ERP Project Themes for 2016 (showing member interest)

6/4/16

Members have made suggestions on areas for future projects. The following have all been suggested by at least one member or member of the A-Team. Members have responded to the long list and expressed interest, although that varied from simple listing of important topics to more detailed comments on how projects should or should not be developed.

The most popular area was heat, especially if combined with support for domestic energy use. However the support has not yet been well defined so it is proposed to discuss these at the plenary with the aim of identifying where ERP can add value. ERP Analysis Team will then develop a PID over the next two months with the interested parties with the aim of starting a project in July.

Main Options with Significant Interest

Heat (7 interested)

- Still no specific interests have been expressed but recognised as an area of need. Interest from **Origami, Atkins, EST, BP, Scottish Enterprise, Bosch, DECC, HMT**. Could be combined with next one which is better defined.

Domestic energy use (6 interested)

There was a wide range of ideas that could potentially be rolled into one or two projects, or as a follow-on from Buildings project. Interest from **DECC, Bosch, EST, Wales, ETI, SSE**. Not everyone was interested in all of this but early suggestions were:

- How accurate are EPCs? What do they achieve?
- How effective are smart controls at home? How are they used?
- What's the real life performance of energy technologies in the home? Could a standards body help here?
- Lessons learned from ECO and how to improve future programmes.\

ACTION: If you have an interest in heat/domestic energy use please come to the plenary with thoughts the aspects that ERP could usefully investigate and sign up to the steering group.

Flex II (6 Interested)

Flexibility of Electricity System II. Identifying minimum requirements and actions to get from here to there. A more practical approach to the outcomes of Flex I. Some of aims expressed by members overlap with **Transition Pathways** which

also had reasonable support so suggest the two are combined. Interest from **Origami, BP, Drax, Hitachi, Atkins, ETI, (Wales?).**

Transition Pathways (5 Interested)

Transition Pathways. What would a roadmap look like – what's required to build one? What would it cost to get there? (*May link to Flexibility II*). Cross-check how we're doing against CCC recommendations. Are they even feasible? What could the unexpected consequences be for a chosen technology or path? How do all the parts of the energy system interact – start by simulating this in a workshop. Interest here was from different parties to Flex II so combining the two would have 10 interested.

Transport II(b) EVs (5 Interested)

Transport II(b): EVs. What is the business model for EVs. How to make them attractive. How do we build out a charging infrastructure? Are hybrids a stepping stone? Interest from **Wales, EST, BP, DfT, DECC**

System integration (4 Interested)

Suggested topic area but no specific interests have been expressed.

Regional differences (4 Interested)

What effect do variations between regions have on the possible way forward? What might work better/not so well in Scotland/Wales/NI/English regions? Can large regions like Scotland function with no firm-flexible capacity? (*some work may link to previous work on cities*)

Other Projects with 3 parties interested

- **Skills II**. Revisit ERP's first piece of work (2007) on whether there are sufficient skills to deliver the engineering and construction required to transform the energy system.
- **International abatement II.** What can UK learn from other transitions, how are we doing with respect to other economies.
- **Nuclear SMRs**. Currently of interest to government. A review of technologies and innovation needs.
- **Database for innovators.** How do we create a single point for these data (load profiles, house types, usage patterns, infrastructure maps …)
- **Locational signals for Grid connection.** What is the effect of more locational signals for grid connection as recommended by CMA.
- **New Innovation Funding.** How should we spend UK's new pledged innovation funding? *Links to International Engagement project.*
- **Transport II(a): Value of light-weighting** – can we add anything to Julian Allwood's work? Could also look at new ownership models – e.g. for vehicles.
- **EU In or Out**? An apolitical look at the effect of Brexit on the energy industry. Would need to deliver by mid-June to be of value.

Other suggestions with little support:

- **Public Engagement II**. Putting it into action. This is a recent project and is already partly in-train.
- **Direct Air Capture.** Issues around ultimate backstop for CO_2 control. Would help bound other issues – e.g. where could we store all this CO_2, globally?
- **Offshore Wind.** Government have declared it needs to reduce in cost - what room is there to do this?
- **International energy vectors**. How do we get energy from places like Iceland to UK (cable, hydrogen, other?).
- **Biomass sustainability**. Where could it come from – what defines sustainability?
- **Role of SMEs.** What's the role of SMEs in the transition – as participants, as consumers?
- **Value of £ Across Innovation chain**. What is the value of £ spent on different parts of innovation chain? Where is it needed most? Where does the private sector spend its innovation funding? How do SMEs and large companies differ in that respect? How effective are the different mechanisms? – *could be combined with previous project idea.*

ACTION: If you have any comments on how to develop these or have not yet expressed support for any of these areas then please contact a member of the Analysis Team. By the summer there will be resource to develop another project.