



## **Joint statement on coal and carbon capture and storage**

### **June 2009**

The science of climate change is unequivocal. Climate change impacts are already being felt by the poorest people, who have done least to cause the problem, and will be hit hardest by its consequences. They are also causing irreversible damage to ecosystems and threatening thousands of species with extinction. In the face of this injustice industrialised countries like the UK, who have built their economies by burning fossil fuels must make steep and urgent reductions in their carbon dioxide emissions. This is incompatible with constructing new coal-fired power stations in the UK which will emit high levels of carbon dioxide and add to the climate crisis.

High emissions from new unabated coal plants would gravely undermine progress towards emission targets under the Climate Change Act, and lock the UK into a high-carbon pathway for many decades. Granting consent to new substantially unabated coal-fired power stations would also severely damage the UK Government's credibility in international climate negotiations - at precisely the time when leadership is most needed.

In April, the Government rightly accepted that building new coal-fired power stations that are merely "capture ready" would impose unacceptable risks, both to the climate and to the taxpayer. However, it proposed that only a relatively modest level of carbon capture and storage (CCS) would be required on any new coal-fired power stations. This leaves two very important issues which still need to be resolved, if the Government is to meet the recommendations of the Committee on Climate Change - notably the requirement for the power sector to be almost fully decarbonised by 2030.

Firstly, the Government has not yet put forward a comprehensive plan to manage the risks that would be posed, should CCS technologies prove technically or economically infeasible as a means of reducing emissions from coal plants. Since CCS technologies have not yet been proven at scale on an integrated power plant, this remains a distinct possibility, which must be accounted for in any new policy framework. Secondly, current proposals do not yet make clear whether all fossil fuel plants, new and existing, will be required to reduce their emissions in order to meet the objectives set out by the Committee on Climate Change.

In this context, we call on the Government to implement the following recommendations:

- **A renewed focus on energy efficiency and renewables**

Meeting its own efficiency targets, and achieving the sustainable delivery of the EU target for renewable energy in 2020, must be central to UK energy policy. Delivery of these goals is key

to tackling climate change, closing the “energy gap”, and ensuring the UK’s future energy independence and security.

- **Introduce greenhouse gas emission standards for new power plants**

The UK Government and the EU should introduce new legal standards setting a limit on CO<sub>2</sub> emissions for all new generating plants which have yet to secure planning consent. A similar policy is already in force in the State of California. A UK standard should be set at 300g/kWh or less, a level which could be achieved by an efficient gas-fired power station which makes use of waste heat<sup>1</sup>. Also reflecting the California standard, this standard should also apply to electricity imported into the UK.

- **Harmonise Emissions Performance Standards for all plant (both existing and new) in 2025 in line with Lord Turner’s coal policy recommendations**

Emissions standards for new and existing plants should be tightened to require all generating capacity within the UK or supplying electricity to the UK to emit less than 100g/kWh of heat or electricity produced from 2025 at the very latest, and earlier if possible<sup>2</sup>.

This would ensure that the carbon intensity in the power sector reduces at least in line with the recommendations from the Government’s own Committee on Climate Change. The committee has called for the average emissions intensity of the power sector to fall to between 40g/kWh and 70g/kWh by 2030 in order to meet an 80% reduction by 2050 across the economy.

For plants that are unable or unwilling to comply with this level - most likely existing coal-fired generators that would be reluctant to incur the penalty on efficiency that results from installing CCS technology - an ‘opt out’ clause should be included in the EPS from 2025 that allows existing generators to continue operating at strictly limited running hours up to 2030. The volume of running hours should be determined within the framework of keeping power sector carbon intensity within a limit of 70g/kWh. After this date those plants that opted out would be required to cease operating permanently.

- **Keep a clear focus in any CCS demonstration programme**

Any demonstration plants should form part of a clear strategy to assess the viability, safety and sustainability of the different technical options for CCS (including new pre-combustion capture and retrofit of post-combustion capture to existing power stations) and not be used as a subsidy for the benefit of new, largely unabated coal plants. Any demonstration plants should be established solely for the purpose of exploring technical feasibility and full price discovery at an appropriate scale and should be fully equipped with CCS abatement, not conducted as a partial abatement of a commercial scale coal plant.

- **Introduce strong legislation on CO<sub>2</sub> storage and transport**

It is vital that a strong regulatory framework is established to ensure that transport and storage of CO<sub>2</sub> is safe, environmentally benign, does not lead to additional emissions of CO<sub>2</sub><sup>3</sup> and is subject to strong independent scrutiny. Key elements must include robust long-term provisions for storage site monitoring and aftercare, and mechanisms to manage liability for any CO<sub>2</sub> leakage.

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<sup>1</sup> DEFRA estimates that emissions from a conventional combined heat and power plant amount to 650g/kWh for each unit of *electricity* generated. But this estimate takes no account of the carbon benefit achieved through the displacement of carbon emitted through the use of gas for heating purposes only. CHP plants typically generate 1.5 times more heat than they do electricity. The average emissions intensity of heat only gas boilers according to the DEFRA is 240g/kWh. Therefore,  $240 \times 1.5 = 360$ .  $650 - 360 = 290\text{g/kWh}$ . We can therefore conclude that when the carbon benefit of the useful heat generated is included, the carbon intensity of CHP stands at around 290g/kWh of heat and electricity generated. DEFRA emissions factors can be seen at: <http://chp.defra.gov.uk/cms/emissions-reductions/>

<sup>2</sup> With regard to coal fired power stations specifically, The Committee on Climate Change makes it explicitly clear that no new coal fired power stations should be consented unless it is on the clear and public stated expectation that all coal plants, new and existing, capture and store their emissions by no later than the early 2020s. See page xxiv of ‘*Building a Low Carbon Economy – the UK’s contribution to tackling climate change*’ – Committee on Climate Change, December 2008.

<sup>3</sup> For example, through the use of CO<sub>2</sub> extraction in Enhanced Oil Recovery activities.