

A review on generation and transmission expansion co-planning models under a market environment

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Abstract- This paper presents a review of the state of the art on the coordination of generation and transmission expansion planning. First, we present the different investment and operation modelling approaches, with an emphasis on the centralized co-optimisation problem. Second, a comprehensive review on co-planning hierarchical equilibrium models, under a market environment, is carried out. We categorize the distinctive market approaches that usually represent the lower level of co-planning problems. We offer an updated and detailed classification of multilevel equilibrium models, based on their hierarchical and regulatory structure vs their equivalent reduced structure. Finally, we identify research gaps in the literature of each one of the mentioned model categories.

Index Terms-

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