

Governance Challenges Emerging from Energy Digitalisation: Annexes

Emily Judson, Iain Soutar, Catherine Mitchell

Contact: Emily Judson e.judson@exeter.ac.uk

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1 Annex 1: Preliminary interview methodology

18 semi-structured interviews were conducted with experts from across the digital energy sector. Interview schedules focussed on themes identified in the literature and policy reviews. The aim of the interviews was exploratory; examining whether the themes identified are relevant, complete, and appropriately worded, as well as allowing additional themes to come to light.

A qualitative approach was used to allow for deeper exploration of different subjectivities surrounding emerging digital energy governance challenges (Bryman, 2016). This is particularly important in relation to conceptual development of novel governance approaches, which must account for a range of different goals and stakeholder needs.

A semi-structured interview format was used as it balances a degree of replicability and structure with the flexibility for interviewees to ‘use their own words and develop their own thoughts’ (Denscombe, 2010, p. 175; Ritchie *et al.*, 2014). Expert interviews were used in order to gain access to a range of privileged and cutting edge knowledge, and to ensure that participants have sufficient background knowledge to generate meaningful responses to interview questions. Given the fast pace of technological and commercial change in the digital energy landscape, seeking relevant expert testimony will also help ensure that the research is current; potentially mitigating any time-lag associated with publication cycles influencing the document-based literature review.

1.1 Sampling

The study used purposive (rather than randomized) sampling to enable targeting of ‘information-rich’ cases (Patton, 1990 in Wengraf, 2001, p. 102). Preliminary interview sampling was based on knowledge generated from the academic and policy literature review, and attendance of relevant sector events and conferences. Due to the rapid nature of technological and business change, event attendance is an ongoing important way of ensuring that research design keeps pace with change (Oester *et al.*, 2017). Interviewees were selected to ensure representation of all key constituencies across the sector.

The table below outlines interview participant sampling categories, presented alphabetically. Where consent has been given, the participant’s organisation is also presented.

Sampling Category	Sub-category	Participant Organisation
Business	Consultancy	Everoze
Business	Digital start-up	Origami Energy
Business	Disruptor supplier	Octopus Energy
Business	Distribution Network	SSE
Business	Non-profit	Isles of Scilly Community Venture
Business	System Operator	Electricity System Operator
Community Energy	N/A	Anonymous
Consumer Advocacy	N/A	Citizens Advice
Government	Local - metropolitan	Greater London Authority
Government	Local – mixed rural/urban	West Sussex County Council
Government	National	BEIS
Independent Advisory	N/A	Energy Systems Catapult
Independent Advisory	Business	Independent (prior Chief Executive)
Regulation	Energy	Ofgem
Research	University	Imperial College London
Research	University	University of Strathclyde
Third Sector	Policy and governance	Sustainability First
Third Sector	Technology-focussed	Open Climate Fix

1.2 Data analysis

Raw data from 18 interviews of approximately 60 minutes each were recorded and transcribed. Data was then thematically coded in three passes, using qualitative data analysis software NVivo. In the first pass coding, themes were drawn literally from the data. Themes were either coded ‘in vivo’ using participant vocabulary, or inductively where participants addressed the same topic using different language. Second pass coding was largely inductive, pulling together similar themes and implicit references to themes under umbrella themes. Third pass coding finally worked through all themes again, seeking to identify overarching or cross-cutting themes running throughout the data. A copy of the core preliminary interview question schedule is available below for reference.

2 Annex 2: Preliminary interview question schedule

1. To begin, please could you share some of your thoughts regarding what you think are the most influential trends, technological changes, and actors emerging in the UK digital energy landscape?
2. Keeping in mind your answers to the previous question, what do you consider to be the key consequences of these digital changes for the UK energy system? (This could include environmental, technical, social or economic outcomes.)
 - a. Could you identify any examples of positive impacts and/or good practice?
 - b. Could you identify any examples of negative impacts and/or 'unforeseen consequences'?
3. Do you consider any areas of digital change within the UK energy system to present governance challenges? (Feel free to name several areas if there are more than one.)
 - a. Why and in what way?
 - b. Which stakeholders, actors, institutions, rules or norms are affected?
4. For the areas that you identified as presenting governance challenges, which of these would you prioritise as most urgently requiring attention? (Feel free to name more than one priority area if applicable.)
5. For those priority areas you identify, could you:
 - a. Suggest any potential approaches that could bring improvement?
 - b. Suggest who would be best placed to take responsibility for these changes?
 - c. Suggest a timescale under which these changes might be feasible?
 - d. Identify any particular barriers to facilitating change?
 - e. Identify any examples or case studies of good practice regarding the above?
(This could include trials, local, or international examples beyond the UK context if applicable.)
6. Is there anything else that you would like to speak about which we have not yet covered?

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