



Department for
Energy Security
& Net Zero



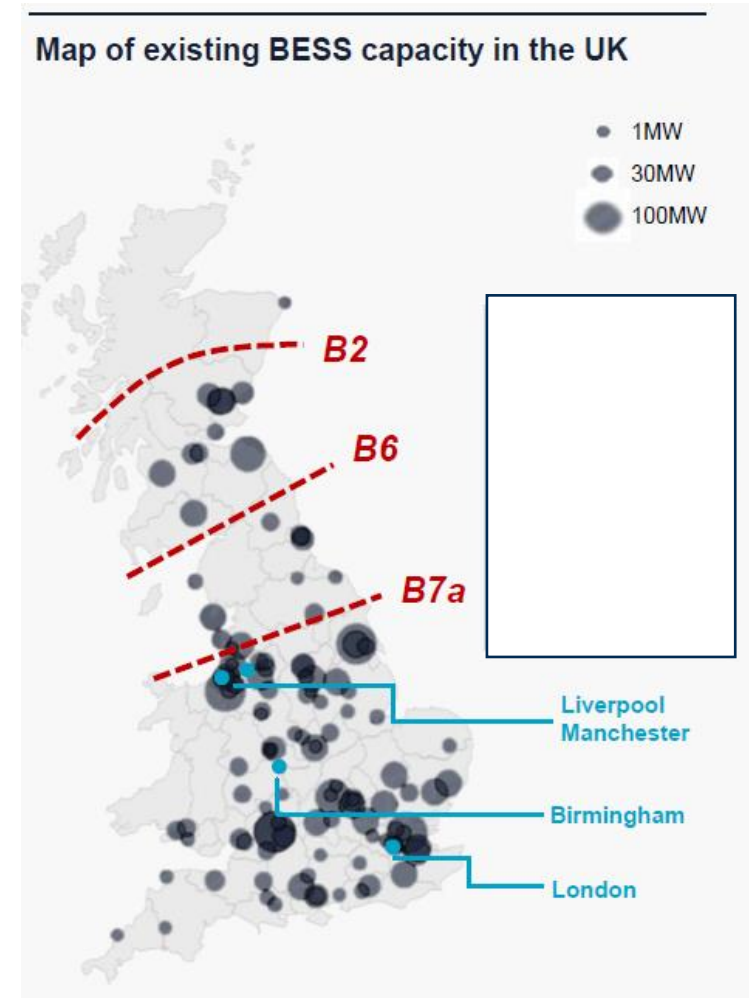
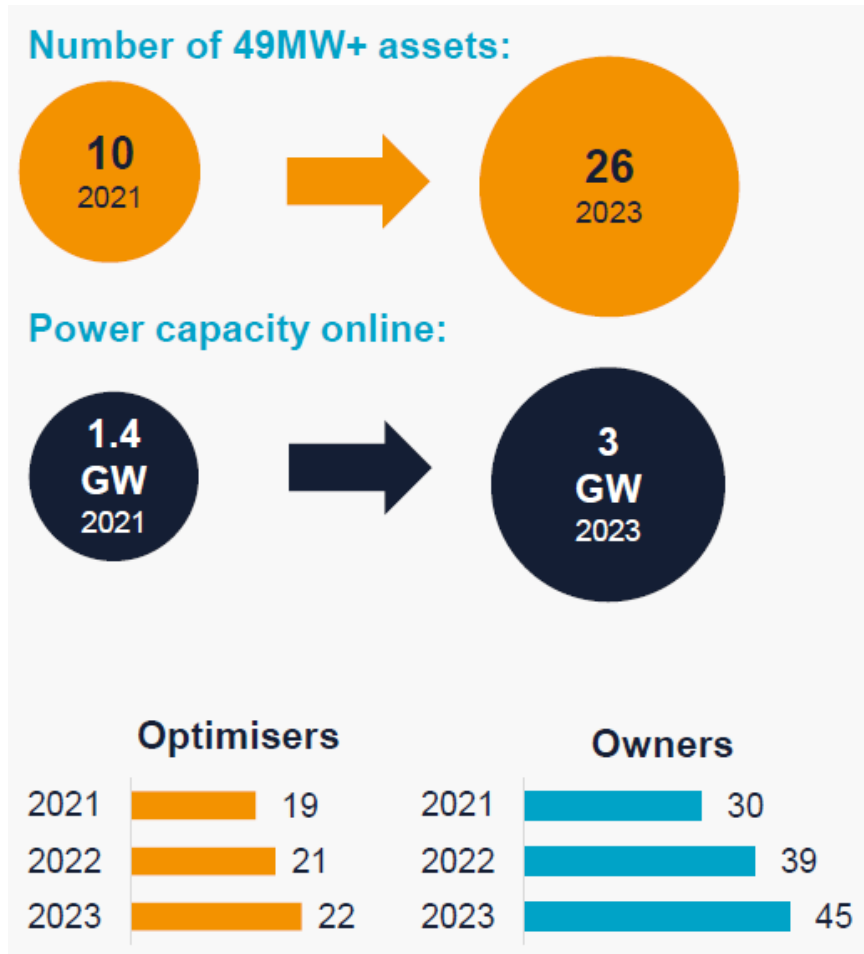
UK experience operating power systems with battery energy storage systems

25 September 2023

Agenda

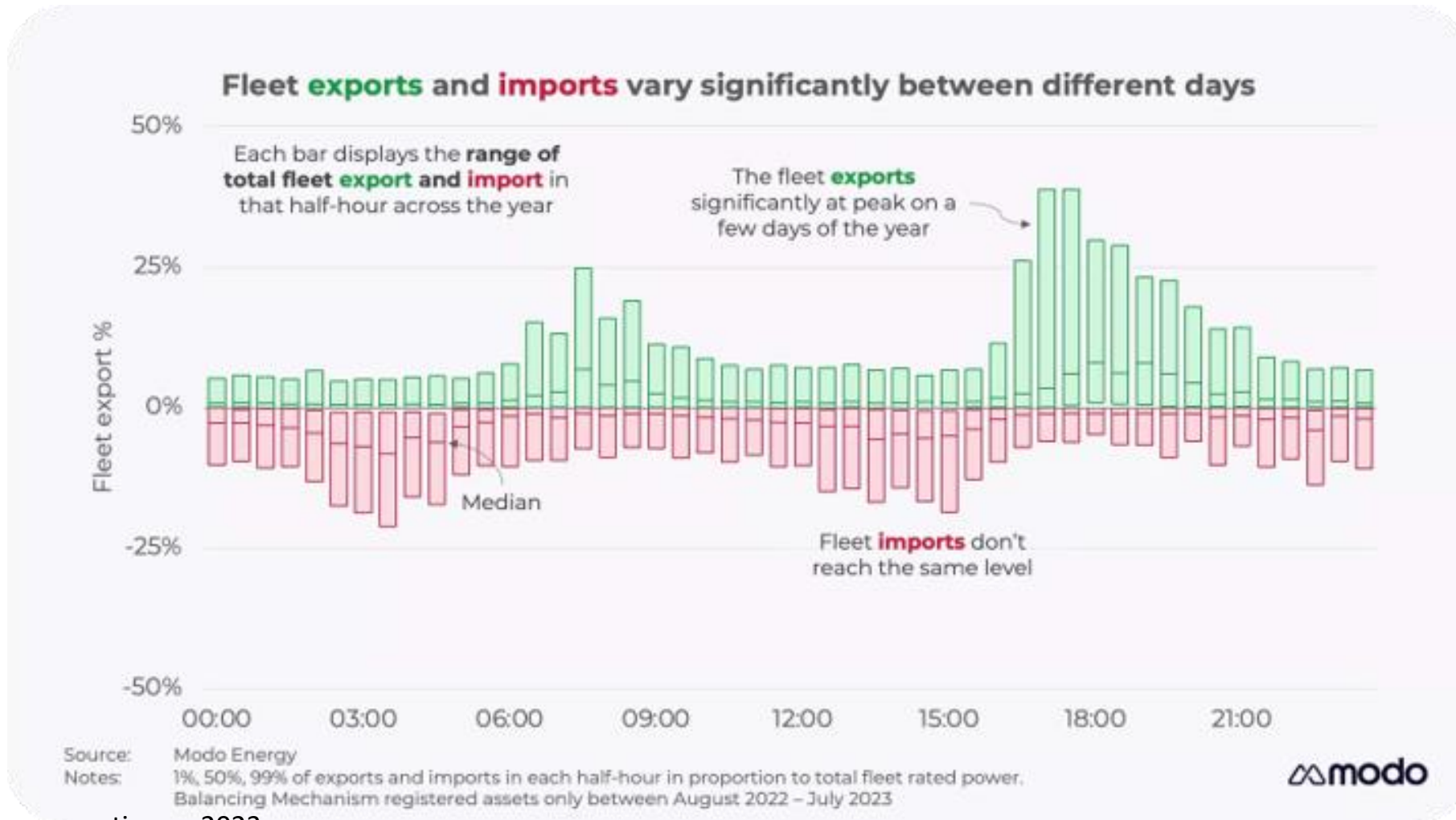
- Context – batteries in Great Britain's power system
- Battery operation in Great Britain's power system
- Further technical considerations

Context: Batteries in Great Britain's Power System



Source: LCP Delta 2023 Battery investment landscape

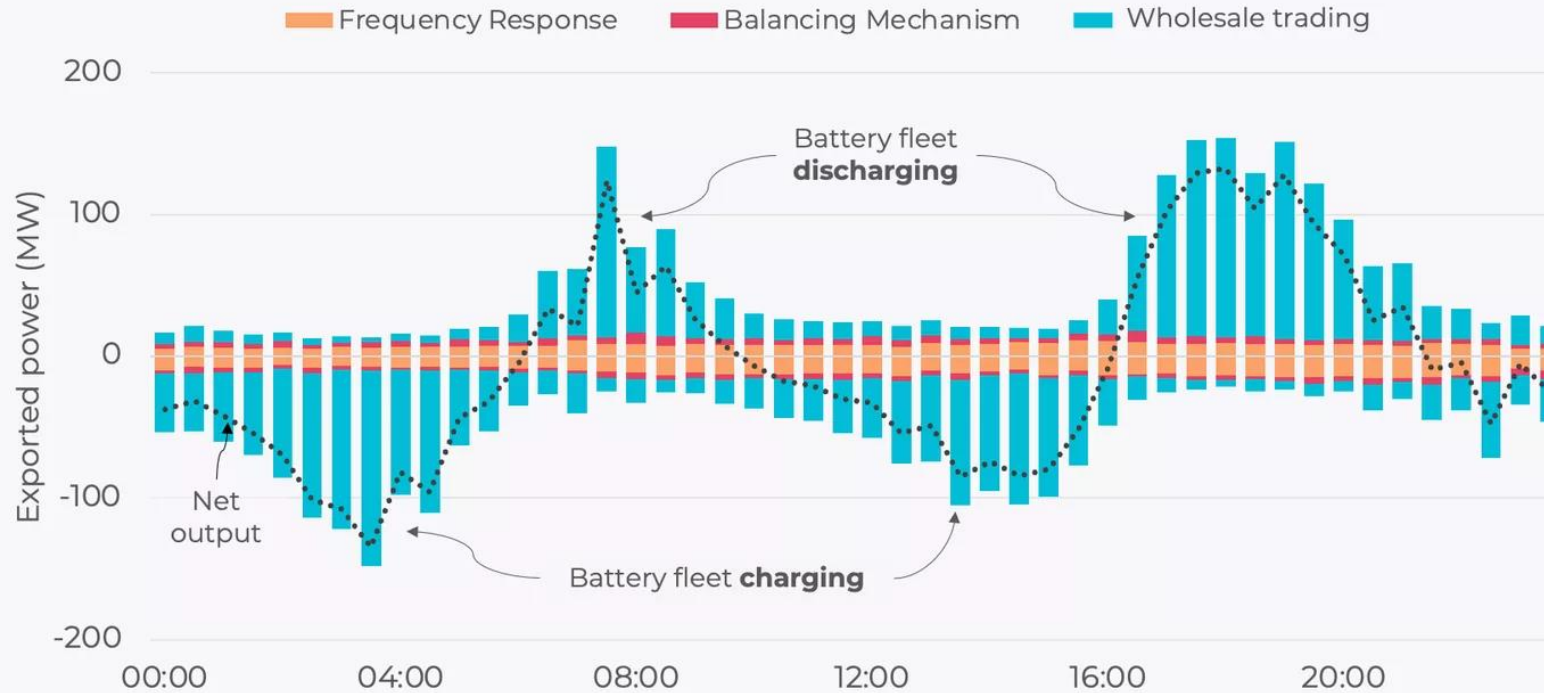
Operation



Source: Modo battery operations – 2023

Operation

The operational profile of battery energy storage systems is now dominated by trading in the **wholesale market**



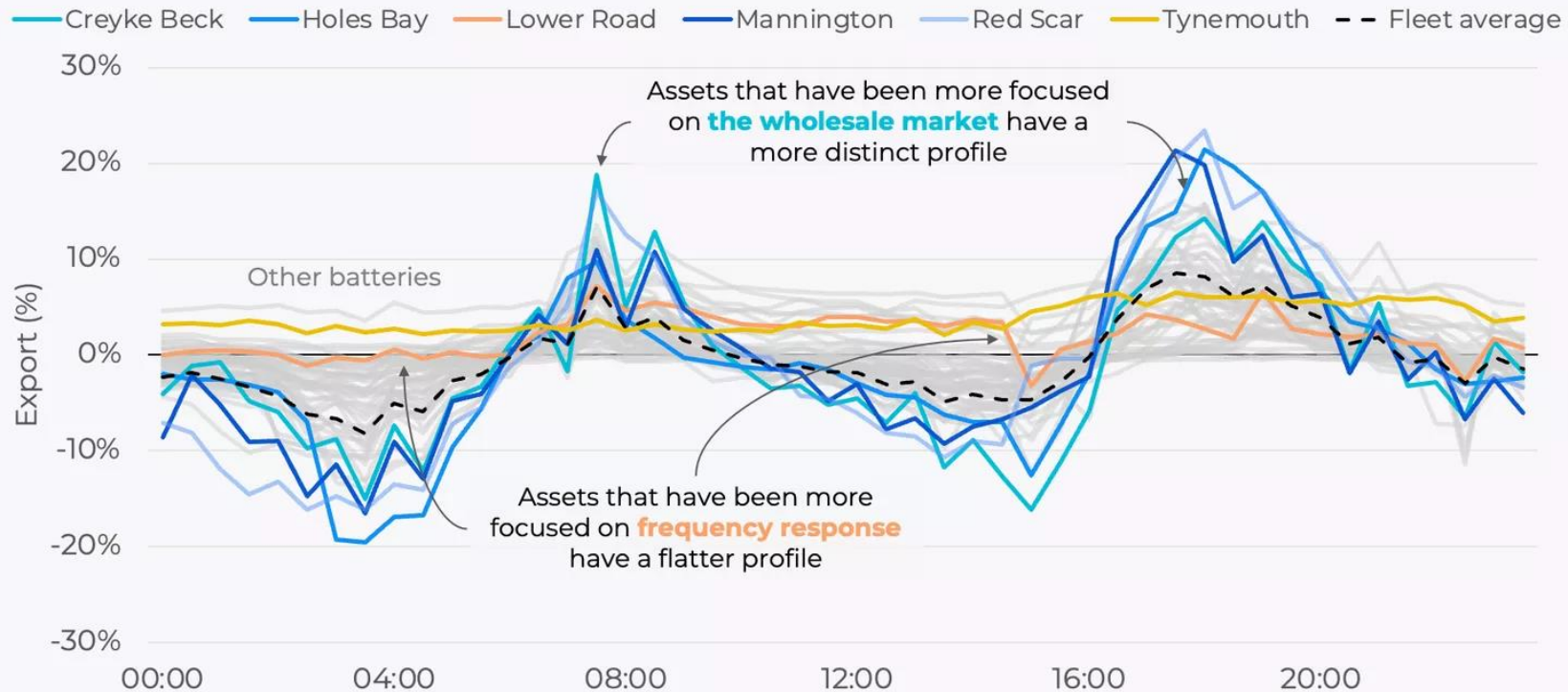
Source: Modos Energy
Notes: Average fleet half-hourly power output between from August 2022 – July 2023.
(Balancing Mechanism registered assets only)



Source: Modos battery operations – 2023

Operation

The operational profile of individual assets are a clear indication of which markets they participate in

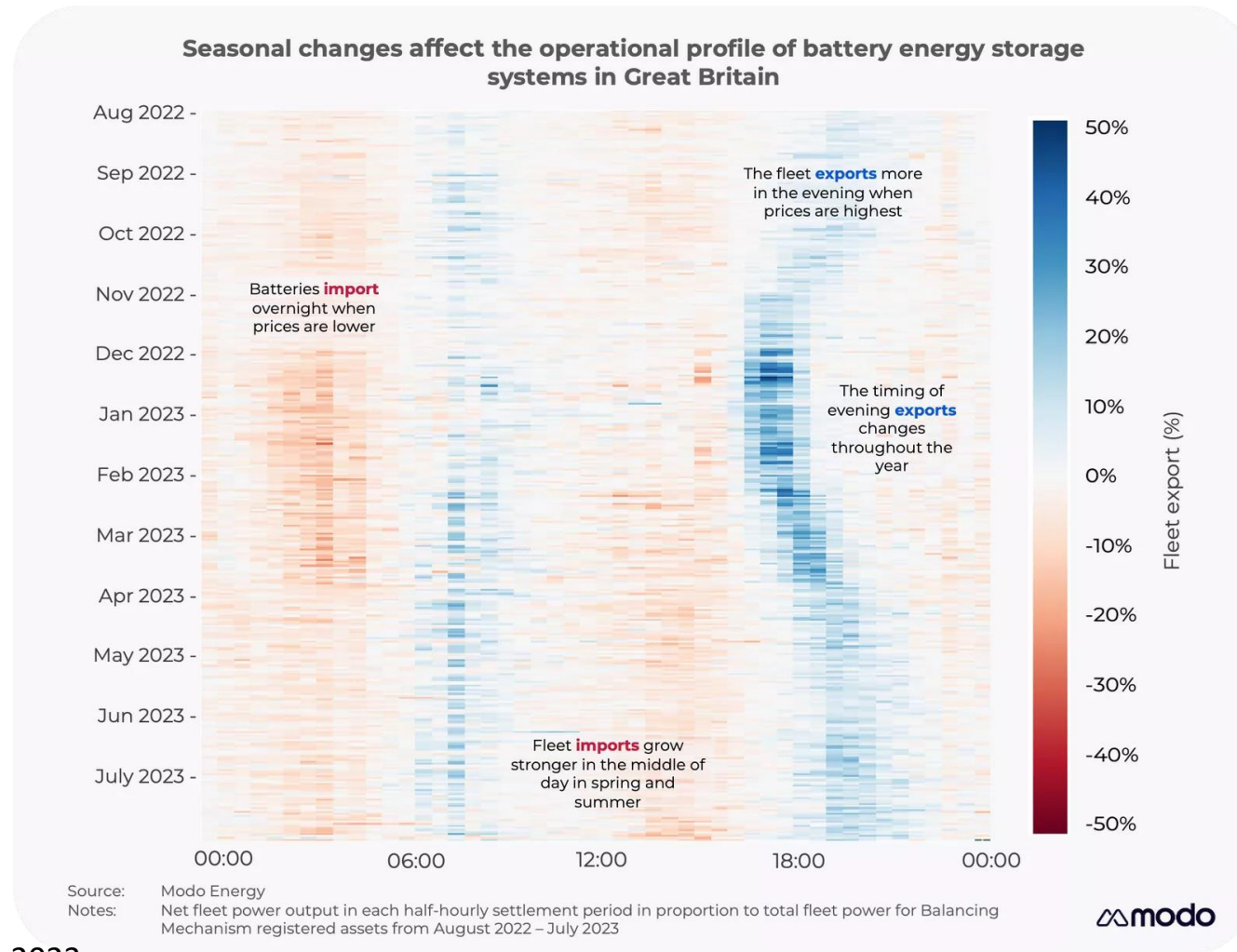


Source: Modo Energy
Notes: Each line represents a battery. Export is as a percentage of the asset's rated power. Data from August 2022 to July 2023.



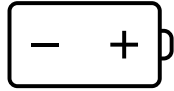
Source: Modo battery operations – 2023

Operation

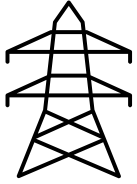


Source: Modo battery operations – 2023

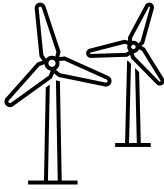
Further technical considerations



What battery chemistry is most appropriate for each application?



Will it be connected to the distribution grid or the transmission grid?



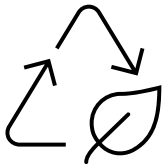
Will the battery be co-located with generation?



How should metering work?



Are the right health and safety protocols in place?



What is the plan at end of battery life? Decommissioning? Repowering?



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Thank you