

Minutes of CCC Meeting - 13/02/09

Present were Adair Turner, Bob May, Julia King, Michael Grubb, Jim Skea, Sam Fankhauser, David Kennedy.

1. Aviation Work programme, presentation by Ben Combes

The Committee discussed and agreed a work programme to carry out the review of UK aviation emissions commissioned by DfT and DECC for delivery in December 2009.

The programme will comprise four parts:

1. Developing scenarios for UK aviation demand and emissions
2. Analysing potential for improvements in carbon efficiency while continuing to use fossil fuel based aviation kerosene.
3. Assessing scope for the use of biofuels and hydrogen in aviation
4. Considering high level aspects of a global framework for aviation

1. Developing scenarios for UK aviation demand and emissions

This block of work will involve projecting aviation demand and emissions in the period to 2050 under a range of assumptions about key drivers (e.g. income growth, carbon prices).

As part of this work, we will analyse scope for switching from domestic flights (e.g. Glasgow to London) and from flights between the UK and Europe (e.g. London to France, Holland, etc.). Our analysis will consider the relative costs (investment, operating, time and carbon) of travel by alternative modes and provide an assessment of scope for modal switch.

We will produce an envelope of plausible scenarios for demand and emissions, against which we will be able to take a view on whether emissions in 2050 should be at or below 2005 levels, to draw implications about appropriate paths to 2050, and to comment on policy levers to be on these paths

2. Analysing potential for improvements in carbon efficiency

There is a range of estimates for potential carbon efficiency improvements of the UK fleet (e.g. from 1%-2.5% annual improvement). We will review the various studies in this area focusing on underlying assumptions (e.g. on fleet turnover), and come to a view on

which scenarios are more plausible and under what circumstances. This work will feed into the demand and emissions projections work described above.

3. *Assessing scope for use of biofuels and hydrogen in aviation*

Our work programme will review technical aspects of the use of biofuels and we will come to a view on technical feasibility. We will also consider economic and wider sustainability aspects, focusing on the question of whether potentially scarce sustainable biofuels would be best used in aviation or other sectors. As an alternative to biofuels, we will consider at a high level the potential for use of hydrogen in aviation. This work will feed back into our scenarios for demand and emissions described above.

4. *Considering high level aspects of a global framework for aviation*

We have been asked to consider what a global framework to reduce aviation emissions might look like. The obvious starting point here is a global cap and trade scheme for aviation. We will consider at a high level the potential benefits and challenges of such a scheme in the wider context of a (post Kyoto) agreement to reduce global emissions.

2. *The current macroeconomic context and implications for carbon budgets, presentation by Neil Golborne*

The Committee agreed that there are three key areas which should be covered in the September report to Parliament:

1. The impact of the recession on emissions
2. Opportunities and challenges for delivering the CCC's scenarios
3. The impact of the recession on the carbon price

1. *The impact of the recession on emissions*

The Committee requested that the Secretariat provide estimates of the impact of the current economic situation on emissions. The hypothesis is that emissions will be lower than previously envisaged, given that the level of emissions is a function of the level of economic activity. In order to test this hypothesis, the Secretariat will commission runs of the DECC Energy Model and possibly the Cambridge Econometrics model.

The Committee agreed that if evidence suggests emissions are likely to fall, the appropriate response would not be to reduce emissions reduction effort. Rather, the Government should continue to aim to deliver the measures in the CCC's scenarios, which could result in outperformance of the budgets.

2. *Opportunities and challenges for delivering the CCC's scenarios*

The Committee agreed that there may be opportunities for supporting measures to reduce emissions as part of a fiscal stimulus package. The main opportunity here is likely to be energy efficiency improvement, particularly given current spare capacity in the construction industry. The Committee will note this opportunity in the September report. It is unlikely, however, to be a key message in the report given that decisions on the fiscal stimulus package will have been taken prior to publication.

The Committee felt that the report might add more value in the area of challenges to implementing the CCC's scenarios given the credit crunch. The specific area of concern is whether renewable projects which should proceed over the next several years will be able to access finance. The Secretariat will return to the Committee with evidence on renewables projects that would in principle be ready for implementation, but which are unlikely to proceed given lack of finance. Depending on this evidence, the Committee might make recommendations on possible government interventions to support project financing (e.g. guarantees, etc.).

3. *The impact of the recession on the carbon price*

The Committee noted that the current carbon price is not consistent with the carbon prices projected in the December report. This raises a question over whether the current price reflects short term considerations, or whether lower output in energy intensive industry has changed the market fundamentals. If it were the case that the carbon price were to remain at current levels for a sustained period, this would raise a question about its ability to provide the correct signals for investment in low carbon technology. In order to establish whether a fundamental change in the market has taken place, the Secretariat will commission new runs of the DECC carbon price model.

3. *The economics of the Severn Barrage project, presentation by Claire Thornhill*

The Committee considered the economics of the Severn Barrage project and noted that this depends crucially on two factors:

- The discount rate used in the cost benefit calculation
- The counterfactual scenario against which net benefits are assessed

The Committee noted the approach used by government economists which applies a commercial discount rate to construction cost on the basis that this is an appropriate risk adjusted social discount rate given cost uncertainty.

The Committee's view, however, was that this is an unsatisfactory way of allowing for cost uncertainty given that commercial discount rates reflect a range of risks (fossil fuel price, carbon price, etc.). The Committee agreed instead to use a social discount rate (e.g. from the Green Book), and to allow for construction cost estimates by increasing cost estimates.

The Committee agreed that an appropriate counterfactual would include gas generation for the first thirty years of the project and low carbon generation (e.g. wind, nuclear, CCS) beyond this, in keeping with the scenarios laid out in the December report.

The Committee agreed that the Severn Barrage project is a useful option within a portfolio of options for investment in low carbon generation. The Committee also agreed, however, that it appears to be relatively expensive compared to wind, nuclear, and CCS, particularly as regards the larger scale variants of the project. Proceeding with the project would therefore make sense if it becomes clear that envisaged delivery of alternative forms of low carbon generation is not feasible. Investment in the Severn

Barrage may become attractive, for example, if levels of investment in wind generation set out in the Government's draft Renewable Energy Strategy and / or CCS cannot be delivered.

The Committee noted the wider environmental aspects of the project which would have to be accounted for as part of any decision to proceed with it.

4. The role of behaviour change in reducing agricultural emissions, Kiran Sura

The Committee were presented with estimates of emissions reduction potential from changing food consumption patterns (e.g. switching from carbon intense forms of meat such as beef and lamb to less carbon intense meat or non-meat sources of protein).

The Committee agreed that there is significant potential available, with the caveat that it is not clear the extent to which this could be unlocked or what the appropriate policy levers might be.

The Committee noted that from a carbon accounting perspective, some emissions reduction may accrue outside the UK, and would therefore not help to meet carbon budgets, notwithstanding that from a lifecycle perspective these reductions would be desirable. This raises more general questions over consumption versus production based approaches to measuring emissions which the Committee will return to.

5. CCC three year corporate plan, presentation by Swati Khare-Zodgekar

The Committee discussed and agreed the key elements of the strategy: objectives, means for meeting objectives and deliverables.

The Committee noted that detailed advice on Scottish emissions reduction targets may be requested and if so should be provided in line with the Committee's duties under the UK Climate Change Act.

The Committee requested that the scope of any work in this area should be kept manageable.

The Committee agreed that advice on Scottish targets should not crowd out work on the (UK) progress reports and fourth budget period advice, both of which will have important implications for design of the Scottish framework.

Given that resources are currently fully deployed working on the progress report, and will then be fully deployed on the next progress report and the fourth budget period advice, detailed work on Scottish targets would require additional resource.

6. Next steps in assessing buildings emissions reduction potential, presentation by Mark Weiner

The Committee agreed a buildings work programme focused:

- Developing trajectories for feasible energy efficiency improvements.
- Assessing the economics of renewable heat technologies not covered in the December report (e.g. air source heat pumps) and developing trajectories for feasible roll out of renewable heat.
- Assessing necessary incentives to unlock emissions reductions with a focus on the Supplier Obligation and a strengthened framework for the SME sector.