IEA calls for $45trn global revolution in energy technology

Nick Clark, *The Independent* Saturday, 7 June 2008

see presentation : http://www.iea.org/Textbase/speech/2008/Tanaka/aomori_security.pdf

Governments around the world must spend $45 trillion (£23trn) if they are to halve carbon emissions by 2050, according to a leading energy watchdog, as it called for an "energy revolution". If current policies are maintained, CO2 emissions will more than double, The International Energy Agency (IEA) warned.

It also warned that oil demand will rise by 70 per cent over the same period if governments fail to act, on the day that oil prices leapt once more – up more than $11 a barrel to a record above $139 – as a Morgan Stanley analyst predicted they could reach $150 a barrel in a month's time.

The IEA called yesterday for "unprecedented" action to completely transform the way energy is produced, adding: "Our current path is not sustainable."

The total $45 trillion needed for investment in technology and deployment to overhaul the energy markets before 2050 equates to 1.1 per cent of average annual global gross domestic product over that period.

This emerged yesterday as the IEA launched a report entitled "Energy Technology Perspectives". The report was commissioned by the Group of Eight (G8) countries three years ago, asking for guidance on how to achieve a clean, clever and competitive energy future.

Nobuo Tanaka, executive director of the IEA, said: "There should be no doubt – meeting the target of a 50 per cent cut in emissions represents a formidable challenge. We would require immediate policy action and technological transition on an unprecedented scale."

It has laid out steps to reverse the trends, although it admits the challenge is daunting as "no single form of technology can provide the full solution".

The IEA called for carbon capture technology, nuclear energy and energy efficiency to play a much bigger role in government policy. Recommended proposals would include fitting 35 coal-fired and 20 gas-fired power plants with C02 capture and storage technology, at a cost of $11.5bn each. The IEA has also called for 32 new nuclear plants and 17,500 turbines each year.

Other energy efficient practices the report suggests included C02-free electricity, the further development of solar energy and second generation bio-diesel.

Mr Tanaka said: "The world faces the daunting combination of surging energy demand, rising greenhouse gas emissions and tightening resources. A global energy technology revolution is both necessary and achievable; but it will be a tough challenge."

The agency said there were huge issues to overcome before meeting the targets, including the need to boost the numbers of engineering and technical graduates, identifying sites for carbon capture and nuclear waste storage, and overcoming the "not in my back yard" attitude.

The agency found that if governments continue with their policies in place to date, C02 emissions and oil demand will soar. Mr Tanaka said: "Such growth of oil demand raises major concerns regarding energy supply areas and investment needs."

The report predicted the power generation industry will account for 44 per cent of global emissions by 2050, followed by industry and transport. Despite the growth in awareness of global warming and companies worldwide pledging to become greener, carbon emissions have accelerated in recent years.

Mr Tanaka said: "We are very far from sustainable development, despite the widespread recognition of the long-term problem." This has been driven by a higher use of coal in the wake of oil and gas prices rising, as well as the rapid development of India and China, both coal-based economies.

This comes as countries are drawing up a new protocol to succeed the Kyoto agreement next year.

The IEA, which advises 27 countries on energy policies including the UK and the US, was founded during the oil crisis in the early 1970s to co-ordinate measures during oil supply emergencies. The agency, which has a 190-strong workforce, has seen its remit widen to advise on energy security, economic development and environmental protection.

Ole Slorer, an analyst at Morgan Stanley, predicted a short-term spike in oil prices. "Middle East oil exports are stable but Asia is taking an unprecedented share," he said.