

Abstract: The research work deals with implementation of various chargers used for electric vehicles in the scenario of Qatar. These chargers are categorized as slow, fast and superfast chargers. The electric vehicles not only lead to reduction in carbon foot print, in addition to this, the V2X mode of operation of EVs implemented with the help of bidirectional converter is used to provide ancillary services in the system such as shaving peak and valley in load demand, frequency and voltage regulation, balances the supply and demand for active power and reactive power, compensate grid current harmonics, improve power quality, provide reactive power compensation and improve system stability. Due to above mentioned advantages, V2X mode of operation will be explored in this research work.

