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#### **ACCEPTED MANUSCRIPT**

# Technical and economic assessment of RES penetration by modelling China's existing energy system

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#### **ABSTRACT**

The expansion of renewable energy sources for electricity generation is an important part of China's energy strategy to reduce the dominance of coal generated power. Different energy systems face unique challenges with their different energy structures and economic context, which make it necessary to identify the roadmap for renewable energy development with consideration of local energy system. Our study aims to fill a research gap by identifying the penetration of renewable energy in China's energy system. The study begins with a brief review of the current state of renewable energies in China and then identifies the effect of large

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