

# **Electricity Sector Liberalisation and Innovation: An Analysis of the UK Patenting Activities**

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One of the main objectives of liberalisation of infrastructure industries including that of electricity has been to reduce government involvement in their investment decisions and operations. One area that did not receive much attention in the run up to liberalisation was research and development (R&D) and innovation. The implicit assumption was that in line with other investments the private actors would engage more efficiently in suitable innovation activities.

In the case of the electricity sector, while there is a pressing need for technological progress and innovation, due to market failure and uncertainty, innovation has not been a focus area for the industry. Indeed, R&D and innovation do not seem to have been priority areas in the liberalised electricity sector. While R&D is the main input in innovative activities, patenting and published scientific publications are generally regarded as important outputs and indicators of technological progress.

In a previous study the authors of this paper discussed how the liberalisation of the electricity sector led to a market reduction in R&D spending in the sector. This paper focuses on the innovation output aspect of liberalisation - i.e. how reform has affected the patenting activity in the UK electricity sector. The UK provides a good case for such a study as it is a major research active country and has also the longest experience with sectoral reform.

We use the information in the patent database esp@cenet which is a network of European patent offices to search for patents at industry level, major companies, and two specific new technologies. The results indicate that the number of electricity related patents in non-



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nuclear and renewable technologies increased in the post-liberalisation period. We attribute this trend to increased commercialisation of the sector in the post reform years. However, while increased patenting activity is a positive development we argue that a lasting decline in R&D will in the longer run reduce technological progress in the sector. In order to maintain the pace of innovation, we discuss the need for an innovation framework and policy that is more commensurate with the incentive mechanisms of a liberalised sector.

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