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Questioning the EU Target Electricity Model – how should it be adapted to deliver the Trilemma?

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Britain has taken a careful look at the energy-only market model that underpins the EU Target Electricity Model and has found it wanting in delivering the Trilemma of reliability, sustainability and affordability. On reliability or security of supply, Britain argues that a capacity auction with long-term contracts for new entrants is the least-cost solution compared to relying on expectations of future market prices to deliver adequate generation and demand side response in a timely fashion and at acceptable financing costs. On sustainability, or decarbonization, the Energy Union (EC, 2015) is now arguing against supporting renewables with the classic feed-in tariff (FiT) and instead is pressing for premium FiTs (pFiTs), just as GB has abandoned PFiTs in favour of something much closer to FiTs. While the EU is beginning to accept that the EU ETS is an inadequate instrument to guide low-carbon investment in the electricity supply industry (ESI), GB has enacted a carbon price floor, which, although not by itself a credible signal, it underwrites long-term contracts for low-carbon investment.

This paper draws on the GB experience of Electricity Market Reform before and after the 2015 change of government, to highlight promising resolutions of the energy trilemma in the ESI, and the problems that have arisen between the diagnosis of the problem and the delivery of solutions. Section 2 sets out the theory and practice of delivering capacity, energy and quality of supply to the wholesale market and final consumers, followed by a brief history of the evolution of the GB ESI from a vertically integrated centrally planned state-owned company to its current unbundled, liberalized and privatized structure and the problems this presented in delivering the trilemma. Section 4 describes the diagnosis and proposed solution to that problem, which were not peculiar to GB. Section 5 therefore studies the Single Electricity Market (SEM) of

the island of Ireland, which faces higher intermittency with a lumpier and more isolated system than almost any other country, and which therefore raises the question of how best to deliver quality of service with high intermittency. Section 6 draws lessons from the experience so far and implications for future market and subsidy reforms.

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