



How is Europe responding to the challenge of climate change?

This month Aberdeen's renewables champion Iain Todd reviews activity in the European Union to address the very real challenges facing us on climate change

The European Union is taking very seriously the threat that we face on climate change. It considers it to be "one of the greatest environmental, social and economic threats facing the planet". It has further said: "Global warming is a fact. Climate change is happening and it is even accelerating." Straight words not usually associated with the public sector.

The potential impacts are well known to us – they are on our TVs every day: sea levels rising; Greenland ice sheet melting; more extreme weather events; infectious diseases spreading to new areas; endangered species in threat of extinction.

Europe is a significant user of energy – it produces about 14% of the world's carbon emissions. This divides up between sectors as 28% to the power sector, 21% to transport, 20% to industry, 17% domestic and 10% agriculture (4% other).

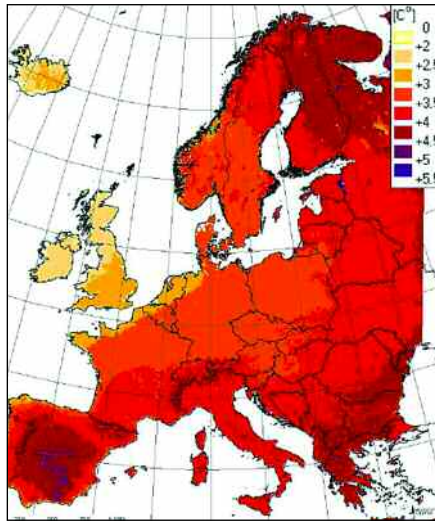
We were of course one of the leaders in establishing the Kyoto Protocol in 1997, to provide a framework for action on this important subject. (With the recent change of Government in Australia – where environmental issues were a key part of the campaigns – we now have only one developed nation that has not ratified the protocol – the United States.)

Europe responded to the Kyoto Protocol by establishing its Climate Change Programme in 2000, and in 2005 it introduced its main policy tool to combat climate change – the EU Emissions Trading Scheme. More of that later.

In February 2007, the Inter-governmental Panel on Climate Change (IPCC) published their 4th Assessment Report. In this, they predicted that by 2100, the temperature would have risen by a further 1.8 to 4.0 degrees, accompanied by a sea level rise of 18-59 cm.

So in March 2007, a summit of all EU leaders endorsed a strategy to move action beyond the Kyoto Protocol. It considered that limiting climate change to a 2 degree rise is both technically feasible and economically affordable. To do this, carbon emissions would need to be cut by 30% by 2020, and by 50% by 2050. The specific tools to be put in place are:

- (a) a cut in energy consumption of 20% by 2020;
- (b) 20% of all primary energy to be renewable by 2020; and



EU predictions of temperature changes by 2100 if no further policy action is taken

(c) the emissions trading scheme to be expanded, strengthened, and converted into a global system.

It is of course the second policy that is the most significant for AREG. It is firstly important to note that the EU is talking about primary energy. That means not only electricity, but also heat and transport fuels as well. And as the scope for action on transport is limited in the short term, then the proportion of electricity will have to be correspondingly higher – some estimate that 35% of Europe's electricity may need to come from renewable sources by 2020 to meet this target.

Also important is the development of the EU emissions trading scheme. What exactly is this? It is a "cap and trade" scheme, under which 11,400 of the biggest energy-using organisations across Europe are allocated a carbon allowance by their Government under a National Allocation Plan. Companies can use less and sell the surplus to others. In this way, it is believed that the market will force carbon reductions in the places that it is most economically efficient to do so. The scheme covers 45% of the carbon emissions in Europe.

And what of the two carbon growth areas in the European economy – aviation and road transport?

Firstly on aviation, it is the case that while between 1990 and 2002 the EU total emissions fell by 3%, the aviation emissions rose by a staggering

70%. So in 2006, the EU proposed that aviation should be included in the emission trading scheme. It intends it to cover by 2011 all journeys between EU airports, and by 2012 all journeys beginning and ending at EU airports. The economic impact of these measures has been estimated to be between 1.8 and 9 Euros per average air journey. The proposals are currently being discussed in the International Civil Aviation Organisation (ICAO) in Montreal.

On road transport, again while total emissions in Europe fell by 5% between 1990 and 2004, the emissions from road transport rose by 26%. The current EU policy is a voluntary agreement with car manufacturers to reduce average emissions of new cars to 140 g/km by 2008. But progress to date has been limited. The figure in 1995 was 186 g/km, and by 2004 it was 163 g/km. The voluntary approach does not seem to be working quickly enough. So in February 2007 the EU set a new target of 120 g/km for new cars by 2012, and 95 g/km by 2020, (with equivalent figures for vans of 175 g/km by 2012 and 160 g/km by 2015). These new limits are to be enacted in legislation during 2008.

Finally the EU is preparing a programme of work on carbon capture and storage. This will involve a network of demonstration plants across Europe, which is being achieved through its "Zero Emissions Fossil Fuel Technology Platform".

So overall a lot is happening across Europe on climate change. But is it happening quickly enough - that is the critical question. One thing is certain. We are going to be hearing a lot more about our climate changing in the years and decades to come. Renewable energy will play an increasingly important role in the overall energy mix – providing opportunities for the North East of Scotland to respond with its well established energy and marine expertise..... ■

