



EU POLICIES AND MEASURES FOR LOW CARBON ENERGY TECHNOLOGIES

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The use of fossil fuel is provoking, each year, the emission of about 27 billion tons of carbon dioxide into the atmosphere. The rising concentration of this gas and the other greenhouse gases in the atmosphere could induce a temperature change similar in intensity, but then in the opposite direction, to the cooling of the last glacial era, 12 000 years ago.

In which way is it possible on the one hand to support economic growth, in particular in underdeveloped nations and in rapidly growing economies such as China, India and Brazil, leading to an increase of energy consumptions, while on the other hand limiting the negative impact of the energy systems on mankind and the earth?

An effective response is urgent. A part of that response came in January 2008, when the European Commission adopted a proposal for a comprehensive package of measures on energy and climate change. The package represents a coherent and comprehensive path to preparing Europe for the transition towards a low-emission economy. It includes proposals addressing renewables and bio-fuels, carbon capture and storage, the European Trading System for greenhouse gases, and new state aid guidelines to favour the investment in energy efficiency and in renewables.

Within the whole energy sector, technological challenges and opportunities are offered. Producing electricity from sunlight and wind; capturing carbon; making a new generation of safer, more efficient nuclear reactors; finding better ways of stor-

ing electricity; piping and storing hydrogen. These families of technologies pose, at different degrees, major challenges and at the same time offer huge rewards if Europe manages to become a technology leader. We need new knowledge and new tools.

This is the "raison d'être" for the Strategic Energy Technology Plan (SET Plan), which the Commission adopted in November 2007. The Plan sets a new agenda for energy research and innovation in Europe, with the core aim to speed up the progress of low-carbon energy technologies beyond the business-as-usual scenario.

The Industrial Initiatives of the SET Plan will focus on the development of technologies where the barriers, the scale of investment and the risks involved can best be tackled collectively.

Another key element of the SET Plan is the creation of a European Energy Research Alliance of national research institutes which should bring about greater cooperation at Community level and deliver a more effective use of resources. In addition, about 890 million of funding from the 7th Framework Programme for Research will be available for projects of excellence devoted directly to low carbon energy research.

Politics can improve boundary conditions and give incentives, but in the end it's the researchers and engineers in universities, in public research centres like DLR as well as in industry who play the central role. Their

knowledge and creativity will enable Europe to move ahead mastering the challenges of a sustainable energy system. While universities are focusing on basic research and industry is working product-oriented, DLR is an excellent example of a research centre which successfully links basic science to applications. I'd like to congratulate DLR to its highly productive and efficient energy research which contributes to innovation in energy technology, from gas turbines to solar power plants. Strong funding from industry and good European networking clearly demonstrate the relevance and excellence of DLR's energy research.

Energy has been at the heart of the European construction since the 1950's with the European Coal and Steel Community and Euratom treaties. Europe needs today to re-discover the spirit of the founding fathers, avoiding any energy nationalism and implement its energy strategy to make our supply more secure, to improve the sustainability of our economic and social development, to increase the competitiveness of our industrial system.

We need to act with urgency.