

Government Backed Credit Guarantee Schemes for Offtaker Counterparty Risk Under Corporate Power Purchase Agreements

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Extended Abstract

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Abstract Summary

In this study we develop a formal model that explicitly considers the cash flows of an intermittent renewable electricity producing asset backed by a corporate PPA to establish a link between the default probability of the offtaker and the PPA price needed to reach the required return on equity. In this regard, we expand the classical LCOE framework to incorporate offtaker-related credit risk. We find that offtaker defaults have a substantial impact on the PPA price and hence the LCOE of the project depending on the survival function of the offtaker. Furthermore, we propose a lean credit enhancement scheme targeting offtaker defaults based on five core principles of government involvement in infrastructure projects and credit guarantees as well as incorporate the scheme in our formal model. We compare the costs of the credit guarantee scheme with the cost of traditional support measures and find that the government may provide revenue support to renewable energy projects at a lower cost compared to CfDs. In a case study for Germany, we quantify the effect of offtaker defaults on the PPA price. For non-investment grade offtakers, the required PPA price is from 7.83 € per MWh (or 11%) up to 40.87 € per MWh (or 56%) higher than the default free price. In the case study, expected support costs for the guarantee scheme are approximately half the support costs of a comparable CfD scheme.

Presenting Author Biography

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