

The need for energy storage

The way in which we use, and generate, electricity is changing. Our electricity system is in a transitional period to manage the increasingly complex supply and demand needs of the 21st Century, and battery energy storage systems (BESS) provide an important role in this.

BESS technology supports the variable generation of renewable energy technologies by playing an important balancing and grid stability role. BESS helps support National Grid by storing energy at times when generation exceeds demand and releasing electricity back to the national grid network when demand exceeds generation. BESS is considered the fastest technology for responding to a sudden spike in demand or an abrupt loss of supply. BESS can also provide grid stability (frequency of the grid) services on a second-by-second basis as well as providing additional network capacity, particularly at times of network stress.

BESS is essential to enabling and accelerating the rollout of zero carbon energy. Increasing its installed capacity will be vital to support NI's net-zero emissions target and help to deliver a reliable, resilient, decarbonised electricity system for the future.

BESS has a key role in cost-effectively decarbonising the power sector by 2030. They help to balance the electricity system at a lower cost by maximising the output of variable generation as well as minimising both network upgrades and the need for new infrastructure. Short-duration flexibility offered by technologies such as BESS, could reduce energy system costs by up to £10bn per year by 2050¹ through minimising the need for new peaking generation, such as expensive gas, and network assets.

¹ <https://assets.publishing.service.gov.uk/media/60f57aade90e0764cd98a0a3/smart-systems-appendix-i-electricity-system-flexibility-modelling.pdf>

