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Editorial

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This themed issue dedicated to the topic of the smart future arises as a consequence of a major international conference that I had the privilege to help convene at The Open University in Milton Keynes, UK in June 2015. I was chair of the local organising committee and a member of the international organising committee of the 15th International Conference on Technology Policy and Innovation (ICTPI). I am most grateful to Dr David Gibson, chair of the ICTPI international organising committee, and to the other members of that committee, for the opportunity to bring the ICTPI conference to Milton Keynes – the first time it had been held in the UK.

ICTPI-15 attracted 150 delegates whose interests ranged across a set of interlinking themes including: smart cities, new economy; energy and data security. The conference saw a range of fascinating insights into the prospects for a smarter future for our energy system. This themed issue is not a conference proceedings from the ICTPI-15 conference, it is far more selective than that. Rather, a set of presenters were specifically invited to consider submitting their work to this themed issue. The resulting submissions were assessed according to the journal's usual peer-review processes and a subset of those submitted later emerged to appear as the themed issue presented here.

Ours is an engineering journal, but this topic, perhaps even more than usual, shows us that we are dealing with socio-technical, or perhaps more accurately, techno-social issues. The four papers presented here are not narrowly technical assessments. Rather they address the role of people, policy and private companies in building a sustainable and appropriate energy system.

The first paper, by Richard Bull and Marouane Azennoud, emphasises the importance of participatory decision making (Bull and Azennoud, 2016). It makes specific reference to the case of energy-from-waste infrastructure in Hampshire, UK. The emphasis on the importance of social factors is continued in the second paper, from Per-Anders Langendahl *et al.* (2016). That work considers the importance of demand-side response (DSR) and drawing upon a series of case studies it notes that DSR can be motivated by a range of considerations including: network peak management, network fault recovery and the system integration of renewable energy sources. One important observation in the paper is the importance of recognising that plans are always best shaped with a thorough appreciation of local circumstances. The third paper, by Sara Lupini, stresses the importance of, and the challenges inherent in, corporate social responsibility in the energy sector (Lupini, 2016). She also takes a case-based approach considering the energy system (oil and liquid petroleum gas) of Belize. She surveys the issues of CSR implementation and stresses the benefits of more holistic (across both business and social value) decision-making; a process known as creating shared value (CSV). The final paper, from Richard Snape, Peter Boait and Mark Rylatt, examines the effectiveness of two specific energy policy measures deployed in the UK (Snape *et al.*, 2016). The research method involves agent-based modelling and it seeks to unpick the drivers and inhibitors of the roll-out of new renewable energy technologies favoured by two different UK government policies. The authors note that, '…there are some differences to the economic benefits for adopters between the policies, but when analysed in terms of payback period at policy inception, the differences between technology types within the same scheme are more significant than the difference between the most attractive technologies under either scheme at the time the scheme was introduced' (Snape *et al.*, 2016: p. 135). Respecting that the caveat around time of introduction is important, it is interesting to note that while policies only differed to a small degree in terms of initial attractiveness their actual roll-outs under the two key policies varied greatly in terms of pace and scale.

It is pleasing to see a high level of commonality of message across the four papers presented here. All four papers remind us to consider issues beyond the narrowly technical when looking to our energy future. As we consider our smart future it is perhaps comforting to reflect on the positive words of Ilya Prigogine (quoted by Sinha *et al.* (2013)): 'the future is uncertain ... but this uncertainty is at the very heart of human creativity', while Peter Drucker has observed that the future starts now when he said, 'Long-range planning does not deal with future decisions, but with the futurity of present decisions' (Drucker, 1959: p. 239).

The papers presented here remind us that it is important to embark on techno-social system change with an open mind and to adopt a socially inclusive deliberative approach drawing

upon as wide a range of insights and perspectives as is practical.

REFERENCES

Bull R and Azennoud M (2016) Smart citizens for smart cities: participating in the future. *Proceedings of the Institution of Civil Engineers – Energy* **169(3)**: 93–101, http://dx.doi.org/10.1680/jener.15.00030.

Drucker PF (1959) Long-range planning: challenge to management science. *Management Science* **5(3)**: 238–249.

Langendahl PA, Cook M, Potter S, Roby H and Collins T (2016) Governing effective and legitimate smart grid developments. *Proceedings of the Institution of Civil Engineers – Energy* **169(3)**: 102–109, http://dx.doi.org/10.1680/jener.15.00026.

Lupini S (2016) Corporate social responsibility at the core of new business models. *Proceedings of the Institution of Civil Engineers – Energy* **169(3)**: 110–125, http://dx.doi.org/10.1680/jener.15.00033.

Sinha KC, Labi S and Bai Q (2013) Uncertainties in transport infrastructure development and management. In *Proceedings of the International Symposium on Engineering under Uncertainty: Safety Assessment and Management (ISEUSAM - 2012)* (Chakraborty S and Bhattacharya G (eds)). Springer, New Delhi, India, pp. 55–71.

Snape JR, Boait PJ and Rylatt RM (2016) Performance comparison of UK domestic renewable incentives. *Proceedings of the Institution of Civil Engineers – Energy* **169(3)**: 126–139, http://dx.doi.org/10.1680/jener.15.00029.