

Policies for decarbonizing a liberalized power sector

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Abstract

Given the agreed urgency of decarbonizing electricity and the need to guide decentralized private decisions, an adequate and credible carbon price appears essential. The paper defines and quantifies the useful concept of the break-even carbon price for mature zero-carbon electricity investments. It appears an attractive alternative given the difficulty of measuring the social cost of carbon, but modelling shows it extremely sensitive to projected fuel prices, the rate of interest, and the capital cost of generation options, all of which are very uncertain. This has important implications, and justifies combining a carbon price floor with suitable long-term contracts for electricity investments. The same sensitivity demonstrated for the break-even carbon price translates into similar sensitivities for marginal abatement cost curves.

Keywords carbon price, electricity, investment, renewables, marginal abatement cost

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