THE CHEAP ENERGY CAMPAIGN

LITHIUM-ION GRID SCALE BATTERY STORAGE IS NOT THE ANSWER - THE COST IS PROHIBITIVE

Many people think that we can store electricity from days of wind surplus and use it in periods of wind deficiency. It is not the answer either on cost or safety grounds

Over the past 5 years for at least 2,800 hours in the year wind has failed to supply 20% of demand compared with the normal figure of about 30% of demand.

These periods of wind deficiency often last 72 hours and can last up to 289 hrs

National Grid Electricity Engagement Scenario for 2050 envisages that total annual electricity demand will be 845 TWh. This equates to an average demand of 96 GW. They anticipate that 57% of this will be supplied by wind i.e. 54 GW,

Based on current figures for wind variability we can confidently state that periods of wind deficiency will continue to total 2500 hours every year and that these periods of wind deficiency (i.e., dropping to 2/3 of normal supply) will continue last for 72 hours several times in the year. If batteries were to be the back up source they would need to have a sufficient capacity to supply a shortfall of 18 GW (i.e. 54 GW dropping to 36 GW) for 72 hours. This means a total battery capacity of 1,296 GWh.

The latest available battery costs are £75m for 196 MWh[1] or £383m per GWh). So the costs for 1,296 GWh would be £495.9 bn or £17,462 per household in 2050[2]. If batteries were needed to cover the maximum period of 289 hours of wind deficiency the cost would be over £70,000 per household.

[1]https://www.innovationnewsnetwork.com/europes-largest-battery-energy-storage-system-launched-in-the-uk/30665/

[2] Based on current the current figure of 28.4 m households.