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Sustainable energy systems with energy storage technology

Electric energy systems with fossil fuel dominated generation are believed to contribute to adverse environmental consequences. Renewable energy resources based on wind and solar energy are being rapidly integrated in large scale to address the environmental concerns. The increased penetration of these renewable resources has added uncertainty and variability in energy production causing major challenges in planning and operating power systems in a reliable and efficient manner. Energy storage systems can absorb the variations in renewable energy and

mitigate these concerns, and are therefore, emerging as a promising solution. There are different types of energy storage technologies with characteristics suitable to different tasks and objectives within the power system and electricity market contexts. Effective policies and appropriate economic/market mechanisms are required to attract and sustain relevant technologies in such a way that the ultimate goal of renewable energy growth, at affordable costs, yields reliable energy supply to electricity consumers.

Biography

Rajesh Karki is a professor in the Power System Research Group at the University of Saskatchewan. He is a Fellow of Engineers Canada, a Senior Member of the IEEE, and a professional engineer in the province of Saskatchewan. He specializes in the area of power system reliability and sustainable energy. He has over 100 technical papers,



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