INTEGRATING MICROGRID TECHNOLOGIES WITH THE RENEWABLE ENERGY SYSTEMS IN SRI LANKA

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Abstract

Sri Lanka being a country with a higher abundance of renewable energy sources, has a very high potential of utilizing them to create a cleaner energy supply. In the journey of providing clean energy to the world, microgrids plays an important role. The integration of microgrid technologies with the available renewable systems is a prominent solution among many developed and developing countries in their journeys to electrify the nations. Integrating the renewable energy sources available in each individual region in a DC microgrid enables the energy providers to increase the supply of energy through distributed generation. The abundance of various energy sources in certain regions including solar energy in the dry zone, hydro energy in the wet zone, wind energy in the coastal region and tidal energy in the sea side increases the opportunity to implement distributed generation in these areas. This allows to decrease the power losses occurring due to long distance transmitting, increase energy supply in the country, reduce effect of breakdowns, reduce the cost of energy production and maintain a sustainable power grid.

Keywords: microgrid, renewable energy, Sri Lanka, distributed generation