

## ERP Plenary meeting – final minutes

**MEETING DATE:** 17 January 2013

**LOCATION:** Royal Academy of Engineering, 3 Carlton Terrace, London, SW1Y 5DG

### **ATTENDEES:**

Chair:	David MacKay	DECC
Members:	Keith MacLean	SSE, ERP Co-chair
	Martin Grant	Atkins
	David Eyton	BP
	Tom Delay	Carbon Trust
	Peter Emery	Drax
	David Clarke	ETI
	Duncan McLaren	Friends of the Earth UK
	Sue Ion	Royal Academy of Engineering
	Paul Lewis	Scottish Enterprise
	Peter Bance	Octopus Investments
	Alison Wall	EPSRC
	Neville Jackson	Ricardo
	John MacArthur	Shell
	John Loughhead	UKERC
Ron Loveland	Welsh Government	
Nick Winser	National Grid	
Non-members:	Stephen Fleming	E.ON
	Mike Thompson	CCC
	Chris Floyd	Isentropic
	Anthony Burd	DCLG
Invited:	Lord Deben	CCC
	Adrian Gault	CCC
Secretariat:	Rhiannon Mulherin	DECC
	Rufus Ford	SSE
Analysis Team:	Jonathan Radcliffe	ERP Analysis Team
	Mark Workman	ERP Analysis Team
	Helen K Thomas	ERP Analysis Team

## **1. Chair's introduction**

David welcomed Members to the meeting, and welcomed Keith MacLean (SSE) at his first meeting as ERP Industry Co-chair, and Rufus Ford (SSE) as the new Industry-side Secretariat member.

Apologies were noted from Stephen Trotter (ABB); John Miles (Arup); John Perkins (BIS); Julian Allwood (Cambridge University); Rod Smith (DfT); Jill Duggan (Doosan); and Sara Vaughan (E.ON - with Stephen Fleming in attendance as alternate).

The minutes of the October 2012 meeting were approved.

David updated members on changes to ERP membership:

- Jeremy Watson is no longer CSA at DCLG. Steven Aldridge (Acting CSA) will be invited to attend ERP Plenary meetings.
- Neil Morgan has stepped down from his role as Head of Energy at TSB. The new Head of Energy, Rob Saunders will be attending ERP Plenary meetings from April.
- Isentropic were welcomed as the new SME member with Chris Floyd, Non-Executive Director in attendance. Mark Wagner, Chair of Isentropic is to attend future ERP Plenary meetings.
- Peter Bance (Octopus Investments, and formerly Ceres Power) was thanked for his contribution to ERP over the years.

David reported back from the meeting about nuclear with Energy Minister, John Hayes in November. Attendees included David MacKay (DECC), Sue Ion (RAEng), Graham Fairhall (NNL) and Richard Heap (ERP).

The meeting highlighted ERP's work on Nuclear R&D road-mapping ahead of Sir John Beddington's Nuclear R&D review. David reported positive feedback from the minister who was grateful for the timely discussion and recognised the need for investment in R&D to retain and develop the UK's nuclear expertise and skills.

The key objectives of the plenary meeting were outlined: i) discuss and agree conclusions and recommendations for the draft Resource-Use Strategies report ii) discuss further engagement with the CCC (how ERP and CCC can continue to work together) and iii) discuss ERP's future work.

## 2. Resource Use Strategies

Martin Grant (Atkins) introduced the Resource-Use Strategies review as project sponsor, on behalf of the Steering Group, A draft report had been circulated which sought to define the nature of the resource constraints agenda and its potential impact on UK energy innovation and system development to 2050.

Martin highlighted the complexity of defining the resource constraints agenda and emphasised the variety of opinions surrounding the topic. He additionally set out the context for the work, which aimed to define the risks, drivers and past perspectives of resource constraints. Martin noted that the work:

- Focuses on resource constraints through a macro-economic lens;
- Highlights interconnections (i.e. between minerals, land and water) however the main focus of the present work is on *mineral* criticality with land and water not being covered in depth at this stage);
- To this end, the work provides insights into the market behaviour of key minerals and possible mitigation strategies and solutions from a policy perspective.

Members were requested to provide feedback and recommendations at the end of the presentation to help shape the rest of the report.

Mark Workman presented an overview of the project (which is 70% complete) and went on to present the following draft key messages and recommendations:

#### **Draft key messages**

- The resource constraints agenda is being subjected to inappropriate analysis which could lead to inadequate policy responses;
- At an aggregated level, there is **no effective scarcity** of any source resources (water, minerals and fossil fuels etc.), however, scarcity of ‘sink resources’ (waste and CO<sub>2</sub> sinks) was a cause for concern. Key constraints are related to the ability of ecological sinks to absorb waste from the exploitation of resources and the responsiveness. Scarcity of certain technology minerals may arise due to a lack of autonomous markets signals;
- The most immediate, potentially significant constraint risk to UK energy innovation and system development to 2050 may apply to the availability of a specific set of ‘technology minerals’ used in low carbon technologies.

#### **Draft recommendations**

- In light of strong growth in demand, stronger market signals are needed to ensure rapid innovation in productions to address short-term supply chain issues;
- Countermeasures such as demand-side reduction and recycling/reuse of minerals are recommended to address potential shortages;
- An increase in government focus to develop information and coordinate extension services is recommended to address the capacity gap relating to SMEs (who are potentially most exposed to the risk of technology mineral resource constraints).
- More formalised, sectorally based, government ownership of the resources agenda and improved surveillance management in order to enhance the resilience of the UK economy is also recommended.

In discussion, Members provided their input on the RUS project and report, including:

- Mineral criticality is an area of great interest, especially for BP who have funded work on resources as part of the Energy Sustainability Challenge. However, the project should consider further what makes the UK different from other countries from a minerals security perspective. For example, is the UK in the same position as other nations and how are the risks different?
- Work being undertaken in minerals substitution should also be covered, as technologies and manufacturers have been able to adapt well in the past e.g. the work being undertaken by Toyota.
- The resilience of other minerals markets needs to be considered, for example, the Reserves to Production ratios for Oil and Gas have been remarkably stable despite considerable market disruption over the last century.
- Considering the variety and inconsistency of existing literature, it might be useful to see how the findings of the ERP review impacts on the criticality literature. Questions for consideration included:
  - Which areas is ERP in agreement with/in opposition to?
  - How does the UK economy differ from other countries and therefore;
  - What makes resource scarcity and mineral use different in the UK?

In response to suggestions for completion of the report, Members felt that:

- The report should focus on minerals *within the UK energy manufacturing supply chain*, with a view to undertaking reviews of land and water as separate work packages. There was also the need to emphasize the opportunities that these issues might represent for the UK. For example, the EPSRC programmes which look at this related topic;
- Some members raised concerns about the construction of some of the arguments made in the report and how they related to the key messages.
- Members felt it was important to consider why reserve estimates may have been so different (i.e. there may be conflicting drivers for these analyses);
- It was also suggested that gathering the views of parties such as equipment manufacturers and traders within the UK supply agenda and global supply chain would be useful.

In conclusion, members felt the report raised interesting points that have not been raised by the literature. Final recommendations for improvements included:

- The key messages to be framed in a more normative manner e.g. ERP to state which of the existing concerns it does/does not agree with and ERP to provide recommendations relating to supply and demand.;
- Construction of the arguments to validate some of the key messages need to be better developed.
- Focus on minerals and its potential impact on the UK energy system and manufacturing supply chain i.e. identifying what makes the UK different.
- Undertake analysis of water and land risks to UK energy innovation and as individual topics in their own right.

**Action:**

The Steering Group, with Mark Workman, to finalise work on the RUS Review, taking note of member's thoughts and recommendations.

### **3. Work of the Committee on Climate Change (CCC)**

David welcomed the new CCC Chair, Lord Deben and Chief Economist, Adrian Gault. David introduced ERP and gave an overview of its work.

Lord Deben gave his views on the challenges facing the CCC and what he saw as some priorities for the future.

Main points noted by Lord Deben were:

- The CCC remains dedicated to implementing the Climate Change Act, but is working in a challenging time and atmosphere, particularly regarding the dissemination of scientific facts, and providing solid statements on the issues of climate change to the public;
- The Climate Change Act should be implemented in the most cost-effective way, and the 4<sup>th</sup> Carbon Budget should not be changed unless there were justifiable reasons for doing so.
- Future work and engagement with the public must uphold the CCC's good, clear and honest reputation;

- Future work must also involve the public in decision-making whilst providing accessible, timely discussion and answers to Climate Change ‘myths’.
- The Treasury has an important role in addressing climate change.

Lord Deben encouraged ERP and its Members to assist the CCC with public engagement, informing, sharing and disseminating scientific messages regarding climate change (making use of ERP’s technical expertise and variety of membership).

He saw ERP as being able to ensure that the CCC’s work had interpreted developments in energy innovation properly, and hadn’t missed any important actors. Both bodies should share updates and information on international developments and opportunities.

David stated that ERP members would be keen to support the CCC via technical expertise, and he highlighted the importance of sharing thoughts and information at meetings to ensure continuity of key messages. All strongly agreed that CCC engagement at ERP meetings should continue.

In discussion, points raised included:

- How can a policy mechanism make progress globally (Lord Deben noted that GLOBE, which he is President of, had just published a Climate Legislation Study);
- How carbon targets are supported by frameworks e.g. how the levy control framework fits with decarbonisation targets

Adrian Gault emphasised the importance of good quality analysis of costs regarding carbon budgets and footprints. The CCC now has much more understanding regarding carbon and is seen as an exemplar.

Mike Thomsson (CCC) mentioned that the CCC have an active role into the EMR process and feed in to the delivery plan working with DECC and National Grid.

#### **Actions:**

ERP and CCC to continue engagement.

#### **4. ERP forward look**

Jonathan Radcliffe led discussion and provided an initial overview of the ERP work programme for the next 12 - 18 months. Updates were provided for the three key project areas, which were approved by members during previous plenary meetings (outlined below). Project Initiation Documents (PIDs) were submitted for Buildings Technologies and Flexible Thermal Generation for discussion and final approval:

#### **Public Engagement**

A workshop is planned for **March/April 2013** following a meeting of the Steering Group, which consists of Shell, BP, DECC, UKERC, FoE and is chaired by Ron Loveland. The focus would be on public acceptance and attitudes towards new energy technologies, within a wider understanding of the implications of the low carbon transition. [Post meeting update: date of the seminar is Friday 10 May 2013.]

### **Buildings Technologies**

Members were keen for this item not to be constrained to technology development but to include skills, finance and building strategies e.g. retrofit. It was therefore suggested that the project name be changed to 'Applications in Buildings Technologies' (or similar).

### **Flexible thermal generation**

The DECC Taskforce on Thermal CCS, led by ETI was brought to ERP's attention as a tool to aid ERP's work on Flexible Thermal Generation. Members were keen for the work to have clear research aims, part of which should be to identify which technologies will play a major role in the energy system in the future. The views of equipment manufacturers to obtain an understanding of roadmaps for the future were also noted as important inputs.

Work on the latter two areas was approved in principle, and Members were asked to volunteer to be part of the Steering Groups for these projects.

Other 'long-list' project contenders were discussed, with Members asked to show their support for the future project items. Voting scores were:

- Innovation Funding landscape – 1
- Nuclear Fusion - 1
- Value for Money from innovation support – 5
- Global carbon price – 6
- Unconventional fossil fuel – 9
- Resource use strategies follow-up: Land & Water – 14
- Cities – 16

It was agreed that further discussion would be required (in general) regarding new project topic items. Post-plenary sessions were identified as an effective tool to provide a more formal procedure for discussion regarding ERP's future work.

### **Actions:**

Members to contact the Analysis Team to join Steering Groups for either the Buildings Technologies (please contact Mark Workman) or Flexible Thermal Generation (please contact Richard Heap) projects.

### **ERP's Impact & Effectiveness**

Keith MacLean provided a brief update following meetings with members regarding ERP's impact & effectiveness. Keith thanked members for their time (so far), which has allowed him to collate views on impact and effectiveness both now and for the future. Keith is still to meet with some ERP members, (these meetings will continue into early February) but urged members with limited availability to send an email through detailing their views.

Further feedback and discussion regarding ERP's impact & effectiveness and the new consortium agreement is likely to take place at April's plenary meeting. Members welcomed further discussion but were keen for this to focus on ERP's Ways of Working (now and for the future) rather than details of the Consortium Agreement.

## **Analysis Team Changes**

David informed Members that Jonathan Radcliffe will be moving on from his position as Head of the ERP Analysis Team in March 2013. Jonathan will be taking up a position at Birmingham University leading a Research Centre for Energy Storage. The ERP team and Members congratulated Jonathan and thanked him for his time as Head of the Analysis Team.

To cover the gap in resource on the Analysis Team, a Team member would be sought to cover a 6 – 9 month period as an interim arrangement. A permanent position could be advertised when a new Consortium Agreement was signed-off. In the first instance, Members were asked to consider potential secondees from their organisations and requested to send any nominations through to Rufus Ford by **Thursday 7 February 2013**.

If no suitable recommendations are received, an interim analyst would be sought externally.

### **Actions:**

Keith to continue to meet with members (where possible) and circulate papers summarising member feedback and points for further discussion before the next plenary meeting. (If members are unable to meet with Keith, please send an email with your thoughts regarding ERP's current and future impact and effectiveness.)

All members to provide details of potential secondees to Rufus Ford by **Thursday 7 February 2013**.

## **5. Any other business**

ERP Dinner – There was general approval that following the success of the dinner last year, the ERP Team should look to organise another one in July 2013.

**Next meeting: Tuesday 16 April 2013.**