil sands development, the schedules for those projects expected to come onstream in the short-term should be relatively unaffected by these factors.

Kazakhstan

EIA expects Kazakh oil production to increase by 110,000 bbl/d in 2008 and by 130,000 bbl/d in 2009. Increasing production from the Tengiz project should be the principal driver of this growth, and the Karachaganak project should contribute additional growth in 2009. In addition, smaller fields in the country owned by the Chinese National Petroleum Company (CNPC) and Kazakh-owned Kazmunaigaz will add to growth.

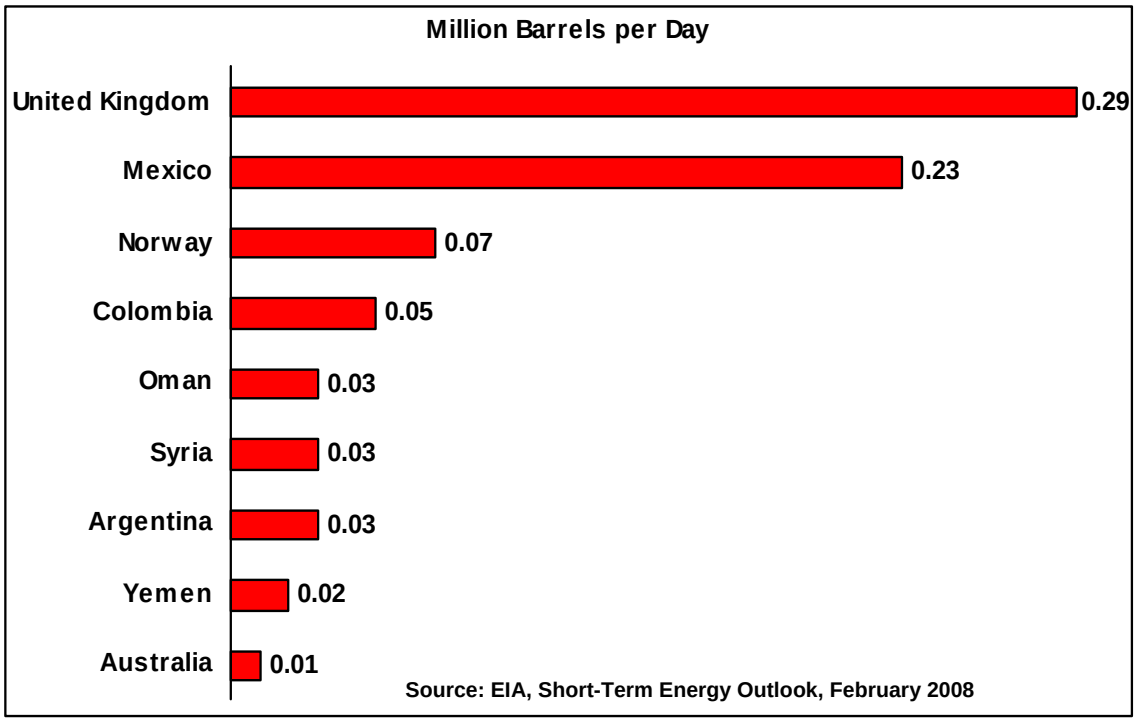
OPEC non-crude oil production

OPEC non-crude oil production (including condensate, natural gas plant liquids, non-conventional liquids, and refinery gain) is expected to make a sizable contribution to the growth in world oil supply during the forecast period. While EIA does not include these volumes in its classification of non-OPEC supply, they are an important source of oil supply that is outside the formal OPEC quota structure. In 2008, EIA expects OPEC non-crude production to increase by 230,000 bbl/d, followed by growth of 670,000 bbl/d in 2009. Saudi Arabia, Qatar, and Nigeria are expected to be the largest contributors to this growth. The Hawiyah project is expected to add additional NGL production in Saudi Arabia in 2008. In Qatar, non-crude production growth is expected from several projects, including Qatargas II, Ras Laffan, and Oryx GTL. The largest share of non-crude growth in Nigeria is expected to come from condensate production at the Akpo project in 2009.

2. Largest Declines

Offsetting increased production in many non-OPEC countries are declines in more mature basins (Figure 3). In particular, oil production in the United Kingdom is expected to decline by 290,000 bbl/d during 2008-2009, while Mexico's production is expected to decline by 230,000 during that period. Other non-OPEC countries that are expected to experience sizable declines in oil production in 2008-2009 include Norway (70,000 bbl/d) and Colombia (50,000 bbl/d).

Figure 3. Projected Petroleum Supply Declines, 2008-2009



United Kingdom

In 2008, United Kingdom oil production is expected to decline by 160,000 bbl/d, followed by an additional decline of 130,000 bbl/d in 2009. The start-up of the Buzzard field in 2007 helped to mitigate some of the decline in United Kingdom production. However, there are not enough additional projects expected to come online in the near-term to offset the very high natural decline rates at North Sea oilfields, estimated to average approximately 20 percent per year. However, high world oil prices encourage additional drilling and other work at existing fields and partially mitigate the natural decline.

Mexico

Mexico's oil production declined by 210,000 bbl/d in 2007. While Hurricane Dean shut in some oil production in the Gulf of Campeche, the largest source of this decline was falling production at the giant Cantarell field. EIA expects Mexico's oil production to further decline by 130,000 bbl/d in 2008 and by 110,000 bbl/d in 2009. Pemex has been able to compensate for some of the decline at Cantarell by increasing production at the Ku-Maloob-Zaap (KMZ) complex and other offshore fields. However, the high rate of decline at Cantarell (estimated at 15 to 16 percent per year) has overwhelmed these additions. With falling domestic production and rising consumption, it is likely that Mexico's net oil exports will decline during the forecast period.

3. Conclusions and Risks

Because EIA's non-OPEC supply forecast depends on a relatively small number of key projects, it is very sensitive to any delays in project schedules. The forecast includes allowances for project delays, but delays are difficult to predict with much accuracy. Indeed, this current outlook on non-OPEC supply growth is slightly different from EIA's discussion last month (see *This Week in Petroleum*, January 9, 2008) because of revised expectations on project schedules. Certainly, high world oil prices provide a strong incentive to complete projects on schedule. Still, project delays can arise for numerous reasons, such as rising costs, delays in procuring necessary materials, or labor shortages. All else being equal, if non-OPEC supply growth rates fall short of current expectations, then world oil prices in 2008-2009 would be higher than currently expected.