

The Built Environment Special Interest Group

Data and its role in decarbonisation of the built environment

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Panel

Chair: Ruchi Choudhary, Professor of
Architectural Engineering
University of Cambridge

David Richardson, Head of
Innovation, Ofgem Strategic
Innovation Fund

Jason Humphries, International
Operations Director, Sense

Matt James, Business Development
Manager, Smart DCC

Yiu-Shing Pang, Open Data
Manager, UK Power Networks

Rapporteur: Rebecca Ward

For more information, contact
decarbnetwork@admin.cam.ac.uk

Challenges

- Access to smart meter data is limited
- “One Way” Power Networks not designed for wide roll-out of EVs and solar panels
- Data quality decreases as number of devices increases
- Devices installed behind a meter cannot currently be identified
- Insufficient data reliability and granularity for AI software
- Management of services difficult across different assets with different service providers

Discussion Points

- How can data be made more freely available for R&D and innovation? Open Data Portals help modernise data access, but data belongs to the consumer so there are legitimate privacy concerns. Energy asset map sharing also has security and competitive advantage implications.
- Smart meter data is one component of consumer data, with scope to evolve; it would be useful to also be able to draw down additional data e.g. temperature, relative humidity.
- Is a ‘total control system’ viable? Domestic homes are relatively similar as to devices installed; commercial properties are much more diverse. Much more data will be required for machine learning to be a viable approach.
- Flexibility services can make a difference to network demand on a local level, less impact on a global level.
- Fuel switching can lead to decline in EPCs if an incompatible system is selected.
- Do consumers make changes if given access to the data? Smart meter installation typically results in an initial 3-6% demand reduction.
- Data must be translated into useable information, preferably actionable advice, for consumers to be able to make more informed choices. The need is for the consumer to see what is happening ‘now’ with advice as to what they can do to help at peak periods.
- How is efficiency incentivised? Should there be rewards for good control?
- How quickly will a data-driven solution be deployed if time-of-use tariffs are linked to the carbon intensity of the electricity grid? Real change would be seen quickly if energy pricing is linked to carbon content.
- The opportunities for demand savings are currently limited. Once EVs and heat pumps become more widely used then power shifting has the potential to have a much greater impact.

Opportunities

- Digital twinning offers potential for visibility of network challenges and greater flexibility.
- Heat networks – how efficiency impacts on thermal storage
- Improved range and sharing of consumer data
- Energy efficiencies for people without direct access to smart meter technology
- Deployment of AI/automation in the home