

# Energy Research Partnership Notes of 27 March 2009 meeting



**MEETING DATE:** 27 March 2009

**LOCATION:** IMechE, 1 Birdcage Walk, London

**CHAIR:** Nick Winser – National Grid

**ATTENDEES:**

|                 |                 |                           |
|-----------------|-----------------|---------------------------|
| <b>Members:</b> | David Clarke    | ETI                       |
|                 | Brian Collins   | DfT, BERR, DECC           |
|                 | Tom Delay       | Carbon Trust              |
|                 | David Eyton     | BP                        |
|                 | Mike Farley     | Doosan Babcock            |
|                 | Paul Golby      | E.ON UK                   |
|                 | Iain Gray       | TSB                       |
|                 | Mike Kelly      | DCLG                      |
|                 | John Loughhead  | UKERC                     |
|                 | Ron Loveland    | Welsh Assembly Government |
|                 | Turlogh O'Brien | Arup                      |
|                 | Siobhan Peters  | HMT                       |
|                 | Willy Rickett   | DECC                      |
|                 | Graeme Sweeney  | Shell                     |
|                 | Alison Wall     | EPSRC                     |

|                    |                    |                   |
|--------------------|--------------------|-------------------|
| <b>Secretariat</b> | Ian Welch          | National Grid     |
| <b>/ Analysis</b>  | Paul Durrant       | DECC              |
| <b>Team:</b>       | Farida Isroliwala  | DECC              |
|                    | Jonathan Radcliffe | ERP Analysis Team |
|                    | Charlotte Ramsay   | ERP Analysis Team |

|                 |                    |                          |
|-----------------|--------------------|--------------------------|
| <b>Non -</b>    | Murray Birt        | CBI                      |
| <b>Members:</b> | Charles Carey      | SSE                      |
|                 | Jeanie Cruickshank | DECC                     |
|                 | Jonathan Dinmore   | GO-Science               |
|                 | Brooke Flanagan    | Energy Saving Trust      |
|                 | Graham Floater     | Office of Climate Change |
|                 | Joe Greenwell      | Premier Automotive Group |
|                 | Nick Grout         | GO-Science               |
|                 | Oona Muirhead      | SEEDA                    |
|                 | Brian Nixon        | Scottish Enterprise      |
|                 | Carolyn Reeve      | DIUS                     |
|                 | Philip Sharman     | Alstom                   |

|                   |               |       |
|-------------------|---------------|-------|
| <b>Apologies/</b> | Pam Alexander | SEEDA |
|-------------------|---------------|-------|

|                     |                   |                              |
|---------------------|-------------------|------------------------------|
| <b>Not present:</b> | Chris Barton      | DECC                         |
|                     | Peter Bance       | Ceres Power                  |
|                     | John Beddington   | GCSA                         |
|                     | Jonathan Brearley | OCC                          |
|                     | Alistair Buchanan | Ofgem                        |
|                     | Sue Ion           | Royal Academy of Engineering |
|                     | Paul Lewis        | Scottish Enterprise          |
|                     | Ian Marchant      | Scottish and Southern        |
|                     | Richard Heap      | ERP Analysis Team            |

### **Chair's introduction**

Nick welcomed Brooke Flanagan (Energy Saving Trust) who was attending the meeting for the discussion on energy efficiency, noted apologies and welcomed those standing in as alternates.

The minutes of 14 January meeting were agreed.

Nick outlined the ERP forward plan for members' consideration. The plan was based on four themes / headings;

- developing a vision of the future energy mix, based on exemplar scenarios from members' organisations,
- mapping the technologies needed and their RD&D paths to the scenarios,
- identifying the gaps and challenges for innovation and the opportunities for each technology
- informing delivery plans to approaches to plug the gaps and support innovation

ERP's current work / projects were mapped under these themes / headings. Nick proposed that the Analysis Team develop a set of criteria to prioritise areas for ERP's future work. The Analysis Team will be meeting with members over the next quarter to talk through the work plans, including the criteria and priority areas. The populated work plan would then be discussed at the next ERP meeting and would be the basis for future meeting discussions.

Nick outlined how agenda items for ERP could fit into three categories:

- Project initiation: short discussion getting agreement and commitment by members to the project
- Updates: short items to update on project progress or other related activities
- Project recommendations: a longer discussion to agree the recommendations from a project

In addition to project reports it was suggested ERP will produce an Annual Report; this will provide a synopsis of key findings from work done in that year, and will highlight the ERP focus for the forthcoming year

## **ACTIONS:**

ERP Members: to feedback to their views on the ERP forward plan to the Analysis Team

### **ERP Work Plan**

The Analysis team presented an update on their work plan. The current work plan contains three technology specific projects, one multi-technology project, and three cross cutting activities (on energy technology scenarios, international engagement and audit and RD&D private sector funding). The aim of all these projects is not to duplicate effort, but to work closely with members (and other relevant stakeholders) to leverage their expertise and consolidate existing efforts in the project areas.

Over the next quarter, the Analysis Team will be contacting all members to set up bilateral meetings to discuss topics and prioritisation of the future ERP work plan. The outcomes from these discussions will be discussed at the June plenary meeting.

Work plan projects would each have ERP Member 'sponsors', ideally one each from the private and public side, to guide the project. A wider group of members would input to the project work and review its output before recommendations conclusions are discussed by all members at a plenary meeting.

## **ACTIONS:**

**ERP members:** to volunteer to act as project sponsor for projects or be part of the wider group for projects.

### **Heat Workshop Feedback**

David Clark gave feedback on the 22 January 2009 Heat Workshop jointly organised by ERP, ETI and Royal Academy of Engineering. The workshop raised interest and highlighted the diversity of views in how to manage the supply of and demand for heat as part of the energy system. Two points from the workshop stood out: the urgent need to get a better and larger scale demonstrator; and the need to raise the level of awareness of the issues around heat. A report on the workshop was being drafted, and it was proposed that ERP respond to HMG's Heat and Energy Efficiency Strategy Consultation drawing on the report with a focus on the innovation aspects.

The discussion that followed included a recommendation to highlight the need for an evidence base when responding to the Heat Consultation: the evidence aids prioritisation for policy and investment and helps identify obstacles to progress. There was also a need for guidance on what trials and technology were being examined.

**ACTION:**

**ERP Members:** to feed comments for an ERP response to the Heat Consultation to Jonathan Radcliffe by 17 April.

**Energy Efficiency (Residential and Commercial)**

Mike Kelly opened the discussion which focussed on innovation in the demand side on energy and efficiency in homes and buildings, eg domestic and commercial but not heavy industry or transport.

Mike made the following points in his presentation:

He outlined the scale of the challenge for carbon reduction and the built environment:

- HMG is committed to an 80% reduction in carbon emission by 2050
- 45% of all present carbon emissions come from existing buildings, with 27% from homes
- 87% of existing building will still be here in 2050
- CLG is the lead department of HMG concerning the built environment

DECC and CLG were working together on these and the Heat and Energy Efficiency Consultation reflected this.

The scale of the challenge was formidable and the essential ingredient is that there are 22 million houses so substantial retrofit was needed in the next five years. The technologies and measures that are currently readily available to the general public can only go part of the way towards achieving the efficiency savings necessary. More novel technologies that could help achieve the additional savings do not yet have a sufficient market to be available at a competitive price (or in DIY stores accessible to the general public). So to help with demonstration of technologies (and creation of a market for these more novel measures) a national action could be to get the HE / FE sector to show the way by using university and council accommodation to demonstrate the technologies.

The public sector and local authorities spend £10billion a year on renovations; this spend should be used to leverage technology development and set targets such as the California Vehicle scheme.

The current focus is on single houses, a different model may be needed and the options should be explored. Achieving demonstration at scale (i.e. thousands of homes) is the key to tackling this problem. Public attitudes to energy efficiency also need to change.

We should develop an investment and supply trajectory to 2020 and 2050.

In discussion the following points were made:

There were prospects for transformational technologies, but it was unclear what technologies were available; a database listing these was needed to pull together all the research effort.

There were planning issues around listed buildings. For example, 15 per cent of West Country homes are in conservation areas, this limits what retrofit work can be undertaken.

More leadership was needed and one suggestion was to turn the public sector's £10 billion a year spend on renovation to retrofit. This was needed more in the cities and towns where there was a higher concentration of people living compared to rural areas.

The TSB had recently launched a £10m call on retrofit for buildings and were happy to share with the ERP information on the technologies which are being developed as part of this call.

There were technology developments happening in universities, however, these were not being rolled out large scale due to the price and lack of demand for them. For example, the current technology for solid wall insulation was not effective and more was needed to bring the price down. .

The current focus was on single houses and one of the challenges remained that the UK housing stock was not designed for extremes in climate. It had cost £30k per home to retrofit houses to achieve level four of the Code for Sustainable Buildings, but it was not clear where the funding for this would come from in the future.

In conclusion Nick Winser noted that the discussion provided good input for the focus of the ERP energy efficiency project which should focus on an assessment of technologies. There was a need for interaction with innovation and technology and a route map on things already being done.

#### **ACTION:**

The Analysis Team (with input from members – Mike Kelly and Turlogh O'Brien (project sponsors)) will develop the energy efficiency project proposal incorporating comments from the plenary discussion.

#### **Technology Strategy Board / Energy Technologies Institute / Carbon Trust Low Carbon Innovation Group (LCIG) joint strategy**

Tom Delay provided a short presentation on their draft joint Low Carbon Innovation strategy. Tom explained that the draft strategy would be finalised in April and members had the opportunity to feed in comments before then. The strategy outlined how the three organisations had a shared vision and explained how they were working together, describing mutually agreed principles for collaboration to maximise collective impact and provided details of activities in key low carbon technology areas.

Putting the principles into practice would happen in four main ways:

- Co-ordinated strategy development
- Information sharing
- Activity co-ordination
- Collaborative communications

The draft next steps were as follows, looking to ERP members for steer on point 1:

1. Identify priority areas where there is a lack of current focus, identify focus and “natural owner” for activity
2. Focus on effective working level collaboration in areas where multiple major new activities are planned e.g. CCS
3. Engage further with key stakeholders outside the Low Carbon Innovation Group (LCIG) e.g. joint signposting, annual stakeholder event

The LCIG would be judged on the effectiveness of these principles and how they worked together. They acknowledged one of the challenges going forward remained better communication.

In discussion the following points were made:

It was a useful document clarifying how the LCIG were working together. However, the need remained to maintain a focus on collaboration, which should include the Research Councils and Environmental Transformation to encapsulate the wider energy innovation system.

More was needed on engaging with stakeholders such as joint signposting, which the TSB’s new proposed Knowledge Transfer Network (KTN) should help with. Develop concepts and annual stakeholder event, which should include the wider energy innovation chain.

Emphasised that it was not for ERP to try and tell the LCIG what needed doing but it was likely that ERP discussions and projects could help inform LCIG decisions on the focus of future programme development. It was suggested that the LCIG, and broadened to include the Research Councils and the Environmental Transformation Fund (ETF), should be invited to provide periodic updates (perhaps annually) to the ERP on the development of their programmes.

It was acknowledged that the support for transport was coherent and similar joint working was also a needed with joint up road maps on clean aviation and heavy maritime.

Benchmarking how energy innovation was organised in the UK against other countries would be a useful part of ERP’s international project. Some benchmarking had been done by TSB.

## **ACTIONS:**

**ERP Members** to feedback comments on the draft strategy, including coverage of focus areas on technologies, by 17 April to Tom Delay.

**LCIG, Research Councils and Environmental Transformation Fund** to update ERP annually on joint working.

**ERP Secretariat / Analysis Team** to consider FOI status of data / reports Members shared with ERP.

## **CCS Update**

Mike Farley provided an update on the CCS project since the January Plenary. Mike listed the CSS events since January and the recommendations from ACCAT to underpin the huge scale of the challenge and size. These included adopting a target for successful deployment of CATs, in particular CCS; to meet this ambitions challenge numerous pilot CCS demonstration projects were needed in the UK and a co-ordinated RD&D strategy across all the funding bodies.

The Technology Strategy Board's recent joint call with DECC and Northern Way in the development and demonstration of new carbon-reducing technologies was welcomed. More emphasis was needed on new technologies that tackled CO<sub>2</sub> emissions from power plants and large process industries as these will make major contributions to meeting the UK's CO<sub>2</sub> targets.

The EU Recovery Plan in January 2009 proposed allocation of €5billion "surplus" to major projects including CCS. The UK was one of the five countries identified to receive €180million; the selection will be made by the EU.

In discussion the following points were made:

The UK needs to consider its global position on CCS: what it can do and share; and what it does not do as others are already taking the lead. It was felt that the investment in the CCS demo project would help the meet the emissions targets. The cost of doing the project in the UK needs to be balanced against the cost of investment elsewhere where it is cheaper (like China) if the learning and IP can still be retained. However, it was felt that this was not always possible as experience has shown companies are not always willing to share knowledge.

Public acceptance for CCS was more of an issue in Europe than in the UK, as the UK has offshore storage.

ERP was informed of a National Grid study dealing with balancing and operating the electricity system with a high penetration of renewable energy sources. This study will also reference generation equipped with CCS. National Grid will be releasing a consultation on their work in this area shortly.

On international comparisons the role of the CSLF was discussed. CSLF comprises of 22 nations, which have no funding but undertake a co-ordination role

Approved

including with the Global Carbon Capture and Storage Institute in Australia. A meeting of the CSLF was going to be hosted in the UK.

**ACTIONS:**

ERP CCS project sponsors and Analysis Team to discuss implications for ERP CCS work and decide appropriate way forward.

**Chair's Closing Remarks**

Nick thanked members for their participation and reminded them the date of the next meeting was 26 June 2009, to be held at the BERR Conference Centre, Victoria Street.