

Role of the energy storage shaping the future grid of Australia



Dr. Nishad Mendis (PhD, SMIEEE)

Presenter:

He is a Senior Electrical Engineer working in DNV GL's Energy Advisory group in Melbourne, Australia. Prior to joining DNV GL, He worked for Eltek as a Solutions Engineer working on the design and implementation of energy storage based applications, Alstom Grid as a Design and Commissioning Engineer for HV substations and Design Engineer in Noratel Sri Lanka. He has over 10 years of professional experience including a PhD on the "Design of Wind Dominated Hybrid Remote Area Power Supply Systems" from the University of Wollongong, Australia and a bachelor of Electrical Engineering with honours from the University of Moratuwa, Sri Lanka. He also currently holds IEEE Senior membership and is currently serving as IEEE Secretary for the Victorian Section and has published many conference and journal papers with IEEE. At present, he is serving as an Honorary Fellow for School of Electrical Engineering for Deakin University, Australia.

Abstract:

The role of energy storage has recently been identified as one of the emerging technologies with a potentiality to become a critical enabler for the renewable energy generating schemes in Australia. The value addition spectrum of an energy storage into a renewable energy scheme may cover many aspects such as managing the intermittency, improved supply reliability and security, autonomy of operation etc. In commercial perspective, by integrating energy storage will provide (a) increase revenue, (b) decreasing project cost and (c) minimise the challenges for renewable energy deployment. Energy storage market segments are diversified in nature which may include off grid, wholesale, transmission and distribution and end use or aggregator.

The presentation provides the basic understanding of the energy storage systems and their market position in Australia. In this regard, a basic overview of the energy storage technologies will be discussed. The key emerging markets, applications and drivers behind the energy storage systems particularly, in relation to the battery storage systems will be explained. The bankability of the energy storage projects and the key global market leaders in this space will be briefly discussed. The Australian renewable energy uptake and the role of energy storage in the renewable energy market space will be presented. The importance of standards and its regulatory framework which pertain the rolling out of energy storage system will be touched. Finally, DNV GL capabilities and its current initiatives in energy storage will be summarised.
