

Behind the Meter Energy Storage: Role for Supporting Demand Response and Renewable Integration

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Abstract:

Advanced Energy Storage technologies are expected to dominate both stationary and emobility sector for the coming decade. While a lot of attention is provided to grid scale storage deployment, India Energy Storage Alliance anticipates that Behind the Meter (customer sited) energy storage will lead the adoption of stationary storage in India in coming 5 years. Indian consumers are not new to use of energy storage in form of lead acid batteries that have been the back bone of backup power for decades, but the advanced storage technologies such as li-ion batteries and flow batteries can completely transform the way customers get value from these investments. This presentation will provide overview of recent advances and anticipated improvements in techno commercial parameters for leading energy storage technologies in next 3-4 years.

Such adoption of advanced energy storage technologies by consumers will be driven by the desire of customers for adoption of renewable energy which has already reached parity with grid, and in fact for most of the C&I customers in India RE+storage can be cheaper than purchasing power from grid. With the scaling up of giga factories, this trend is expected to continue in the coming decade. In addition with improved cycle life and efficiency of advanced energy storage technologies, customers can also more actively participate in demand response opportunities provided by utilities and IEX. Of course, a lot of regulatory and policy work is required, but we can learn from the developed markets such as the US to understand the opportunities that exist for optimizing system costs as well as reducing price shocks due to supply demand imbalance.