

The Potential Impacts of Climate Change in the East Midlands East Midlands Sustainable Development Round Table



Landmark study at a regional level for a global issue

Much work is being done at the international and national level to understand what causes climate change and also to understand how it may affect us in the future. Much of this work is based on the use of large-scale models of the Earth's climate system and observations of historical climate trends. These models operate at the global level and can be used to interpret the climate at a national level. However, little work has been done on modelling climate change at the sub national or regional level.

At the local level, policy makers, such as those tasked with land use planning, environmental regulation, economic development and business management are beginning the process of developing policies that take climate change into account. In the East Midlands, the Sustainable Development Round Table is made up of a range of organisations representing local authorities, business, regulators, statutory bodies and NGOs. It wanted to understand how climate change might affect the economic, social and environmental processes in the region, in order to formulate appropriate policies to adapt, mitigate and make the most of any opportunities that may arise. Entec, along with partners from the University of Manchester Institute of Science and Technology, the University of Derby and DeMontfort University, were commissioned to carry out a study into the potential impacts of climate change in the region.

The main findings of the study were as follows:

- From the local climate record it can be shown that climate has changed in the region over the 20th century compared to the long-term average. Temperatures have increased by over 0.5°C, there was more rain in the winter and less in summer and sea levels had risen on the East Coast by between 1 and 2 mm per year.
- Using a specially developed approach to assessing climate change at the regional level, the study found that in the 21st century the climate would continue to change. There could be a temperature increase of up to 3°C by the end of the century, rainfall patterns could continue to change and sea level could rise by between 22 to 83 cm by the middle of the century.
- There were many social, economic and environmental processes in the region that could be adversely affected by climate change. It also found that there were a number of opportunities that needed to be explored.
- Following a questionnaire and series of workshops, stakeholders felt that climate change was the third most important issue facing the region (transport was first and economic restructuring was second). This was a surprising result and one that reflects the importance attached to climate change amongst the stakeholders questioned.
- The region produced the equivalent of nearly 60 million tonnes of greenhouse gases in 1997. The main sources of these gases were power stations (the region has several power stations that produce power for other regions), road transport and domestic, industrial, commercial, public and agricultural combustion. A number of other sources were identified.
- The region will have to adapt to some level of climate change. This will include planning appropriate flood defences, using water resources more efficiently, restricting development in vulnerable areas and adapting living and working conditions but not all the impacts will be negative. There could be considerable opportunities for the region to develop products and services that help organisations and people adapt to climate change and also reduce their emissions. Depending on how the region plans to respond to climate change, there could be benefits in some areas including biodiversity, agriculture, renewable energy and commercial and industrial performance improvements.
- Climate change will also have to be considered alongside other changes affecting the region from social, economic and environmental trends.

The study findings were presented at a launch attended by the Minister for the Environment, Michael Meacher, and has subsequently been published as a book.

