



Energy policy and climate change

Sustainable energy in Europe

Narrator

The increasing frequency of natural disasters and the steady rise in global temperatures is strong evidence that human activities are having a direct impact on the world's climate. Never before has the issue been so high on the public agenda.

Energy demand is in danger of out-stripping supply, energy security and environmental concerns are dominating policy decisions across Europe and the rest of the world.

As world wide industrialisation has accelerated since 1945, atmospheric levels of the main greenhouse gas CO₂ have risen by 25%. The United Nations responded to this in 1997 with the creation of the Kyoto Protocol, a call for the world's top industrialised countries to reduce their greenhouse emissions. The protocol has imposed moderate CO₂ reduction targets for 2012 but more radical reductions of at least 60% will be needed by 2050 in order to limit the impacts of global climate change.

The United Kingdom seems to be on track to meet its short term Kyoto targets. In the longer term beyond 2020 the UK government believes that the new nuclear power stations could play an important role in enabling further CO₂ reductions. But some believe that the government's decision to open up the nuclear option is a short sighted answer.

Over the last 50 years, Britain's electricity system has remained highly centralised, huge coal, gas and nuclear power stations on remote sites feed power into the national grid. But this is an inefficient system in which two thirds of the energy emerges as waste heat that can not be used. A move towards a more decentralised system which generates power nearer to the end user could increase the efficiency of heat and power supply dramatically.

Another forward thinking option would be to deploy carbon capture and storage technologies on a large scale to cut emissions from fossil fuelled power plants. Alongside these improvements the continuing development of renewables could lead to the way to further massive CO₂ reductions. The expansion of offshore and onshore wind farms and a growing interest in the advantages of solar, bio mass, wave and tidal energy technologies are opening up new opportunities for a more sustainable energy supply.

The UK needs to find the right balance. How can we produce clean, efficient, low carbon electricity without compromising on security of supply and cost? The government's choices today will determine the UK's energy future for at least the next 20 years.

Other European countries face similar problems and they've evolved their own approaches to them. In the following segments, we'll look at the growth of renewable and sustainable energy policies and technologies in France, Denmark, Germany and the UK and examine how they're evolving.

We'll look at France with its continuing heavy emphasis on nuclear power.

Denmark and its investment in wind power and bio mass.

Germany's rapid progress in wind and solar photovoltaics.

We'll then come back to examine sustainable energy policies in the UK.

And finally we'll look at the potential for a zero carbon future in London. Can a major world city operate without leaving a carbon footprint?