

Interview with Dr. Fatih Birol, Chief Economist, International Energy Agency



Dr. Fatih Birol is the Chief Economist and the Director of the office responsible for the economic analysis of energy and climate policy at the Paris-based International Energy Agency (IEA).

Will peak oil be a guest or a spectre at the feast? We asked Fatih Birol for his summary of key takeaways from the IEA's *World Energy Outlook 2010*, which was launched on November 9.

'The Copenhagen Accord, increased funding for low-carbon technologies as part of fiscal stimulus packages and the G-20 and APEC commitments to eliminate fossil-fuel subsidies are important steps forward, but they fall *well short* of what is needed to meet climate goals. This is one of the many messages that resonate from the 2010 edition of the IEA's *World Energy Outlook*. The central scenario in this year's *Outlook* – the New Policies Scenario – takes account of the policy commitments that have been announced by countries around the world. It sees world primary energy demand rising by 36% between now and 2035. Emerging economies, led by China (36% of the increase) and India (18% of the increase), are responsible for the vast bulk of the growth. Fossil fuels remain the dominant energy sources in 2035, though their share of the mix declines. Although these

projections represent a tangible improvement on past trends, they point to a likely temperature rise of over 3.5°C in the long term, which experts tell us would have unacceptable implications for the planet.

'In order to have a reasonable chance of achieving the Copenhagen Accord's goal of limiting the temperature increase to 2°C, the concentration of greenhouse gases needs to be stabilised at no higher than 450 ppm CO₂-eq. The *WEO 2010*'s 450 Scenario sets out a roadmap for how the energy sector needs to evolve to meet this objective. It assumes vigorous implementation of Copenhagen Accord pledges to 2020 and much stronger action thereafter. The measures that would need to be adopted – including improving vehicle efficiency, increasing deployment of electric vehicles and expanding the use of biofuels – would have important repercussions on the oil market. For example, oil production peaks, at 86 mb/d, just before 2020 in the 450 Scenario, as a result of weaker demand, falling briskly thereafter. Oil prices are lower than would otherwise be the case. Nonetheless, the main oil resource holders continue to benefit from growing oil exports and increasing oil-export revenues, as oil production in most non-OPEC regions is set to decline.

'The message is clear: if governments act more vigorously than currently planned to encourage more efficient use of oil and the development of alternatives, then the growth in oil demand might begin to slow down soon and, as a result, we might see a fairly early peak in oil production. That peak would not be caused by resource constraints. But if governments do nothing or little more than at present, then demand will continue to increase, supply costs will rise, the economic burden of oil use will grow and the global environment will suffer serious damage.'

Inside CCS

Carbon Capture and Storage after Copenhagen: an Imperative, not an Option

This was the title of the session organized by the WEC Cleaner Fossil Fuels Systems Committee at the Montreal Congress. The great interest of the energy community in CCS was manifested by the large number of attendees and a lively discussion (*right*). The leading international experts speaking at the forum focused on the future of CCS as a clean energy solution and covered a number of key topics.

CCS could account for 19% of the CO₂ reductions needed by 2050 and without CCS, the cost of meeting CO₂ emissions targets could be 70% higher. Government support is essential at the demonstration stage and full scale deployment of CCS will rely on a strong CO₂ market price. CO₂ storage in depleting oil reservoirs can increase recovery rates significantly (potentially adding 500 – 1000 billion barrels and possibly much more to proven oil & gas reserves).



Left: Funding for projects under development (Source: Royal Dutch Shell Plc)

Country	Funding committed to date (billion US)	Number of projects committed by 2020
Australia	2 to 6	3 to 5
Canada	3.5	up to 6
European Commission*	4 to 6	6 to 12
Japan	0.1	1 to 2
Norway	1	1 to 2
Korea, Republic of	1	1 to 2
United Kingdom ^b	11 to 14.5	4 ^c
United States	4	5 to 10
TOTAL	26.6 to 36.1	19 to 43

'The next decade is a key "make or break" period for CCS. Governments, industry and other stakeholders must act rapidly to demonstrate CCS at scale around the world in a variety of settings.'

