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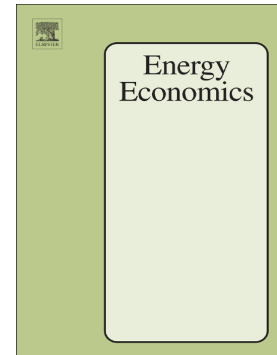
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# Equilibrium supply security in a multinational electricity market with renewable production<sup>\*</sup>

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## Abstract

An increasing reliance on variable renewable energy has raised concern about system ability to continuously satisfy electricity demand. This paper examines countries' unilateral incentives to achieve supply security through capacity reserves and market integration in a multinational electricity market. Capacity reserves protect consumers against blackouts and extreme prices, but distort the market. Market integration reduces supply imbalances, but requires network investment. Equilibrium capacity reserves can be too high or low, but network investment is always insufficient relative to the total welfare maximizing level. Capacity reserves are smaller when there are financial markets or when aimed at solving domestic supply constraints.

Key words: Capacity mechanism, decentralized policy making, multinational electricity market, network investment, security of supply.

JEL codes: D24; H23; L94; Q48

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