

Platform markets and energy services

EPRG Working Paper 1334

Cambridge Working Paper in Economics 1361

Claire M. Weiller, Michael G. Pollitt

Current structural transitions in the electric power industry introduce new actors and new roles for existing actors that may give way to the development of one or multiple “platform” markets, i.e. multi-sided markets where an intermediary captures the value of the interaction between user groups.

This paper shows that platform business models and two-sided pricing strategies can be expected to be part of the transition to a low-carbon efficient electricity system. The electricity retail market is emerging with the elements of a platform market, namely a need and high added-value for one or more “match-making” intermediaries between suppliers who cannot predict their generation and consumers who start participating in active energy demand management. This type of market matching service is currently in place for wholesale electricity markets and could be replicated as an optimisation service for the retail market with the entry of platform providers. The “matching” service of balancing supply and demand on local distribution networks would maximise social surplus in the system by enabling an efficient, low-loss, sustainable electricity market. As such, we found that an electricity platform could follow a two-sided pricing strategy where one side subsidises the other. In the context of electricity, a competitive bottleneck is likely to occur where suppliers can adopt multiple platforms to increase coverage and efficiency of the optimisation service, while consumers single-home. In this case, suppliers benefit from cross-side positive network externalities and are expected to partly or fully pay for the platform service and subsidise the consumer side.

We highlight that the entry of platform service providers as described in this paper through the cases of electricity balancing services and electric vehicle charging management, has the effect of shielding consumers from the unintended consequences of smart metering. The view that real-time pricing, enabled by the introduction of smart meters in the retail electricity sector, will be beneficial to the system, is often found in the literature. However, the unintended consequences of real-time pricing may overwhelmingly affect the more vulnerable consumers who do not have the capabilities to manage their energy demand. The introduction of a platform market to optimise household electricity management has the potential to reduce customer energy bills while providing demand-response services to electricity suppliers, the cost of which can be primarily distributed on the supply side who can increase their profits from higher value-added services. Subscription-based fees in an electricity platform market protect households from the volatility of real-time prices, while allowing these signals to be reacted upon by the platform mediator.

We also conclude that while the platform service could be provided by incumbent utilities and ESCOs, the value of the service justifies the entry of third party entrants distinct from existing players. These new entrants will have the additional benefits of stimulating innovation and new capital investment in the sector. ICT companies, for example, can bring new capabilities for smart energy management as well as for fostering complementary innovation in the market.

Contact	cw451@cam.ac.uk
Publication	December 2013
Financial Support	EPSRC Autonomic Power System