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CONSIDERING POWER SYSTEM PLANNING IN FRAGILE AND CONFLICT STATES

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Abstract Traditional methods of energy planning are likely to provide results that may be inappropriate in fragile and conflict-prone countries. The risks of violence and damage, or significant delays and cancellations in infrastructure development, are rife in these states. Thus, least-cost planning processes must explicitly address the inherent risks. While there are numerous statistical methods for dealing with decision making under uncertainty, few of them have been applied to power system planning and tailored for these situations. We present a general theoretical framing of the issue, and illustrate application of a very simple method to a case study of the Republic of South Sudan. We find that, in general, the resilience aspects, combined with modular and incremental benefits of distributed generation technologies and systems emerge as attractive options if the various risks of infrastructure development are included in modelling techniques.

Keywords Fragile and conflict states; Energy Planning; Power systems

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