Impact of Forecast Errors on Expansion Planning of Power Systems with a Renewables Target

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Highlights

- A two-stage market properly models the effects of forecast errors on system operation
- Expansion models are formulated as stochastic single/bilevel programming problems
- Production forecast errors have a high impact on power system expansion planning
- A market that efficiently handles forecast errors involves cheaper expansion plans
- The consequences of disregarding forecast errors depend on the market design