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## A review of electric vehicle charging impact on power grid

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In view of increasing popularization of electric vehicles (EVs) in transportation system, it is necessary to conduct a comprehensive review of EVs charging impact on the power system along with its positive impact in terms of cost-benefit and environment. Voltage drop, unbalance and harmonic distortion have been among the main power quality concerns due to large scale penetration of electric vehicles system and therefore, these has been formulated and analyzed in this paper. A cost benefit analysis is carried out under EVs penetration for assessment of cost for charging infrastructure and external factors such as health and climate benefits. Additionally, a substantial focus is given to compute the overloading of transformer, cable and increased energy losses that appear after integration of single phase electric vehicle charging load in a distribution network and the obtained results may serve as a guiding parameters for network reinforcements.

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