

The value of network investment coordination to reduce environmental externalities when integrating renewables: Case on the Chilean transmission network

Matamala, Carlos

Moreno, Rodrigo

Sauma, Enzo

© 2018 Elsevier Ltd The need to decarbonize the power sector through increased participation of renewable generation has originated an escalating necessity for transmission network investments that can be undertaken by a number of market participants, including planning authorities/system operators, network companies and project developers. The expansion of the power network, however, presents various environmental and social conflicts, in particular, with land uses that are valuable by society such as the presence of communities, national parks, protected forests, tourism zones, archaeological sites, etc. In this context of environmental and social awareness, we assess the benefits of two strategies that coordinate network investments among various participants and compare them against the current counterfactual approach, where no coordination is undertaken and thus renewable generation projects are connected to the main transmission system in an individual, project-by-project basis. T