Understanding Power Contracts: the costs of counterparty risk

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Abstract: It is well understood that promoting renewable energies requires greater reliance on long-run contracting in electricity markets. However, the underlying market failure has not been uncovered: why do markets fail to provide enough liquidity for long-run contracts? In this paper, we characterize the equilibrium in the market for bilateral long-term contracts between electricity buyers and sellers. We show that the buyers' counterparty risks enlarge default probabilities, giving rise to the under-provision of long-run contracts and under-investment in renewable energies. We also study the effects on electricity market performance and investment incentives of proposed market interventions, such as public support for long-run contracting, public guarantees, regulatory-backed contracts, and buyers' obligations to enter into long-term contracts.