

Behind the meter applications

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Advancing towards net-zero carbon energy production will require efficient consumer energy management. Behind the Meter energy storage is essential to alleviate grid stress from power usage fluctuations and peak electricity demand charges.

All components of the electrical grid between the meter and the utility scale generation site are considered "Front of the Meter (FTM)." This includes but is not limited to transformers, energy storage, transmission lines, substations, grid scale solar and wind generation, and so on. All components on the consumer side of the meter are considered to be "Behind the Meter (BTM)". This includes breaker panels, electrical systems, solar (photovoltaic cells on roof or solar shingles), inverters, energy storage, and micro grids.

Intermittent renewable energy supply due to inclement weather has been problematic. A record number of recent blackouts and brownouts have significantly impacted businesses and homeowners, particularly during severe storms.

As the frequency and severity of these weather events increase, the reliability of our energy infrastructure faces challenges. BTM energy storage systems can mitigate these issues by providing backup power during outages and maintaining a consistent energy supply when renewable sources are temporarily unavailable.

To manage this demand, many utilities incentivize customers to limit electricity usage during peak times. Utilities have implemented time-of-use rates, charging higher prices for electricity used during periods of high demand, and some commercial and industrial customers face peak demand charges.

Through SMART technology, ESS owners can charge their energy storage system during off peak times when their energy consumption is low or when renewable energy is being produced in abundance from solar or wind.

BTM energy storage systems then optimize stored energy through peak shaving and demand response to improve energy reliability, reduce costs, and support a more sustainable energy infrastructure.



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