



CENTRE FOR RESEARCH INTO
ENERGY DEMAND SOLUTIONS

Implications for Policy

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Third Plenary Session

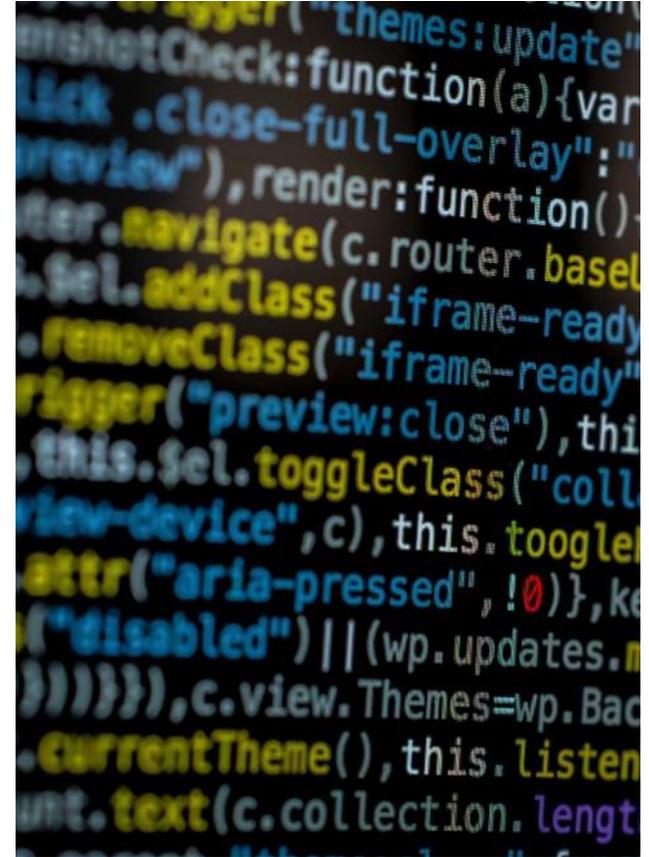
BIEE,

Oxford, 19th September 2018



Consumers at the Heart of the Energy System?

- Why the debate now? Aren't they already meant to be?
- Wasn't this what retail market liberalisation was about?

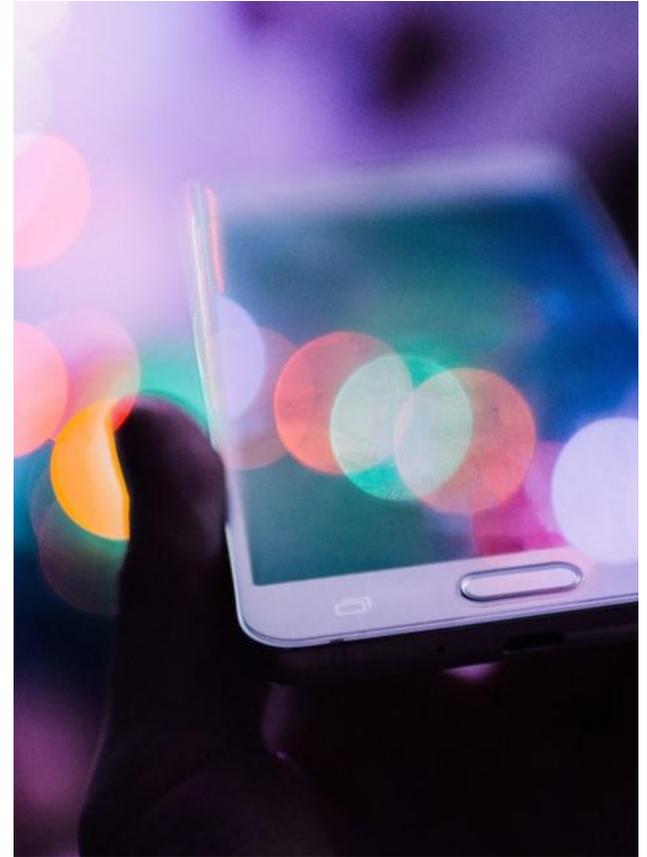


Some reflections from the past

BIEE 1997: The International Energy Experience (Ed. G.MacKerron and P. Pearson)

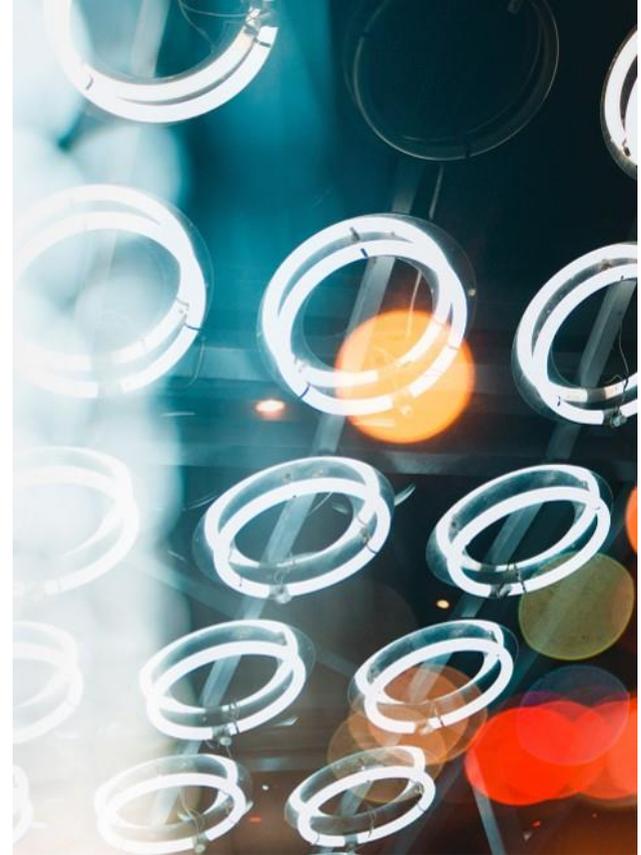
Very little on “customer side of the meter” issues – just one paper: Retail market Liberalisation and Energy Efficiency.

- “In the short term, there is no evidence to think that market liberalisation alone will deliver economically efficient levels of demand side investment.”
- “In the longer term, a sustainable energy system will need a much larger role for demand side investment, with more diverse suppliers.”



What's changed since 1997?

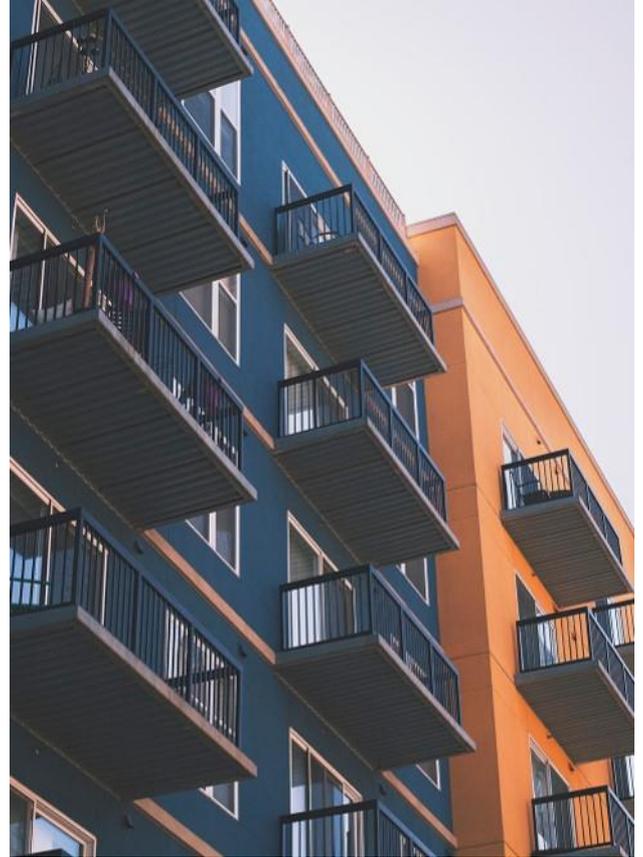
- Digital revolution – driving new technologies, services and customer expectations
- Massive growth in range of distributed energy resources – generation and storage, as well as traditional demand
- ...leading to increased system balancing issues, for both SOs and DNOs
- Political goal of long-term, complete decarbonisation



New roles for consumers in the energy system

- New services **to** consumers, often 'smart services', in addition to kWh commodity purchases.
- New services **from** consumers to support the system, both grid and SO.

The existence of both may allow agreement that "customers should be at the heart of the energy system" without any agreement about why or how.



New technology: new consumer services

- Huge and increasing diversity in consumer demand for 'smart services'
- How does this change the idea of a universal service obligation? Can 'smart consumers' also be 'vulnerable consumers'.
- Data is a new value stream not well-addressed in energy regulation.
- What is the implication for market structure? What is the role for actors other than energy suppliers?



Retail energy markets: Old world: limited diversity

	Incumbent suppliers
Wholesale purchasing	
Metering and billing	

Retail energy markets: New technology, new players

	Incumbent suppliers	New suppliers	Networks	Non-energy organisations
Wholesale purchasing	Yellow	Light Green	White	White
Metering and billing	Yellow	Light Green	White	White
Aggregation	Light Green	Light Green	White	White
Financing investment	White	White	Light Green	Light Green
Technology installation	White	White	Light Green	Light Green
Smart control	Light Green	Light Green	Light Green	Light Green

Adapted from Eyre and Lockwood (2016) The governance of retail energy market services in the UK: A framework for the future. UKERC

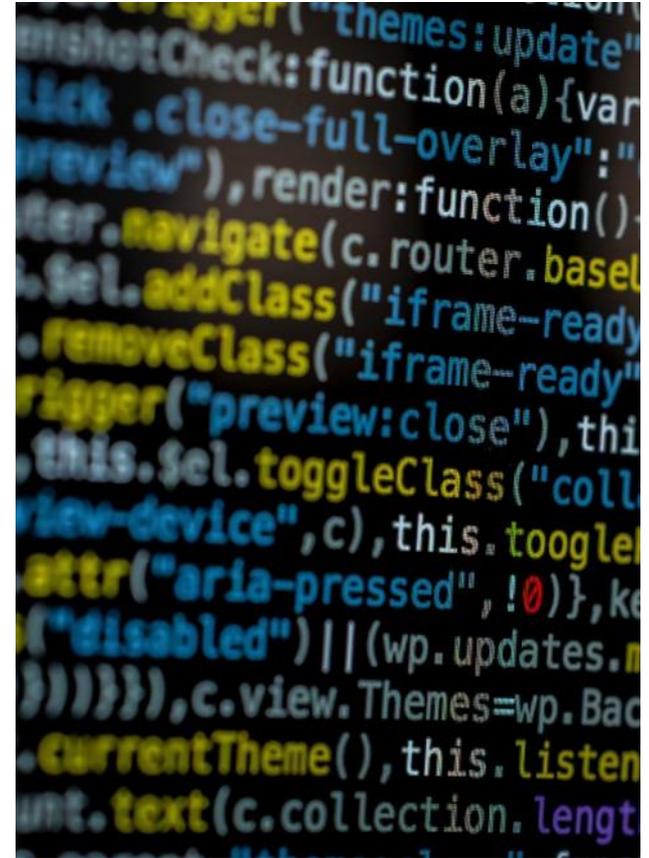
Consumer-sourced system services

This is what is driving the more traditional parts of the electricity sector to think that the 'consumer agenda' is important:

"ask not what your electricity system can do for you, ask what you can do for your electricity system"

What's in it for consumers? Is a cheaper tariff sufficient?

Or is system stability is a public good to which we should all be expected to contribute? If so, at what point does uptake of PV, EV, heat pumps make regulation of at least some consumers appropriate?



What might this all mean for policy and governance

- To what extent should we move away from the supplier hub principle?
- Should we regulate energy services differently from commodity supply?
- How do we incentivize/regulate consumers?
- Do we need to reconsider geographical governance scale? e.g. the roles of devolved, regional and local institutions
- Are competing, profit-maximising companies appropriate for all roles?

