

**MEETING DATE:** 17 April 2012

**LOCATION:** 170 Queens Gate, London, SW7 5HF

**ATTENDEES:**

Chair:	Nick Winser	National Grid
Members:	David MacKay	DECC
	Stephen Trotter	ABB
	John Miles	Arup
	Martin Grant	Atkins
	Julian Allwood	Cambridge University
	Tom Delay	Carbon Trust
	David Clarke	ETI
	Duncan McLaren	Friends of the Earth UK
	Sue Ion	Royal Academy of Engineering
	Paul Lewis	Scottish Enterprise
	Neil Morgan	TSB
	Peter Bance	
Non-members:	Keith MacLean	SSE
	Julian Pratt	E.ON
	Diego Villalobos	Ofgem
	Frigyes Lestak	Shell
Invited:	James Lingard	DECC
Secretariat:	Farida Isroliwala	DECC
	Ian Welch	National Grid
Analysis Team:	Jonathan Radcliffe	ERP Analysis Team
	Richard Heap	ERP Analysis Team
	Mark Workman	ERP Analysis Team
	Helen K Thomas	ERP Analysis Team

### 1. Chair's introduction

Nick welcomed Members to the meeting, and noted apologies from David Eyton (BP); Jeremy Watson (DCLG); Peter Emery (Drax Power); Ian Marchant (SSE, with Keith MacLean attending as alternate); Mike Farley (Doosan Power); John Loughhead (UKERC); Ron Loveland (Welsh Government); Neville Jackson (Ricardo); Dave Clarke (E.ON, with Julian Pratt attending as alternate); Alison Wall (EPSRC).

Nick informed Members that Graeme Sweeney had recently left Shell, and asked that he be thanked for his valuable contributions to ERP. Frigyes Lestak, attending for Shell, said he would pass on the message to Graeme and that a new representative was being sought.

The minutes of the January 2012 meeting were approved.

Nick outlined the main objectives of the meeting which had an international theme: to discuss conclusions and recommendations for the draft reports on International Emissions Abatement Opportunities and International Engagement; re-visit and agree the updated Resource-use Efficiency proposal and possible synergies with the Ellen MacArthur Foundation (revised after January 2012's Plenary meeting).

Some brief items were discussed:

- The DECC- ERP flexibility roundtable was held on 28 March which provided useful input to DECC's upcoming electricity system paper. Key points arising from that meeting were being summarised by DECC in a short note. The Co-chairs are due to meet with Jonathan Brearley (DECC) in May for a follow-up discussion.
- A further meeting for ERP Members is being planned for June/July to present results from analytical work commissioned by DECC, being undertaken by Goran Strbac and NERA.
- The ERP paper 'Flexibility options for the energy system' has been finalised and will be published soon. [Hard copies were available at the meeting.]
- Prof. Strbac's work on the role and value of energy storage was also raised. David MacKay informed ERP members he would ensure they had visibility of its outputs.

### **Actions**

Analysis Team to circulate DECC's flexibility workshop note to ERP Members when provided.

Analysis Team to publish 'Flexibility options' paper.

Analysis Team, with DECC, to plan high-level meeting on flexibility options, for June/July. [Date has been confirmed for morning of 20<sup>th</sup> July.]

## **2. Project updates**

### **2.1 International Emissions Abatement Opportunities**

Tom Delay provided an introduction to the project and welcomed members' thoughts and contributions for next steps. Tom stressed that some aspects of the work were difficult to carry out as the energy market is globally unpredictable and currently in transition. At present the project focuses on the power sector although data has been collected to enable a study of other sectors at a later date.

Mark Workman presented the findings and recommendations from the draft report which provides consideration of six countries' (UK, Germany, USA, India, China, Japan) existing capabilities within the power sector, and additionally highlights possible collaboration and competition opportunities.

Six key messages for UK opportunities, based on global needs were identified within the report and put forward for discussion:

- Emissions measurement and Negative Emissions governance
- Technology innovation focus
- Technology manufacturing - process innovation
- Nuclear Development Shift
- Carbon Capture and Storage
- Grid Management Innovation

Members were specifically asked to discuss the following questions:

1. The UK needs to understand how to best invest in order to capture value from international low carbon value chains. Should this be by focusing on:
  - R,D&D; or
  - on developing domestic manufacturing capacity (which may only have temporary benefit)
2. Should the project be extended to look at other sectors or continue to answer existing questions in more detail?

The report and analysis were commended by members. The questions generated extensive discussion with the following responses noted:

- Without RD&D, all value capture opportunity would be lost and the measure of value in manufacturing and RD&D would be technology-based. The team could consider economic penalties that may be incurred by developing specific technologies or through the adoption of specific R&D / manufacturing strategies.
- Looking at the development component of the RDD&D chain would be beneficial
- Reaching a 2C target might be ambitious but the UK should stay focused on targets as these could bring about economic benefits and may additionally help combat climate change.
- The key issue was the dynamic nature of the energy system and how the UK can develop resilience and adaptability in the face of this uncertainty.

Additional comments for improvements included:

- Looking at peak generation load against interconnection capacity.
- A study on the ratio of solar and wind capacity against interconnection and total generation
- Electricity generation capacity to be represented as de-rated capacity.
- The cost of producing electricity per unit investment for new build should be considered.
- The timeline for the project should be extended up to 2050 to take into account population growth and changes in demand.

Possible follow-up work was discussed:

- The work on the power sector should be completed.
- However, some felt that analysing additional sectors such as transport and the built environment should be prioritised.
- The demand-side was particularly important for drawing conclusions regarding abatement opportunities within the wider energy system.
- Each technology is different and therefore, value capture opportunities would be dependent on technology and sector type.
- Further analysis of the transport sector (with a focus on light-weighting vehicles) would be beneficial.

**Action:** Mark Workman to complete other sectors, work on comments for improvements and continue to work with Tom Delay / relevant ERP members.

## 2.2 International engagement

Jonathan Radcliffe introduced the draft report with a few words on behalf of John Loughhead (ERP sponsor member). Key points were:

- International engagement would be important to the development of energy technologies, bringing benefits for the UK energy system and business.
- To deliver the benefits, a more strategic approach was needed in the UK, with coordination between public and private sector organisations.
- Defining the objective of international engagement would provide the basis for a strategy. Examples of current initiatives, which showed the diversity of aims and organisations involved, were given.
- A framework for assessing the role the UK should play was outlined, and the results for a number of technology areas was given.

In general, members felt the report provided an excellent level of analysis although there were some concerns around the current recommendations from the paper. In particular, Members and the Co-chairs felt the report would benefit from:

- 1) a deeper analysis into how other countries (and the UK) already collaborate and engage internationally; and
- 2) clearer recommendations which should involve advice on how the UK can engage more effectively, and who should take leadership of this.

The Co-chairs were enthusiastic to take the item forward after more concrete and specific recommendations have been made. They felt these should include suggestions of mechanisms that could be used to drive an International Engagement business plan forward. Other suggestions included:

- Focussing on one technology area (CCS as an example) and studying how successful international engagement/collaboration can be achieved.
- The private sector should not be forgotten in terms of providing collaboration opportunities.
- Jonathan and John should meet relevant people in DECC to discuss the implications further.

**Action** – Jonathan Radcliffe to revisit the International Engagement report with the Steering Group and take forward member's proposals and suggestions.

### 3. Resource-Use Efficiency Follow-up

Mark Workman provided a brief update on the revisions made in response to concerns raised at January's plenary meeting. The proposal had been refined to clarify its focus on UK energy innovation.

Following the presentation by the Ellen MacArthur Foundation in January, the proposal (in part) included the concept of 'The Circular Economy', which relates mainly to mitigation strategies. The main focus of the proposal is how resource scarcity may impact energy innovation. The revised proposal was generally welcomed although further thoughts offered by members included:

- Impacts work both ways as energy innovation may also have an impact on resource scarcity.
- As an ERP project, it should be consistently focussed on energy issues;
- The work should consider the government's role in resource use efficiency and developing a circular economy; and
- The scope of the project could focus on critical minerals and the associated threat to the energy industry with a look at the circular economy as an aside.

These considerations were taken on-board and would be discussed at the next Co-chair meeting.

**Action –** Mark Workman to provide early thoughts for follow-up steps to be discussed at the next ERP Co-chair meeting.

#### **4. ERP Future workplan**

Jonathan Radcliffe presented an outline for ERP's future work programme, which covered projects through to the end of the year. Members were asked to email Jonathan with their thoughts for future projects, which would be discussed in more detail at the July meeting.

It was additionally suggested that the views of ERP's 'customers' be sought, on the benefits of ERP (the use of ERP reports etc).

**Action:** ERP members to email Jonathan Radcliffe with ideas for future ERP projects

#### **5. Any other business**

The next ERP Plenary meeting will be held at 170 Queen's Gate covering hydrogen and future ERP strategy. The meeting will be held from 3-5pm followed by a drinks reception and plenary dinner. Members agreed to extend invitations to colleagues who have made a significant contribution to the work of ERP.

**Action -** Jonathan Radcliffe and team to circulate invitations to relevant colleagues