

The long-run equilibrium impact of intermittent renewables on wholesale electricity prices

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Abstract

High levels of low variable cost intermittent renewables lower wholesale electricity prices, and the depression of these prices could legitimately be recovered from consumers, preferably through capacity payments. Given that renewables are frequently subsidized for their learning benefits and carbon reduction, this paper asks what part of these subsidies should be recovered from final consumers. In long-run equilibrium, renewables have no impact on the number of hours peaking capacity runs, and its impact is to displace largely baseload capacity. The fall in competitive prices is considerably less than the fall in fossil operating costs and provides a case for only a modest share of total subsidies to be charged to electricity consumers. The paper quantifies the amount that can legitimately be charged.

Keywords renewables, electricity prices, subsidies, investment,

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