

Revenue Opportunities for Energy Storage Systems

FFR Firm Frequency Response

FFR is operated by the National Grid (and some DNOs) to maintain the Grid Frequency at 50Hz (+/- 1%).

Frequency decreases when there is more demand than generation and Frequency increases when there is more generation than demand.

The National Grid uses a tender process where Aggregators submit bids to provide services for low frequency events, high frequency events, or both.

Virtue can help by reducing/removing the site from the Grid when low frequency (reducing demand) and by storing energy when high frequency (creating demand) . FFR are 4 year contracts with the incentives set by the National Grid

DUoS Distribution Use of System

DUoS is charged by your local Distribution Network Operator (DNO) to cover the cost of transporting electricity through the network directly to your business.

These charges comprise of a number of distinct elements: Fixed charges, Capacity charges, Reactive power charges and Unit charges.

Unit charges are per kWh of electricity used. They vary according to the time of day used and are also location dependant.

Virtue reduces Unit charges by using the lower rate charge times to charge the battery and reduce/avoid peak unit charges by discharging the batteries at peak times. Non half hour metered sites do not see a breakdown of DUoS, they see a day and night rate only. It is impossible for District Network Operator (DNO) to charge the unit rates therefore they increase the day rate as a whole.

TNUoS Transmission Network Use of System

TNUoS cover the cost of transporting electricity from generating stations to the network and are charged by National Grid.

Your TNUoS charge is based on your average demand during the three half-hour periods of greatest national demand between November and February, known as Triads, multiplied by the tariff for your particular zone. The three Triad periods usually occur in the early evening during the week when national demand for electricity is highest, and must be separated by at least ten working days.

Reducing electricity demand from the Grid during likely Triad periods should create significant savings.

CM Capacity Market Charge

The CM is intended to ensure the UK has sufficient capacity available to meet the winter peak demand and is operated by the Electricity Settlements

Company (ESC). Generators are paid a premium during the times of high demand and hence this is recovered through consumers electricity contracts.

The CM Charge will be applicable to energy consumed between 4pm and 7pm, Monday to Friday from the start of November to February inclusive.

The Virtue can help reduce these charges by discharging the batteries during these peak times.

PS Peak Shifting

Storage systems allow your peak load periods to be reduced by releasing stored energy during these periods. This can also avoid exceeding connection limits and max. kVA charges.