Abstract

The electric power sector is undergoing fundamental transformations at an unprecedented pace due to rapid uptake of distributed energy resources (DERs) – a two-edged sword which is eroding utility revenues as increasing number of consumers become prosumers by using less – through energy efficiency schemes – while producing more of what they consume – through distributed self-generation.

If the cost of storage continues to fall, as expected, prosumers can move a step further by becoming prosumagers – consuming, producing and storing energy while enhanced management of when and how energy is used, generated and stored. The proliferation of service options is likely lead to consumer stratification, changing the historic interface with the incumbent distribution utilities.

Moreover, new intermediaries are mastering the art of aggregating the loads, distributed generation and storage of large numbers of consumers, turning them into virtual power plants (VPPs).
This presentation, based on a forthcoming book on the topic, examines how such developments are disrupting the traditional business model of the incumbents while creating opportunities for new entrants and the challenging facing the regulators and policymakers.

Biographical sketch of Fereidoon Sioshansi

Dr. Sioshansi is President of Menlo Energy Economics, a consulting firm based in San Francisco advising clients on rapid transformation of the electricity sector and emerging business models. He is the editor and publisher of EEnergy Informer, a monthly newsletter with international circulation.

He has over 35 years of experience including working at Southern California Edison Company (SCE), the Electric Power Research Institute (EPRI), National Economic Research Associates (NERA), and Henwood Energy, now part of ABB.

Since 2006 he has edited 10 books published by Academic Press, the latest titled Innovation and disruption at the grid’s edge: How distributed energy resources are disrupting the traditional utility business model, published in May 2017.

He has degrees in Engineering and Economics, including an MS and Ph.D. in Economics from Purdue University.