

Identifying innovative actors in the Electricity Supply Industry using machine learning: an application to UK patent data

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Abstract The recent history of the Electricity Supply Industry (ESI) of major western economies was marked by two fundamental changes: a transition toward liberalised electricity markets and a policy-led push to decarbonise the electricity generation portfolio. These changes not only affected the pace and nature of innovation activity in the sector but also altered the set of innovative actors. The present paper provides a methodology to identify these actors, which we apply to priority patents filed at the UK Intellectual Property Office over the period 1955-2016. The analysis also indicates that (i) the recent increase in innovation activity originates overwhelmingly from upstream Original Equipment Manufacturers and (ii) innovation activity in 'green' electricity supply technologies slowed down in recent years.

Keywords innovation, electricity sector, machine learning

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