

Renewable entry costs, project finance and the role of revenue quality in Australia's National Electricity Market

EPRG Working Paper 2204

Cambridge Working Paper in Economics 2206

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Abstract The cost of capital is among the most important variables determining the feasibility of investment in renewable energy projects. In Australia's National Electricity Market, the ability of new variable renewable energy (VRE) plant to arrange requisite project finance at favourable rates largely determines project viability. Such financings are typically only achieved when VRE projects are underpinned by long-dated Power Purchase Agreements (PPA), under which prices are guaranteed by an investment-grade counterparty. In this article, we quantify the relationship between PPAs, counterparty credit quality and the cost of capital in the context of Australia's energy-only wholesale market under conditions of policy uncertainty. Our analysis benefits from the application of confidential data from Australia's capital markets. We find higher credit quality drives higher gearing, and somewhat counterintuitively, lower expected returns to equity. This in turn produces a lower cost of capital and by implication, higher post-construction VRE plant valuations – an outcome seemingly at odds with Modigliani and Miller's classic 1958 article. In practice, risk has been repackaged and reallocated.

Keywords Renewable Energy, PPAs, Project Finance, Counterparty Credit, Cost of Capital

JEL Classification D25, D80, G32, L51, Q41

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Publication

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January 2022