

Rt Hon John Hutton MP  
Secretary of State  
Department for Business, Enterprise & Regulatory Reform  
1 Victoria Street  
LONDON SW1H 0ET

6-9 Carlton House Terrace  
London SW1Y 5AG

tel +44 020 7451 2507

fax +44 020 7451 2691

web: royalsociety.org

*From the President Lord Rees of Ludlow OM*

1 April 2008

Our ref: RHCCS/K1

Dear Secretary of State

I am writing with regards to the pending decision about a new coal-fired power station at Kingsnorth and the development of carbon capture and storage technology. Allowing any new coal-fired power station, such as Kingsnorth, to go ahead without a clear strategy and incentives for the development and deployment of carbon capture and storage (CCS) technology would send the wrong message about the UK's commitment to address climate change, both globally and to the energy sector. Delays in developing and deploying CCS technology will make tackling UK emissions harder.

Coal is one the most polluting and carbon intensive forms of fossil fuels – producing twice the carbon emissions per unit of electricity as gas. Yet over the next 25 years, because it is relatively cheap and globally widespread, it is expected to meet much of the rising global energy demand, most of which is for electricity. Unabated these carbon emissions would pose unacceptable climate risks. Although CCS has yet to be commercially demonstrated, progress towards its development and widespread deployment must be a priority.

In the UK, it is expected that about 20-25GW of new generation capacity will be required by 2020. This could be met by a range of sources including renewables and gas, as well as by coal. If fossil fuels, particularly coal, are allowed to dominate this new generation, then it will make meeting our domestic and international climate change targets much harder. Indeed, this would mean we would need to significantly cut emissions in other sectors to stand any chance of meeting the proposed interim target, set out in the Climate Change Bill, of a 26-32% reduction in emissions below 1990 levels by 2020.

If the Government fails to take decisive action now to ensure that any new coal plants are operational with CCS by no later than 2020 then the consequences for meeting UK emission targets could be severe. I therefore suggest that the Government only gives consent to any new coal fired power station, such as Kingsnorth, on condition that the operating permits are withdrawn if the plant fails to capture 90% of its carbon dioxide emissions by 2020. This would send a clear policy signal to industry of the need to develop and deploy CCS as quickly as possible.



President Lord Rees of Ludlow OM  
Executive Secretary Stephen Cox cvo

Founded in 1660, the Royal Society  
is the independent scientific academy  
of the UK, dedicated to promoting  
excellence in science

Registered Charity No 207043

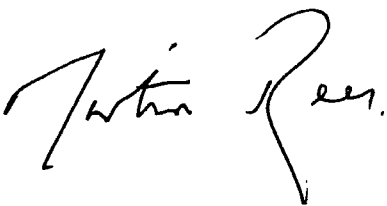
A range of technology options exists that could demonstrate the viability of CCS and build confidence for its widespread deployment, but for industry to make any significant progress requires, greater policy and financial support and positive steps from Government to reduce the investment risk. Requiring any new coal-fired power station, such as Kingsnorth, to include CCS will mean it will incur additional costs. At present the mechanisms and policies in place, including the EU Emissions Trading Scheme, do not appear to be robust enough to provide sufficient support for industry to risk investing in CCS, particularly when the costs of this new technology are uncertain. The application of appropriate financing mechanisms, supported by a robust, long-term policy and legislative framework, could lead to investment by other parts of the industry, greatly increasing the learning and development of this vital technology.

The competition you recently announced could lead to the UK building the first demonstration plant, but will only apply to one 300MW coal-fired power station, will only apply to one technology type, and will not be in operation until 2014. This initiative could be strengthened by undertaking further collaborative work at EU level to develop a broader range of CCS technologies. This would require European Member States to commit additional financial resources to the development of the technology. It will also require full transparency between Member States when sharing their experiences on demonstration plants, so that we have all the information that we need for new build as well as retrofits.

The benefits of having a full-scale coal-fired power station operating with CCS as soon as possible could be substantial, and extend far beyond their direct contribution to meeting UK emission targets. China and other developing economies that are reliant on coal are much more likely to make rapid progress to CCS deployment if the UK leads in this area. In addition, the experience gained from developing this technology will mean the UK can play an important role in transferring this technology to developing countries and building the capacity to help them break the link between fossil fuel use and CO<sub>2</sub> emissions.

Setting out a robust CCS strategy in the UK presents an excellent opportunity to show international leadership in tackling the causes of climate change and developing a technology that will be needed on a global scale.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Martin Rees'.

Martin Rees

cc: Rt Hon Hilary Benn MP, DEFRA  
Rt Hon John Denham MP, DIUS  
Malcolm Wickes MP, BERR  
Professor John Beddington FRS, DIUS  
Professor Robert Watson, DEFRA  
Mr Geoff Norris, Prime Minister's Office  
Mr John Kingman HM Treasury