

Towards the partial deregulation of Great Britain's electricity networks

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Great Britain's electricity market is going through a period of transition, from a primarily variable cost system dominated by the price of cost to a fixed cost system driven by the costs of infrastructure. Network charges, a key component of the bill, are increasing at pace as infrastructure to connect new renewable generation at the edge of the grid is built out.

While this is happening, the cost of distributed generation technologies like solar, wind, batteries and gas engines is also falling. This is creating novel opportunities for businesses to leave the public network, in whole or in part. This creates public welfare challenges. Fixed costs are fixed, and if businesses are able to avoid them these costs will be allocated back to consumers. However, where a business can create additional spare network capacity through distributed generation in areas where reinforcement would otherwise be necessary, this avoids future costs to consumers.

This paper proposes engendering an efficient level of defection from the public network as a matter of policy. This means where it makes sense for businesses to do so they should install generation to reduce their impact on the network. But 'makes sense' is a challenging qualifier – the amount businesses are charged to use the network is determined by the regulator Ofgem, and the charges Ofgem permits do not reflect the actual costs of the network.

We therefore consider alternative frameworks for network charging, including theories of efficient taxation and club goods. We identify that treating network charges as taxation creates outcomes that do not maximise public welfare, while a club goods framework points to the utilisation of defection as a mode of voting with one's feet to discover underlying costs.

We therefore propose a new approach to engendering efficient defection. This entails the partial deregulation of the networks, enabling networks to charge a market price to certain sites where the businesses involved can reasonably make the choice about whether to stay connected to the network or not. This is intended to support the right number of businesses

staying connected and paying a part of the network's costs, while ensuring that we do not over-build the network as demand for electricity rises.

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