

Regulatory challenges for energy infrastructure—Do electricity distribution remuneration schemes in Europe promote the use of flexibility from connected users?

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Abstract-

Purpose of Review

The electricity grid is facing important challenges in operation and planning due to the increase in intermittent renewable generation and the penetration of distributed energy resources. This article reviews the remuneration schemes of distribution system operators for fostering flexibility procurement in a representative sample of six selected European countries.

Recent Findings

Regulatory agencies should incentivize distribution system operators to properly deal with the growing uncertainty and take advantage of flexible resources connected to their grids to minimize the impact on electricity bills that upcoming challenges may have.

Summary

Most of the reviewed regulatory frameworks still need to evolve towards removing barriers to flexibility services. The necessary steps in the evolution of remuneration schemes for distribution system operators include (i) promoting non-biased cost-efficiency, capital expenditures vs operational expenditures, and (ii) the possibility of flexible planning to deal with uncertainty.

Index Terms- Power distribution · Distribution system operator · Network regulation · Grid planning · Flexibility services

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