



Can current electricity markets cope with high shares of renewables?

A comparison of approaches in Germany, the UK and the State of New York

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Michael G. Pollitt and Karim L. Anaya

Abstract This paper looks at the empirical and theoretical background to high shares of renewables in the electricity system. First we examine what is meant by 'high shares' of renewables; next we consider what we mean by electricity 'markets'; then we discuss what the term 'cope with' implies; before returning to the suitability of 'current' electricity markets. Second, we turn to three examples of jurisdictions – Germany, the UK and the State of New York in the US - with specific aspirations for decarbonisation and the role of renewables. Each exhibits very different approaches to the way they are adjusting their electricity market design to cope with high shares of renewables. We suggest that a new wave of electricity experiments is beginning around the theme of how to incorporate large shares of intermittent renewable generation in to electricity systems.

Keywords renewables; electricity markets; Germany; UK; New York

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Contact m.pollitt@jbs.cam.ac.uk, k.anaya@jbs.cam.ac.uk
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