

Flexible connections: solutions and challenges for the integration of renewables in South America

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Abstract-

Feed-in tariffs, quota systems, and auction schemes are all used to stimulate NCRE growth in South America. These methods present common challenges in terms of development, operation, and transmission. Common solutions to these challenges are being developed, and Brazil is leading the way with its rapid incorporation of NCRE. The existing market, commercial, and regulatory frameworks may present barriers to the timely and cost-effective connection of renewable generation, as they may not be flexible and agile enough to allow for the connection of smaller, dispersed generators with short construction times. This has led to the revision of network tariff arrangements, including the review of network operating and design practices, security standards, access regimes, investment incentives, cost recovery, and rates. The experiences presented in this article illustrate some of the key initiatives and solutions being proposed to address the challenge of unlocking the doorway for renewables. Further concerns need to be addressed, however, with a broader vision that seeks convergence to an efficient, 21st-century, low-carbon energy system through more cooperative development of renewables and the required transmission assets.

Index Terms- Argentina; Clean electricity; Economic development; Economic integration; Energy source; Installed capacity; Large rivers; Low level; Operational flexibility; Renewable energies; Renewables; South America; Wind flow

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