Renewable Energy Integration: From Resource Assessment to Power System Impacts

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Abstract: Wind and solar power are increasingly being integrated into power systems around the world, and quickly changing power system operations and planning practices. The variability and uncertainty inherent in wind and solar power generation present unique challenges for the economic and reliable operation of the grid at high penetration levels. An overview of grid integration challenges and opportunities will be presented along with detailed case studies examining the impacts of high solar power penetration levels.

Bio: Dr. Bri-Mathias Hodge is the Manager for the Power System Design & Studies Group at the National Renewable Energy Laboratory. He has served as PI on over 20 DOE and industry funded projects in the areas of: power system communications, wind and solar resource assessment, wind and solar power forecasting, power system operations, and power systems planning. He has a Ph.D. from Purdue University, a M.S. from Åbo Akademi, and a B.S. from Carnegie Mellon University.