



Stanford University

TomKat Center for Sustainable Energy
Precourt Institute for Energy
Energy and Environment Affiliates Program
Civil and Environmental Engineering
Department of Electrical Engineering

Stanford SmartGrid Seminar

Energy Positioning: Control and Economics

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1pm Thursday, Jan 30th, Y2E2 101

Abstract: While chemists, material scientists and chemical engineers have made great progress in developing better batteries, the cost of these devices remains very high. Using batteries for arbitrage and ancillary services does not justify their large-scale deployment in the grid. In this presentation, we will explore how distributed energy storage could be used to enhance the existing transmission capacity, reduce the cost of congestion, reduce the amount of renewable energy that must be spilled and reduce or defer the need for investments in additional transmission capacity. If time permits, we will also discuss techniques that can be used to take into account the uncertainty that renewable energy sources introduce in this optimization problem.

Bio: Daniel Kirschen is the Donald W. and Ruth Mary Close Professorship of Electrical Engineering at the University of Washington. His research focuses on smart grids, the integration of renewable energy sources in the grid, power system economics and power system security. Before joining UW, he taught for 16 years at The University of Manchester (UK). Before becoming an academic, he worked for Control Data and Siemens on the development of application software for utility control centers. He holds a PhD from the University of Wisconsin-Madison and an Electro-Mechanical Engineering degree from the Université Libre de Bruxelles (Belgium).