Science Advisory Group Minutes- 31st October 2013

Agenda

1. Chairman's Introduction and CSA's Update
2. Strategy team presentation on key points from Carbon Plan
3. Carbon Plan : Sector-by-sector consideration- Presented by SAG members
   a) Traded sector: Power – Sue Ion
   b) Non-traded sector: Heat and Energy Efficiency – Tadj Oreszczyn
   c) Non-traded sector: Transport- Jon Gibbins
   d) Non-traded sector: Industry- Chris Mottershead
4. AOB/ Forward look

Venue: DECC

Present:	Apologies:
John Shepherd (Chair)	Peter Cox
David MacKay (DECC Chief Scientific Advisor)	
Nick Jenkins	
Jon Gibbins	
Paul Watkiss	
Sue Ion	
Tadj Oreszczyn	
Chris Mottershead	
Nick Pidgeon	
Stuart Haszeldine	
Harshal Mehta (DECC Evidence Team)	
Jane Dennett-Thorpe (DECC Evidence Team)	
Katherine Hill (DECC CSA's Office)	
David Warrilow (DECC Head of Science) (present agenda item 3)	
Alison Conboy (DECC Strategy)	
Andy Smith (DECC Strategy)	
Tom Council (DECC Strategy)	
James Geddes(DECC Strategy)	
Paul Devine (Northern Ireland devolved administration)	

CSA's Update

John Shepherd welcomed the SAG members and DECC officials and proceeded to ask the CSA for his update:

- The David Mackay and Tim Stone Shale gas report was published on 9th September 2013 and was welcomed by DECC Secretary of State, Edward Davey . (link)
- The CSA helped with work to enhance clarity of communications with IPCC WG1 AR5, this included briefing journalists and interpreting the findings.
- The National Audit Office published a report in October focussed on public funding for innovation in low carbon technologies in the UK. The report reflected positively on DECC's and government's approach to coordination, prioritisation of technologies for funding support, and delivery of programmes. The Energy and Climate Change Committee had made a call for evidence and a hearing is expected to take place in January 2014..
- On public engagement the CSA has led a series of "British Energy Challenge" engagements in cities round the UK, in which an audience selected with the help of the local city council have engaged with the 2050 calculator. These events have been well received, with positive feedback from the majority of participants. The final event was in Bristol a few weeks ago, and the CSA will be reporting back on some reactions to these events.
- The CSA had a meeting with relevant directors in DECC to discuss smart meters. DECC would like people to engage more with demand side response technology. A workshop with OFGEM is being planned to understand issues better and to understand what is already underway.
- The Executive Committee has set the priorities for activities led or involving Science and Innovation directorate:
    i. Whole-energy-system modelling, including electricity, heat, and transport
    ii. Bioenergy
    iii. Cost Reduction by Innovation support [and subsidies]
    iv. Modelling of energy use in buildings
    v. Renewables

- The CSA has been working with the Government CSA Mark Walport, who has been focusing closely on energy and has formed a CSAs' subgroup on energy. There is also a CSAs' subgroup on national risk assessment; including better preparation for emergencies.
- The CSA attended a meeting in Strasbourg at which two electricity and two car companies all presented on fuel synthesis from surplus electricity using hydrogen and/or methanation. The CSA feels fuel synthesis from electricity and air-capture of CO2 are important topics worthy of more consideration.
- The CSA is likely to step down from his post by September 2014. DECC and GO-Science welcome suggestions for potential successors from SAG members.
- The CSA confirmed this would the final SAG meeting. The SAG would be replaced by:
    a. A more strategic Science Advisory Council (with a particular role in horizon scanning); and

b. A network of technical experts (who will be engaged with technical analysis work and policy issues in a flexible and targeted way)

Action: The CSA invited the SAG to the showing of Pandora's Promise as a thank you.

Pandora's Promise film synopsis: The film asks whether the one technology that many people fear most (i.e nuclear power) could save our planet from a climate catastrophe, while providing the energy needed to lift billions of people in the developing world out of poverty. More information can be found at http://pandoraspromise.com/

SAG secretariat to check availability of members.

Meeting Agenda

DECC officials and several SAG members had prepared presentations on aspects of the possible the Fourth Carbon Budget and Carbon Plan trajectories from now to 2030.

As preparation they had been asked to focus on the following questions:

1. What elements of the scenarios seem most deliverable? Which would present the biggest challenge? What evidence is there to support these views?
2. What can DECC do now to best ensure the 4th, and subsequent, Carbon Budgets are met?
3. What are the scientific/ engineering / social barriers to meeting these Carbon Budgets?
4. The high level scenarios only set out very high level numbers. There is a lack of more granular detail, such as the locations/types of building where insulation should focus, the particular heat or transport technologies that should be rolled out, and the jumping off points at which significant deployment needs to happen. Any detail that enables the bare bones of these scenarios to be fleshed out in a realistic manner would be useful.
5. Are there any mitigation routes/options not captured in the scenarios?
6. What should DECC be considering as it looks towards the fifth carbon budget?

To help facilitate discussion, sectors were assigned to individual SAG members and invited to provide short presentations to act as an introduction to the sector and the questions above.

Presentations

Carbon Budgets and the Carbon Plan – Alison Conboy

The Climate Change act was published in 2008. It had three main elements:

1) GHG reduction targets- An 80% cut by 2050 (cf. 1990) and at least 34% by 2020

2) Binding carbon budgets- 5-year budgets (set three budget periods ahead) to deliver a cost-effective transition to 2050 goal.

3) Clear accountability framework- Independent Committee on Climate Change established for advice and scrutiny and HMG is required to publish policies and proposals.

The first four carbon budgets (CB) have now been set.

CB1–(2008-2012) 3018MtCO2e

CB2- (2013-17) 2782MtCO2e

CB3- (2018-22) 2544MtCO2e

CB4- (2023-27) 1950MtCO2e

The UK is projected to overachieve in the first three budget periods – by 96, 132 and 87 $MtCO_2e$ respectively. However currently there is projected gap of about 200 MtCO2e for the fourth budget period – 2023-2027. This is in part is a reflection that we do not yet have settled policies that far ahead but it allows us to understand where further action may be needed. The fifth carbon budget will be set in 2016.

The Carbon Plan published in 2011 (in response to the CCC report of 2009) set out a three stage strategy to achieve Carbon Budgets and move into a low-carbon future. The first phase is from now to 2020, with a focus on completing "quick wins" like cavity wall insulation, and preparing for the future through innovation support and building markets. The second phase is mass deployment of technology in the 2020s and 2030s, moving to large scale deployment of key technologies such as low carbon heating, solid wall insulation and electric vehicles, with electricity generation using a mix of gas with CCS, nuclear & renewables. From 2030 onward there will be a focus on tackling "harder to decarbonise" sectors such as industry and aviation. From 1990 -2009 UK's "territorial" GHG emissions have been reduced by 19%. SAG members observed that there needs to be a clear commitment to any new technologies to incentivise timely investment in the infrastructure that will be required. In particular the ability to decarbonise the electricity supply needs to be demonstrated.

SAG Members presentations (available on the SAG webpage)

Action- the SAG will prepare a note for the CSA capturing the content of the following presentations on Carbon Budgets and the Carbon Plan, and subsequent discussion

1) **Electric Power Sector (Sue Ion)**
2) **Heat and Energy Efficiency (Tadj Oreszczyn)**
3) **Transport (Jon Gibbins)**
4) **Industry (Chris Mottershead)**

AOB

There was no AOB.