



The sunshine state: implications from mass rooftop solar PV take-up rates in Queensland

EPRG Working Paper 2219

Cambridge Working Paper in Economics CWPE2305

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Abstract

One of the most pronounced trends in Australian electricity markets over the past decade has been the rapid take-up rate of rooftop solar PV by households. In this article, we analyse the cause and effects of rooftop solar PV in the NEM's Queensland region, which has the highest household take-up rate in the world. Initially sparked by a combination of sharply rising electricity tariffs and over-lapping rooftop PV subsidies, economic considerations soon took over. More than 43% of households have a behind-the-meter solar unit. Benefits to participating households are significant, while hidden costs remain for non-participants. Impacts on utilities are mixed, with retail supply businesses most adversely affected. Rooftop PV has displaced ~1500MW of base and peaking plant, equating to ~\$3bn investment. Yet despite world-leading rates of rooftop solar, Queensland's grid-supplied system peak demand continues to rise, albeit shifted to later in the evening.

Keywords rooftop solar PV, electricity utilities

JEL Classification D25, D80, G32, L51, Q41

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Publication April 2022

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¹ Written for *The Future of Electricity Distribution Network and New Business Models*, F. Sioshansi (Ed).