1. Research motivation

Transitions in retail electricity markets are occurring due to information and communication technologies (ICT) that produce highly granular end-user data. Here, new “platform” business models in retail & distribution are discussed in the changing landscape of power distribution. Platform businesses account for a large share of recent economic growth – “ranked by market value, 60 of the world’s 100 largest corporations earn at least half of their revenue from platform markets” [1]. This paper explains their importance in electricity markets and implications for pricing strategy, industry organisation, and innovation.

2. Theory: Platform definition

- Multi-sided market where an intermediary (the “platform”) captures the value of the interaction between user groups
- Network externalities leading to user subsidisation
- Associated with innovative business ecosystems

3. Drivers of transition in electricity

- Smart metering data – New entrants in retail electricity supply can design business models on the basis of smart metering data and increasing understanding of behaviour.
- Renewables – Home & distributed generation lead to increasing volatility that can cause a loss of revenue.
- ICT – “Apps”, web interfaces, smart appliances, smart meters and the ability of systems to make sense of “big data” can provide new functionality for users.
- Customer participation and differentiation – Differentiated elasticities of demand and preferences determine the value of consumers as resources to the second side of the market, the grid.

4. Electricity platforms in practice

Services 1: Consumers

- Household energy optimisation and management service
  - Household energy use, production and storage
  - Smart meters
  - Remote control
  - Social network
- Specialised platforms
  - Provide only one or a combination of electricity services

Who could provide these services?

1. Incumbent retail supplier
2. New specialised energy service company
3. ICT & data management company
4. General service company (Finance, retail, etc.)

Services 2: Grid

- Provide aggregate residential load (and generation) management to distribution grid operators
  - Access to out-of-area customers through the platform
  - Reduce renewable curtailment
  - Reduce balancing penalties

Specialised platforms

- Provide only one or a combination of electricity services

Who could provide these services?

1. Incumbent retail supplier
2. New specialised energy service company
3. ICT & data management company
4. General service company (Finance, retail, etc.)

5. Implications

- **Industrial organisation**: Market structure, competition, regulation, communications architecture, legal responsibilities (Figure 3)
- **Innovation**: Diversification of services, contract types, technologies, entry (Figure 3)
- **Pricing**: Electricity price hedge with flat fee, service-type subscriptions or added service fee (Figure 2)
- **Value** and, therefore, revenue, on both sides of the market – consumers and suppliers – and possible user group subsidisation

6. Conclusions

“Platform” economics and strategy are suggested to become increasingly relevant to retail electricity market design. Due to the drivers mentioned in section 3, electricity retail can change from an undifferentiated, commoditised product to the supply of a service focused on end-user outcomes and functionality.

For further discussion, please contact me at cw451@cam.ac.uk or download the paper at http://www.eprg.group.cam.ac.uk/eprg-1334/.

References:
Figure x. A stylised representation of platform positioning in a given electricity market
With different contractual relationships:
A – Separate customer relationship with retail supplier and platform (One-to-one)
B – Platform provider owns the customer relationship and bypasses the retail supplier
C – No relationship: Customer does not join platform
D – Many to many: Platform provides access to customers and suppliers