



# The cost of finance and the cost of carbon: a case study of Britain's only PWR

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### Abstract

This paper argues that the cost of decarbonising depends critically on the Weighted Average Cost of Capital (WACC), illustrated with a case study of Sizewell B (SZB, the nuclear station commissioned in 1995). It calculates the cost per tonne of CO<sub>2</sub> abated with prices set as for transmission assets by the regulator under the Regulatory Asset Base model. The cost depends critically on the WACC set in comparable utility price controls. At a low WACC the cost is £<sub>2019</sub>36.2/tonne CO<sub>2</sub> abated and £<sub>2019</sub>43.3/t. CO<sub>2</sub> at the high WACC, compared with the roughly £40/t. CO<sub>2</sub> paid by GB generators in 2019. Moving from the social discount rate of 2.5% to a hurdle rate of 8% increases the cost from £15-20/t. to over £60/t. Had Britain continued building replicas of SZB the cost saving compared to the current programme might be £<sub>2019</sub>9-19 billion.

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