



Department for
Business, Energy
& Industrial Strategy

CCUS COUNCIL

Second meeting - summary

14 June 2018

Attendees

- Claire Perry, Minister of State for Energy and Clean Growth and Co-Chair of the CCUS Council
- James Smith, Former Chair of the Carbon Trust and Co-Chair of the CCUS Council

Council members

- Rodney Allam, 8 Rivers & NET Power
- Allan Baker, Global Head of Power Advisory & Project Finance, Societe Generale
- Dustin Benton, Policy Director, Green Alliance
- Paul Booth, Chair, Tees Valley Local Enterprise Partnership
- Stephen Bull, SVP Wind and Low Carbon Solutions, Statoil
- Stuart Haszeldine, Director, Scottish CCS
- Sinead Lynch, UK Country Chair, Shell
- Peter Mather, Group Regional President, Europe & Head of Country, UK, BP (attended on behalf of Dame Angela Strank)
- Charlotte Morgan, Partner, Linklaters
- Jeremy Nicholson, Director, Energy Intensive Users Group
- Brad Page, CEO, Global CCS Institute
- Pratima Rangarajan, CEO, OGC Climate Investments
- David Reiner, Senior Lecturer in Technology Policy, Cambridge University
- Laura Sandys, Chief Executive, Challenging Ideas
- Cathryn Scott, Director of Wholesale Markets and Commercial, Ofgem (on behalf of Dermot Nolan)
- Tom Shields, Acting Chair, Chemical Sciences Scotland Industry Leadership Group
- Lawrence Slade, Chief Executive, Energy UK
- Fintan Slye, Director of UK System Operator, National Grid
- Hywel Thomas, Pro Vice-Chancellor, Research, Innovation and Engagement, Cardiff University
- Luke Warren, CEO, CCS Association
- Peter Whitton, Managing Director, Progressive Energy (on behalf of Simon Fairman, Cadent)
- Fiona Wild, VP sustainability and Climate Change, BHP

Observers

- Ashley Ibbett, Director, Clean Electricity Directorate, BEIS
- Matt Taylor, Deputy Director, BEIS
- Will Lochhead, Head of CCUS Policy Team, BEIS
- Amy Cutter, CCUS Policy Team, BEIS
- David Fielder, CCUS Policy Team
- Jason Golder, The Crown Estate,
- Sian Wilson, The Crown Estate Scotland

- Andrew Bullimore, Oil and Gas Authority
- Meg Nicolaysen, HM Treasury
- Stuart McKay, Scottish Government
- Kate Hearnden, Welsh Government

Apologies

- Simon Fairman, Director of Safety and Network Strategy, Cadent
- Dermot Nolan, CEO, Ofgem
- Dame Angela Strank, Chief Scientist and Head of Downstream Technology, BP

Opening remarks from Minister Perry

- Claire Perry, Minister of State for Energy and Clean Growth welcomed her Co-Chair, James Smith, and the participants, including new members – Ofgem, Energy UK, National Grid and representatives from Scottish and Welsh regions.
- Minister Perry set out the progress that has been made by Government since the last meeting of the CCUS Council, including:
 - Announcing over £40 million of funding to invest in CCUS innovation focused on reducing the cost of the CCUS technologies to support it to become commercially viable at scale;
 - Taking on leadership of the Mission Innovation Carbon Capture Challenge, together with Saudi Arabia and Mexico;
 - Making good progress on the International CCUS Summit, which Minister Perry will co-host with the International Energy Agency, on 28 and the Global CCUS Conference that will run alongside the Summit on 28-29 November 2018, in Edinburgh;
 - Discussions with developers on project concepts and commercial models; and
 - Establishing the CCUS Cost Challenge Taskforce, comprised of over 40 leading experts on CCUS, which has rapidly made progress on the development of its report.
- The Minister thanked Charlotte Morgan, Chair of the Taskforce, and the individual workstream leads and members for their commitment.

Introduction from Co-Chair, James Smith

- James Smith set out the significant challenge of climate change and decarbonisation as he sees it, the urgency of the change required and the role of CCUS.
- He emphasised that the cost of achieving climate goals is greater without CCUS and that, in his view, CCUS is a crucial technology.
- He stated that he sees the three tasks ahead of the Council as:
 - Building an unstoppable momentum for CCUS;
 - Creating in the process benefits for UK, by playing to our strengths - innovation, engineering etc. - and benefits for the economy, not just domestically but also internationally; and
 - Establishing a model for successful collaboration between industry and government can work.

Presentation of CCUS Cost Challenge Taskforce Report and Recommendations

- Charlotte Morgan, Chair of the CCUS Cost Challenge Taskforce, emphasised that the Taskforce is a wide and diverse group and acknowledged the tremendous engagement and commitment from the members.
- Charlotte summarised the key findings and recommendations from the Taskforce's work:
 - There should be at least two CCUS clusters operational in the UK by the mid-2020s
 - That CO₂ transport and storage (T&S) should be separated from capture to reduce cross chain risk and drive down costs. The Taskforce recommends a Regulated Asset Base (RAB) model should established for CO₂ T&S infrastructure;
 - Alongside this different business models will be needed for CO₂ capture plants in each sector. The Taskforce recommends:
 - A Contract for Difference (CfD) for early movers on CCUS on power
 - RAB model for hydrogen, at least in the near term, with other mechanisms potentially being implemented as hydrogen economy develops
 - Tax credit mechanisms akin to the 45Q legislation in the US to incentivise CCUS on industry
 - CCUS should be deployed through the creation of CCUS clusters in industrial centres, emphasising that there is no one size fits all solution and that the regions should propose what is best for the regions. The Taskforce recommends that Government should publish criteria for clusters to enable industry to start work early on cluster plans
 - T&S infrastructure should be viewed as an enabler for value creation in a number of different industries.
 - CCUS on industrial processes can enable decarbonised industrial products, for which there is increasing demand. There is an opportunity to create a business around this, attract new investment and give UK industry an edge in a global market.
 - CCUS can make a real contribution to decarbonisation in power and to be a catalyst and driver for initial investment due to its size. The current way of analysing its value in the power system is not sufficient.
 - CCUS can enable a hydrogen economy which can further decarbonise industry, replace fossil fuels and decarbonise heat and transport. The UK can be a global leader in hydrogen.

Discussion of Taskforce report and recommendations

The Council thanked Charlotte and all members of the Taskforce for their work. In discussion the work, the following points were made:

- Important to bring out the wider benefits of CCUS, such as air quality.
- Support was expressed for a focus on T&S infrastructure as a starting point. The work that Norway have been doing in this area was highlighted along with the need

to consider how can we get CO₂ infrastructure development moving in the UK now. In this context a question around the potential for onshore CO₂ storage in the UK was raised.

- Welcome the report highlighting the potential to build a new industry sector that utilises CO₂ and the opportunity to base new innovative utilisation companies in CCUS clusters.
- Several members acknowledged the significant momentum that has been generated through the Taskforce process and the challenge would be to maintain that momentum going forwards. For example, how to progress projects (small or large) and how to progress clusters.
- The need to consider how the Council can support Government with a phased approach to delivery and investment. Action to take in the near term will be an important area of focus. For example, the development of criteria for the prioritisation of clusters was one area that the Council could consider in the near term.
- In considering appropriate business models for CCUS, “carrot vs stick” incentive mechanisms should be considered as should the need to consider different approaches in the context of global competitiveness.
- There was a discussion around the decommissioning of existing infrastructure and the potential associated loss of oil and gas skills and the need to develop a picture of what infrastructure is vital to the development of CCUS.
- The narrative around CCUS was discussed and how this could be communicated to better capture the role CCUS could play in decarbonising the economy and meeting global climate ambitions.
- It was also important to see how CCUS was being reflected in sector deals, e.g. the oil and gas sector.

Priorities for the Council and forward look

- James Smith highlighted areas that the Council could focus on going forward:
 1. Criteria for clusters – encompassing both eligibility criteria and criteria to determine the phasing of cluster development
 2. Transport and storage infrastructure – including consideration of existing assets
 3. Business models and risk allocation for transport and storage, power generation and industrial CCUS
 4. Hydrogen and the opportunities for the UK
 5. Communication of the benefits and value of CCUS
 6. CCUS and biomass for negative emissions
 7. CO₂ utilisation and innovation opportunities

Summary of agreed actions and next steps

James Smith to work with the Minister, BEIS officials and Council members to agree next steps to take forward the priorities identified, which may include convening sub groups on various themes.

The next meeting of the CCUS Council will be held in November 2018.