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Large-scale PV power generation in China: A grid parity and techno-economic analysis

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Abstract

With the limiting supply of fossil fuel and the beneficial impact of technological 11 innovation on renewable energy costs, PV power generation is increasingly 12considered a promising way to generate renewable power. Under the support of the 13 national emerging industry, China's PV industry has experienced a dramatic 14 development over recent years, catapulting into a vital position in the world PV 15 market. The newly installed PV capacity has led to cost reductions. This paper 16 17 chooses the methodology of techno-economic evaluation to analyze current market application of residential PV power generation, including grid-connected and off-grid 18 19 systems. One of the main innovations is choosing five Chinese cities in different areas 20 of solar radiation as research objects, which enables regional differentiation in 21 calculating levelized cost of energy (LCOE). The results show that grid-connected PV

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