

Auction approaches of long-term contracts to ensure generation investment in electricity markets: lessons from the Brazilian and Chilean experiences

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Abstract— The implementation of auctions of long-term electricity contracts is arising as an alternative to ensure generation investment and therefore achieve a reliable electricity supply. The aim is to reconcile generation adequacy with efficient energy purchase, correct risk allocation among investors and consumers, and the politico-economic environment of the country. In this paper, a generic proposal for a long-term electricity contracts approach is made, including practical design concepts for implementation. This proposal is empirically derived from the auctions implemented in Brazil and Chile during the last 6 years. The study is focused on practices and lessons which are especially useful for regulators and policy makers that want to facilitate the financing of new desirable power plants in risky environments and also efficiently allocate supply contracts among investors at competitive prices. Although this mechanism is generally seen as a significant improvement in market regulation, there are questions and concerns on auction performance that require careful design and which are identified in this paper. In addition, the experiences and proposal described can serve to derive further mechanisms in order to promote the entrance of particular generation technologies, e.g. renewables, in the developed world and therefore achieve a clean electricity supply.

Index Terms— Long-term contract; Auction design; Generation investment

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