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Inverters can be good for power systems

Inverters have been blamed for reducing system strength and making the grid difficult to manage. The aim of this presentation is to show how inverter interfaced renewables can be a positive for the grid. There is a context of modelling where we need to choose the correct model for a particular power system issue. Power lines need different models for lightning transients, voltage rise on open circuit and in transient stability. Inverter models need to have a graduated level of modelling to understand the phenomena and develop control and for validation. This presentation will focus on developing controls for synchronizing inverters particularly to a weak grid and contributing to system performance. These will permit higher levels of renewables in the grid required as coal fired stations retire.