

**Date :** 30 January 2002  
**Time:** 14.00 - 17.30  
**Venue :** Committee Room 3, National Assembly Building, Cardiff Bay  
**Title :** The Environment Agency's Contribution to Energy Efficiency

## **THE ENVIRONMENT AGENCY'S CONTRIBUTION TO ENERGY EFFICIENCY**

### **Introduction**

The 22nd Report of the Royal Commission on Environmental Pollution (2000) entitled 'Energy – the Changing Climate' describes how energy and environmental issues are closely linked. Carbon dioxide, which is the most important man-made greenhouse gas, is produced when fossil fuels such as oil and coal are burnt. It is now widely accepted that emissions of greenhouse gases are affecting the earth's climate and this is leading to severe weather events. Major floods such as those that occurred in Wales and England in the winter of 2000/2001 are likely to become more frequent as a result of climate change. If nothing is done to reduce our emissions of greenhouse gases the climate changes will become even more extreme and these will affect all human activities, mostly in a detrimental way.

The major finding of the Royal Commission report is that, in order to prevent the most extreme effects of climate change, the UK will have to reduce its carbon dioxide emissions by 60%, from current levels, by the year 2050. This will present us with a major challenge. We must start acting as soon as possible by taking all available opportunities to reduce greenhouse gas emissions if we are to stand any chance of success. Improvements in energy efficiency can make a significant contribution to reducing greenhouse gas emissions and have the added benefit of conserving resources and reducing pollution.

### **Environment Agency Roles**

The Environment Agency has five key roles: efficient operator, modern regulator, influential partner, informative communicator catalysing change, and champion of the environment within the context of sustainable development.

### **Sustainable Development Role**

Sustainable use of energy is fundamental to delivering sustainable development and contributing to sustainable development is a statutory objective of the Agency.

In its Environmental Vision the Agency identified climate change as one of the key

environmental issues for the new millennium. Energy generation and its inefficient use are the main causes of greenhouse gas emissions.

Climate change is likely to have substantial impacts on the flood defence and water resource duties of the Agency and the effects may already have started. The Agency therefore has added interests in addressing climate change because dealing with the consequences is an important part of our remit.

## **Regulatory Role**

As an environmental regulator the major item of legislation with energy efficiency requirements, which we are responsible for implementing, is the Pollution Prevention and Control Regulations (1999) which implement the EU Integrated Pollution Prevention and Control Directive (IPPC).

The IPPC Directive seeks to minimise the overall environmental impacts of the most polluting installations by compelling their operators to demonstrate that they have adopted 'best available techniques' (BAT) and that they are meeting site specific emission limits for significant pollutants. By 2007 it will apply to approximately 6,000 installations in England and Wales, which between them are responsible for 60% of the manufacturing sectors' total energy use.

Under the IPPC Directive, EU Member States are required, through their pollution control agencies, to ensure that industrial plants are operated in such a way that energy is used efficiently.

The aim of the energy efficiency requirement of the IPPC Directive is to minimise pollution arising from the consumption of energy in industrial processes and thereby reduce the associated environmental impacts. The EU has signed up to a United Nations Protocol, the "Kyoto Agreement", to reduce emissions of greenhouse gases by 8% of 1990 levels, averaged over the years 2008 to 2012. As part of its contribution to this agreement, the UK has a target of 12.5% reduction. In addition, the UK government has set a domestic target to reduce carbon dioxide emissions by 20% of 1990 levels by 2010.

In order to meet these targets, the UK government also intends to use other economic instruments to encourage energy efficiency, including: -

- the climate change levy; a tax on business energy use (with certain exemptions), designed to be revenue-neutral, introduced in April 2001.
- climate change agreements; negotiated agreements, available to all larger IPPC installations to which the climate change levy applies, which provide an 80%

discount on the climate change levy in return for achieving negotiated energy efficiency targets, commenced in April 2001.

- carbon trading agreements; voluntary scheme based on the trading of carbon permits.

These economic instruments are not administered by the Agency, but where climate change or carbon trading agreements are in place then the energy efficiency requirements of IPPC will be considered as having been met.

## **Influencing Role**

In areas where the Agency does not have regulatory powers, it needs to work with others in order to achieve desirable environmental outcomes. It seeks to do this by being an influential partner.

As part of its 'Making it Happen' initiative the Environment Agency has recently described its commitment to contributing to environmental outcomes within the following themes: -

1. **A better quality of life**
2. **An enhanced environment for wildlife**
3. **Cleaner air for everyone**
4. **Improved and protected inland and coastal waters**
5. **Restored, protected land and healthier soils**
6. **A 'greener' business world**
7. **Wiser, sustainable use of natural resources**
8. **Limiting and adapting to climate change**
9. **Reducing flood risk**

Increased energy efficiency will make important contributions to the environmental outcomes that are being sought in many of these themes, but the theme where energy efficiency makes the biggest contribution is 'limiting and adapting to climate change'. The following Agency activities in the climate change theme are relevant to the Economic Development Committee review: -

- Contribute to achieving the UK's commitment under the Kyoto protocol by applying BAT and reducing greenhouse gas emissions from Agency regulated processes by at least 8.5% on 1990 levels by 2005.
- In line with UK targets implement IPPC/BAT to achieve at least a further 6% reduction in

carbon dioxide emissions from Agency regulated processes between 1999 and 2005 compared to 1990 levels.

- Promote greater use and generation of renewable energy sources by supporting local initiatives and influencing national policies ensuring that they take into account the environmental impacts of alternative energy sources.
- Within the constraints of the climate change levy, ensure that energy efficiency is actively reviewed and improved at all regulated sites, including the productive use of excess heat in combined heat and power schemes (CHP).
- Influence government long-term energy policy, to ensure it takes into account the environmental impacts of different energy sources.
- Support partnerships to promote domestic energy efficiency; highlight the need for improved energy ratings for new houses.
- In partnership with the Energy Saving Trust, strengthen energy efficiency understanding with industry and the public.

The definition of renewable energy adopted by the Agency is, "energy obtained from the continuous repetitive currents of energy occurring in the natural environment, replenished at the same time as they are used". The exploitation of renewable energy involves harvesting the natural energy flows in the environment which are very diffuse compared to the high density of energy contained in fossil fuels.

The Agency considers that, alongside significant improvements in energy efficiency, renewable energy has a vital role to play in improving the sustainability of the UK energy system. The Agency is generally supportive of all renewables (onshore and offshore wind, solar, energy crops, agricultural and forestry wastes, wave, tidal stream, geothermal and small-scale hydropower).

The Environment Agency will, therefore, contribute to increasing energy efficiency via two main routes: its regulatory role under IPPC and its influencing role in relation to renewable energy sources and efficiency measures that apply to domestic and commercial premises. There are many technological developments that offer additional opportunities for increase efficiency (e. g. micro CHP and improved boiler technologies) and it is important that these are promoted and installed in Wales in order to demonstrate the benefits that are available. Some demonstration projects may be funded through European Structural funds, such as Objective 1.

In the long term it is important that the public have sufficient information to make informed decisions on energy efficiency as they can make a significant contribution by the choices they

make e.g. when purchasing a new central heating boiler. The education element of an energy strategy is therefore an important part and should be given sufficient resources to be successful.

## **Conclusions**

- Climate change is potentially the biggest environmental problem we face and is linked to our inefficient use of energy
- Sustainable use of energy is fundamental to sustainable development
- Energy efficiency improvements are likely to give the biggest return on investment in the short term in terms of reducing greenhouse gas emissions
- The exploitation of sources of renewable energy should be facilitated, unless there are major disbenefits which tip the balance against them
- The Environment Agency will be directly contributing to energy efficiency by application of the PPC Regulations, which are already in place for some sectors and will be phased in to the others by 2007.
- The Environment Agency will also contribute to energy efficiency where it does not have statutory powers by being an influential partner with other organisations.

**Environment Agency Wales**  
**January 2002**