guardian.co.uk

After the credit crunch, the oil crunch: watchdog warns over falling supplies

• World needs to find 64m extra barrels a day by 2030
• Green revolution required to replace fuel sources

David Gow in Brussels
guardian.co.uk, Wednesday November 12 2008 00.01 GMT
The Guardian, Wednesday November 12 2008

A larger | smaller

Photograph: David McNew/Getty images

The International Energy Agency is to call today for an energy revolution and a "major de-carbonisation" of global fuel sources as the world confronts tighter oil supplies caused by shrinking investment.

The energy watchdog is warning for the first time that oil output could pass its peak as power shifts from "super-majors" to national companies controlled by producer states. It highlights a potential oil-supply crunch.

The unprecedented wake-up call comes as the European commission says in a report due out tomorrow that while oilfields decline, the balance of supply and demand will become "increasingly tight, possibly critically so".

It adds: "The need to address climate change will require a massive switch to high-efficiency, low-carbon energy technologies."

The commission report warns that oil supplies are limited, with reserves and spare output capacity concentrated in a few hands. "Recent severe price rises and volatility on oil and gas markets reflect these changing trends", it says.

Both bodies express heightened anxieties that the west's energy requirements could be squeezed as emerging economies such as China consume more oil and conclude long-term deals with oil-rich states. This could be exacerbated by a restriction on investment by the Organisation of Petroleum Exporting Countries (Opec) - possibly joined by Russia - to boost revenues. Opec will control 51% of output by 2030 compared with 44% in 2007.

Rising demand

The IEA's latest World Energy Outlook predicts that global energy demand will increase 45% between now and 2030 and oil prices will rise to $200 a barrel by then - or $120 at 2007 prices.

It says the recent surge in prices to just shy of $150 this summer has highlighted the "ultimately finite" nature of oil and gas reserves.

"The immediate risk to supply is not one of a lack of global resources, but rather a lack of investment," the report says. "Upstream investment has been rising rapidly in nominal terms but much of the increase is due to surging costs and the need to combat rising decline rates - especially in higher-cost provinces."

"Expanding production in the lowest-cost countries will be central to meeting the world's needs at reasonable cost."

The IEA was founded during the oil crisis of 1973-74 and acts as energy policy adviser to 28 countries including Britain.

Global oil demand and supply is projected to rise from 84m barrels a day to 106m in 2030, with all of this increase driven by emerging economies, but the IEA sees conventional oil output peaking before then. Most of the increased production will come from natural gas liquids and non-conventional technologies such as Canadian oil sands.

Adequate investment

The agency says there is enough oil to support rising demand and output, with proven reserves of up to 1.3tn barrels - or enough for 40 years - and potential reserves of as much as 3.5tn barrels. But it says the increased output "hinges on adequate and timely investment".

Up to 64m barrels a day of extra gross capacity - the equivalent to almost six times that of Saudi Arabia today - needs to come on stream between 2007 and 2030. Almost half of that is required by 2015, with an extra 7m barrels a day over current plans approved within the next two years "to avoid a fall in spare capacity towards the middle of the next decade".

The IEA warns bluntly: "There remains a real risk that under-investment will cause an oil-supply crunch in that timeframe."

It says a detailed analysis of 800 fields owned by 54 "super-giants" shows that the decline in production is likely to accelerate as oilfields become depleted. This means that the global decline rate of 6.7% for fields past their peak will increase to 8.6% in 2030 and may fall even faster, at 10.5%, without adequate investment.

The 50 largest oil companies, the IEA says, plan to invest $600bn (£380bn) in upstream oil and gas by 2012. But such companies often do not have access to the regions with the largest reserves. The national companies in countries such as Saudi Arabia and Venezuela will account for 80% of increased output by 2030.

"The dominance of national companies may make it less certain that the investment projected in this outlook will actually be made," it says, pointing to the lack of financial firepower and technical expertise of such firms.

Claude Turmes, a Green MEP and rapporteur on renewables for the European parliament, said: "IEA is talking about a huge disruption to the market between now and 2015 and in the long-run - without a huge investment in Saudi, Iraq and Iran which may not be in their interest."

Like the commission, the IEA calls for a dramatic shift towards "greener" energy to prevent global warming, saying that, on unchanged policies, the average temperature will rise 6°C by the end of the century. That is triple the maximum increase sought by the EU in its climate change policies.

It says that, on current trends, greenhouse gas emissions will rise by 45% to 41 gigatonnes (Gt) in 2030, with three-quarters of the increase coming from China, India and the Middle East as urbanisation there grows exponentially.

In its most ambitious scenario for cutting emissions and limiting the global temperature rise to 2°C, it says hundreds of millions of homes and businesses will have to change the way they use energy.

OECD countries will have to cut emissions by 40% from 2006 levels by 2030 while emerging economies will have to limit emissions growth to 20%.