

ERP Plenary meeting –Minutes

MEETING DATE: Tuesday 11 October, 2016, 9:45 – 12:15
LOCATION: Coin Street Neighbourhood Centre, London

ATTENDEES:

Chair:	Keith MacLean	ERP Co-chair
Members:	John Loughhead	BEIS & ERP Co-Chair
	Bob Sorrell	BP
	David Ball	Drax
	Kathryn Magnay	EPSRC
	Philip Sellwood	EST
	David Clarke	ETI
	Rob Saunders	Innovate UK
	Peter Bance	Origami Energy Ltd
	Neville Jackson	Ricardo
	Ali Naini	Turquoise
Prof Julian Allwood	University of Cambridge	
Ron Loveland	Welsh Government	
Alternate Members:	James Wilde	Carbon Trust
	Neil Ebenezer	DfT
	Andy Bullock	GE
	Jon Fenn	National Grid
	Saraansh Dave	SSE
Amber Sharick	UKERC	
Observers:	Eric Ling	CCC
	Andrew Burgess	Ofgem
Invited to present:	David Casale	Turquoise
Invited:	Grant Bourhill	Energy Systems Catapult
	Greg Kelsall	GE
	Jeff Hardy	Imperial College
Secretariat:	Graham Allardice	BEIS
	Samuel Stephens	Atkins
ERP Analysis Team:	Andy Boston	ERP
	Mark Workman	ERP
	Simon Cran-McGreehin	ERP
	Richard Heap	ERP
	Helen Thomas	ERP
	Mathilde Bourgeois	ERP

1. Chair's introduction

Apologies were acknowledged: Ian Funnell – ABB, John Miles – Arup, Carl Arntzen – Bosch, Tom Delay – Carbon Trust (James Wilde in attendance), Phil Blythe – DfT (Neil Ebenezer in attendance), Derek Grieve (Andy Bullock in attendance), Duncan McLaren – Friends of the Earth Scotland, Andres Larriera – Hitachi, David Wright – National Grid (Jon Fenn in attendance), Nick Winser – Royal Academy of Engineering, Maggie McGinlay – Scottish Enterprise, Angus Gillespie – Shell, Marta Smart – SSE (Saraansh Dave in attendance), and Jim Watson – UKERC (Amber Sharick in attendance).

The following were welcomed: invited guest presenter David Casale from Turquoise; Jeff Hardy of Imperial College from the Utility 2050 project's Enabling Team; Grant Bourhill representing Energy Systems Catapult which will be joining ERP; and Greg Kelsall of GE.

The chair also welcomed new interim public Secretariat Graham Allardice from BEIS, and offered a vote of thanks to Farida Isroliwala for her longstanding support and service to ERP in her Secretariat role, as she is moving to another post within BEIS, working on international science and innovation.

The minutes of the July 2016 meeting were approved with no amendments from members.

The key objectives of the plenary meeting were outlined as follows:

- i. Provide feedback on the initial findings and recommendations of the Utility 2050 project;
- ii. Consider for approval the Project Initiation Document for the Low Carbon Heat project;
- iii. Receive an overview of the last three years of ERP work and discuss cross cutting themes;
- iv. Receive an update on the changes in BEIS and the EIB and effects they may have on ERP;
- v. Receive an update on next steps for ERP's resourcing and Consortium Agreement options.

2. Utilities 2050 Project

Project Steering Group Chair, David Casale (Turquoise), introduced the project, and further details were provided by Mark Workman (Analysis Team) and Jeff Hardy (Imperial College).

The project had evolved from a number of ERP projects which had highlighted the potential need for large investments in R&D and deployment but also identified significant and disruptive drivers of change to the utility operating environment. The project is seeking to answer the question: how is the UK electricity sector going to fund GW-scale flexible electricity provision in the face of disruption to the present incumbent vertically integrated business model? The project has chosen eight publically-available scenarios of possible future energy sectors, and for each has calculated the financial size of energy services called "value pools" within which utility actors would be in a position to make financial returns. The project has chosen a range of business models that could be used, and is determining how much of each value pool could be accessed by each business model.

Members were asked to approve ongoing funding for the project's remaining steps: to undertake research on willingness to pay for services by end-users; to run workshops ("decision theatres") with energy sector participants to hear how they would respond to the scenarios and business models; and to develop a systemic understanding of the requirements of different actors in the UK electricity / energy sector.

Members and the presenters discussed the following points:

- The project assumes that large capital projects are needed, but these are getting harder to deliver than was previously anticipated, so the project should not assume that they are the only answer. The project does have scenarios with fewer large capital projects.
- The study on willingness to pay (WTP) for different services in the future was welcomed but should incorporate the WTP for network reliability as the existing counterfactual.
- The business models were developed “in a vacuum” at the workshop on 15th June 2016 and then were subsequently stress-tested by specialists looking at impacts on finance, technological development, markets and regulation and user groups.
- The work will show which business models would be most successful in each scenario, and also which business models are most versatile and likely to survive in different scenarios.
- Business-as-usual scenarios should seek to capture implications of the evolution of Distribution Network Operators (DNOs): as the electricity system evolves, substantive changes to the DNOs’ business model might take place, but this could result in only minor changes to the electricity service delivery.
- The third party model is already being looked at by Ofgem; and there are many other small-scale business models, e.g. self-generation.
- Some of the business models could morph into others, and so are not clean-cut: the aim is to see which services would be needed, and not to promote specific business models.
- The project should use work funded by the ETI on Energy Service Companies (ESCOs).
- The decision theatres will include non-traditional business model developers who are not experts in current energy sector arrangements, who might have different views of risk and make different decisions.
- Uncertainty is at the heart of the project: uncertainty will cause experimentation, so the regulatory environment must allow innovation.
- The work must assess similar trends taking place in other nations’ electricity system innovation.
- The presentation of project results must be useful to stakeholders across a broad swathe of audiences, including non-academics. Furthermore, the way that the messages are derived should be as transparent as possible.
- GO-Science has futures capability in explaining work being developed in deep uncertainty that could be useful for this ERP project: for benchmarking in the analysis, and for experience of writing reports accessibly.

The chair considered that there was support for continuing onto the next stages of the project.

Action:

- **The project should continue as planned, ensuring that outputs are messaged clearly.**

3. Low Carbon Heat – Project Initiation Document (PID)

Richard Heap (Analysis Team) presented the project initiation document (PID) for the new project on Low-Carbon Heat. He explained that the project aimed to add to the current debate by considering matters of governance and timescales. It would build on existing studies to consider upstream implications (e.g. primary energy supply and networks) and implementation issues (e.g. customers’ experience and utilities’ logistics). The project will seek to input to the Government’s heat strategy, and will publish its report in early summer 2017.

Members provided comments and feedback, including:

- The ERP's new Heating Buildings report was welcomed, but recommendations in the heat project should be clearer. Formulating recommendations that take account of all members' views could be challenging, but the ERP will consider how to make improvements.
- The project must not miss the opportunity to feed into the UK Government's heat strategy. The project will hold workshops that will produce outputs before the final report.
- Members were welcome to join the Steering Group and were encouraged to participate in research interviews.

Action:

- **The project should progress as planned.**
- **ERP members should notify the Analysis Team if they wish to join the Steering Group.**

4. Main Themes from ERP Analysis

Andy Boston (Analysis Team) shared his perspective on ERP research projects from the last three years, including main themes that emerged from the portfolio of projects. The projects had a very broad coverage across five topics (heat, transport, power, resources, and general topics) and highlighted seven key "Big Issues": 1) The energy sector needs a whole-system approach, including 2) valuing system services, 3) reducing demand, and 4) accounting for upstream impacts. 5) Governance and ownership are changing. All of these factors shape 6) technology implications. The overarching theme is the need for 7) a strategic narrative shaped by the public, industry and policy makers.

Members provided comments on the themes and on other themes for possible future ERP work:

- The presentation shows that the sum of the projects is more valuable than the parts, especially around system-level work and the strategic narrative. It can be hard to conclusively link ERP work to specific impacts, as ERP is often adding its weight to existing debates.
- ERP should say the unsayable, with bold recommendations, which is justified by themes from the ERP's ten years: non-credible events have happened; and big capital projects were harder to do than expected.
- Whole systems: This is the correct approach, but it is not just UK-bounded, and needs to look at our links with Europe and the rest of the world.
- Public engagement and strategic narrative:
 - Issue is very important: it affects us all and keeps arising, but it is hard to do and no-one takes responsibility. Someone must take it forward, and one comment was that this was a role for Government and Ofgem.
 - Strategic narrative has shifted from just low-carbon e.g. to include health: heat and health, transport and air quality, etc. ERP should consider this in topics and messaging.
 - Trust is key: ERP has value in its wide membership giving united messages, to help the public debate, and to give confidence to Government to make decisions.
- Consumers:
 - They will become more active, either themselves or through third parties, e.g. for demand-side response.
 - They do not want to pay more, but the wholesale power price is likely to rise and we should talk about the potential for much higher prices than at present.
 - We must consider different types of consumers, and must communicate with them about changes to the energy sector.
 - There is lots of overlap between groups, e.g. energy consumers are also voters in need of essential services like heat and power.
- Energy sector services:

- We are moving away from “one flavour of energy for all”, and could see new offerings from proxy markets e.g. “all-you-can-eat energy”, different qualities of service, etc.
- Reliability is a key theme: the system still needs to work for 1-in-100yr events.
- Competitiveness: Both in the way that energy prices affect the UK economy, and in energy market competition.
- Politics: Political decisions have huge bearing upon the sector, and we need to engage with political groups.
- Infrastructure: We need to make optimal use of it; and it is hard to see a future where fossil fuels are not playing some role.

Action:

- **Analysis Team to provide the slides for members to use as ambassadors for ERP.**

5. BEIS Update

John Loughhead (BEIS) provided an update on the transition from DECC to BEIS, and how it will affect ERP and the forthcoming opportunity to support the Energy Innovation Board (EIB). He observed that policies will be led by the new industrial strategy and will reflect characteristics of different parts of the UK and address uneven economic progress. Leaving the EU affects all aspects of the work.

UK Research Investments will integrate “policy for science” with the process of “applying science to deliver policy”, with a new focus: energy in the service of prosperity. Government recognises key technologies that are needed (CCS, storage, smart systems, waste-to-energy, etc.), and ERP can keep giving reminders about their importance. The 5th Carbon Budget has been defined and will not change, and the Emissions Reduction Plan (also abbreviated to ERP) is being developed. The EIB is continuing its work as per previous plans, with frequent meetings and strong support from its chair (the Government CSA). BEIS internal re-organisation progressed slowly over the summer, but a high-level structure will be confirmed within a month or so.

The following points were discussed:

- Decisions and publications have been held up as the new Government settles in, but considerable activity has been going on behind the scenes. The exact timings of announcements are not yet known (e.g. for the heat strategy).
- Government will use a mixture of top-down and local solutions as appropriate, e.g. industrial strategy will support particular areas of the UK. A member noted that there have been many previous industrial strategies, some of which were developed in consultation with specific sectors and worked well. The new industrial strategy will be developed using consultation.
- The Emissions Reduction Plan (ERP) and industrial strategy will give direction: the UK will still work on decarbonisation, but from the perspective of growth across the economy. However, it was stated by one member that: investors assume that climate change is off the table with the UK Government; and hence investors’ low-carbon investments in the UK will end this year.
- It was said that some sectors have insufficient regulation, e.g. heat. But was considered unlikely that regulations would be added: the role of ERP is to remind Government of what we need to do, focusing on the strategic purpose and not too much on detail.

6. New Consortium Agreement

Andy Boston (ERP) provided an update on the contract extension, new consortium agreement and future projects. For the extension to current agreement, three members are leaving (Friends of the Earth, RAEng and Shell), one is joining (Energy Systems Catapult), three are undecided, and 23 will continue. The extension contracts will be sent to members soon for signature. A workshop to be held to gather views for the new consortium agreement;

Action:

- **Analysis Team to circulate contract extension to members.**

7. AOB

John Loughhead briefly took the chair at this point and thanked Keith for his service as industrial co-chair over the past four years, wishing him all the best in the future.

Details of the next plenary meeting were provided as: 12th January 2017, 15:00 – 17:30 at the Royal Society of Chemistry, Piccadilly. This meeting will be followed by a post-plenary session, details of which will be communicated closer to the date.

Members were invited to join wider ERP stakeholders for the post-plenary lunch and ensuing launch event for reports on Hydrogen and Heating Buildings and the new project on Low-Carbon Heat. The meeting was brought to a close.