

*A Global Perspective on the Smart Grid: Differences in Needs Around the World*

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The grid is changing more quickly than ever before. Rapid load growth is driving the need for more power generation and the associated transmission and distribution (T&D) infrastructure needed to deliver this electricity to the load. The rate and scale of growth in some emerging countries is far greater than that experienced anywhere in the history of the world. Emerging countries are working to build out their systems to keep up with load growth, or in some cases, to even meet their loads. This is creating challenges and opportunities, unique to each region of the world. Developed countries are working to grow and reshape their grids to cope with modern mega trends, such as rapid growth in wind and solar power, the retirement of large and aging baseload coal and nuclear generation, an aging T&D infrastructure, and a desire to diversify fuel sources and reduce carbon emissions.

Smart grid technologies leverage power systems communications infrastructure and state-of-the-art automation and control platforms to enable optimal usage of generation, transmission and distribution, and load resources. For centuries, growth in the industrialized world has been fueled by low cost electricity. Cost continues to be a key driver all around the world and smart grid technologies are responding by increasing system efficiency and performance, while helping to manage the unique challenges each region faces. A global view on the topic of smart grid will be presented. The presentation will highlight the challenges in major emerging and developed economies and provide an overview of some of the smart grid solutions to help manage these challenges being faced in each region.