

Electricity transmission planning in Latin America: Regulatory challenges and recommendations to speed up network expansion

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Abstract-

The Latin American and Caribbean (LAC) region has advanced regulations governing transmission expansion planning in the power sector and has been and continues to be the birthplace of numerous innovative experiences in this field. Even so, there are certain gaps in transmission planning practices that prevent these networks from expanding at the necessary pace. Criticalities arise in the form of bottlenecks in the queue of interconnection requests, rising congestions and a significant increase in renewable energy curtailment. This article presents a detailed analysis of transmission planning in Brazil, Chile, Colombia, Ecuador, and Guatemala, with a particular focus on regulatory aspects such as the organisation of the planning process and the socio-environmental licensing of transmission projects. This review was complemented and enriched through direct contact with public institutions and stakeholders in the five countries. This exercise allows us to identify gaps with respect to international best practices and put forward recommendations to improve planning efficiency and enable countries in the LAC region to fulfil its energy policy ambitions.

Index Terms- Transmission regulation; Expansion planning; Public acceptance; Social licensing; Environmental assessment

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