

Limiting climate change

Nuclear power

Our work regulating the nuclear industry allows us to influence existing operators to minimise their carbon footprint; and to work with potential new nuclear power generators on new nuclear power stations as one means of generating low carbon energy for the future.

The existing nuclear industry

Nuclear power currently provides about 16 per cent of the UK's electricity (7.5 per cent of total UK energy). Compared to electricity produced from fossil fuels such as coal or gas, nuclear power produces significantly fewer carbon dioxide emissions. For each kilowatt hour of energy, gas and coal fired power stations produce approximately 500 and 1000 grams of carbon dioxide equivalent respectively. By comparison nuclear power stations produce only five grams each kilowatt hour. If the electricity produced by nuclear power stations in England and Wales during 2007 had been produced by burning fossil fuels, approximately 30 million tonnes more carbon dioxide would have been released – equivalent to about 5.5 per cent of UK's total emissions.



Although the nuclear sector is a major contributor to the generation of low carbon electricity, it does release greenhouse gases – equivalent to 0.55 million tonnes of carbon dioxide in 2007.

The industry, under our Nuclear Sector Plan, has agreed to voluntarily report its emissions to us. We report annually on these and other aspects of the industry's environmental performance. All nuclear operators have agreed, by the end of 2011, to develop individual plans to minimise their greenhouse gas emissions.

New nuclear power stations

The Government has decided that nuclear power can make a significant contribution to meeting the UK's future energy challenges, including the target of an 80 per cent reduction in greenhouse gas emissions by 2050. It is streamlining the planning and

approvals processes for new nuclear power stations, and has invited energy companies to submit proposals to build new nuclear power stations to be operational by 2025.

We are working with Government and the nuclear industry to facilitate better regulation of new nuclear power stations as part of the wider deployment of safe and sustainable low-carbon energy. We are scrutinising two reactor designs as part of our Generic Design Assessment (GDA), with the Health and Safety Executive's Nuclear Installations Inspectorate and the Office for Civil Nuclear Security. The intention is to provide a regulatory framework that ensures new nuclear build in the UK will meet world class safety security and environmental standards.

We aim to consult on our findings of the GDA in 2010. Once we have considered all the responses to our consultation, and provided we are satisfied with the designs, we aim to issue Statements of Acceptability for them in June 2011.

For more information about our assessment programme, visit the joint regulators' new-build website –

<http://www.hse.gov.uk/newreactors/index.htm>

We have major responsibilities for helping to limit greenhouse gas emissions and adapt to climate change in England and Wales. We also administer schemes that cover a large proportion of the UK's greenhouse gas emissions, and play a leading role in reducing the risks from climate change, such as increased flooding, drought, and sea level rise.

For more information, visit our website <http://www.environment-agency.gov.uk/> or contact the Climate Change Team on 08708 506 506 or enquiries@environment-agency.gov.uk