



# Renewable investments in hybridised energy markets: optimising the CfD-merchant revenue mix

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Nicholas Gohdes<sup>♦</sup>, Paul Simshauser<sup>\*^</sup> & Clevo Wilson<sup>♦</sup>

## Abstract

Energy markets were designed to maximise productive, allocative and dynamic efficiency. Although renewables have become the dominant investment in deregulated energy markets, decarbonisation may not proceed at a pace consistent with the aspirations of policymakers. This has led governments in a number of jurisdictions to prime markets through ‘Contracts-for-Differences’ (CfDs) or Power Purchase Agreements (PPAs), thus bringing forward investment and decarbonisation efforts. The war in Ukraine and its adverse impact on energy prices only emphasises a sense of urgency on an energy security dimension. Variable Renewable Energy (VRE) projects in Australia are typically underpinned by run-of-plant PPAs, but an emerging trend has been rising number of semi-merchant projects whereby some level of spot market exposure is retained. In this article, we examine how and why the semi-merchant investment model has arisen along with the minimum contracted coverage for a bankable project financing. Results reveal for investors with a target of 60-65% debt within the capital structure, a revenue mix comprising 73-78% PPA coverage and 22-27% merchant plant exposure is viable and a tractable project financing. For policymakers seeking to elicit 5000 MW of VRE plant capacity, the auction need only offer ~3800MW of CfD’s capacity, which has the benefit of reducing taxpayer exposures (cf. on-market transactions).

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

Contact	p.simshauser@griffith.edu.au
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<sup>♦</sup> Queensland University of Technology.

<sup>\*</sup> Professor of Economics, Centre for Applied Energy Economics & Policy Research, Griffith University.

<sup>^</sup> Research Associate, Energy Policy Research Group, University of Cambridge.