

A Case Study on Energy focused Smart City, London of the UK: Based on the Framework of ‘Business Model Innovation’

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Abstract

We see an energy focused smart city evolution of the UK along with the project of “Smart London Plan (SLP).” A theoretical logic of business model innovation has been discussed and a research framework of evolving energy focused smart city is formulated. The starting point is the silo system. In second stage, the private investment in smart meters establishes a basement for next stages. As results, the UK’s smart energy sector has evolved from smart meter installation through smart grid to new business models such as water-energy nexus and microgrid. Before smart meter installation of the government, the electricity system was centralized. However, after consumer engagement plan has been set to make them understand benefits that they can secure through smart meters, the customer behavior has been changed. The data analytics firm enables greater understanding of consumer behavior and it helps energy industry to be smart via controlling, securing and using that data to improve the energy system. In third stage, distribution network operators (DNOs)’ access to smart meter data has been allowed and the segmentation starts. In the fourth stage, with collaboration of Ofwat and Ofgem, it is possible to eliminate unnecessary duplication of works and reduce interest conflict between water and electricity. In the fifth stage, smart meter and grid has been integrated as an “adaptive” system and a transition from DNO to DSO is accomplished for the integrated operation. Microgrid is a prototype for an “adaptive” smart grid. Previous steps enable London to accomplish a platform leadership to support the increasing electrification of the heating and transport sector and smart home.

Keywords: *Energy, smart city, smart energy, business model, business model innovation*