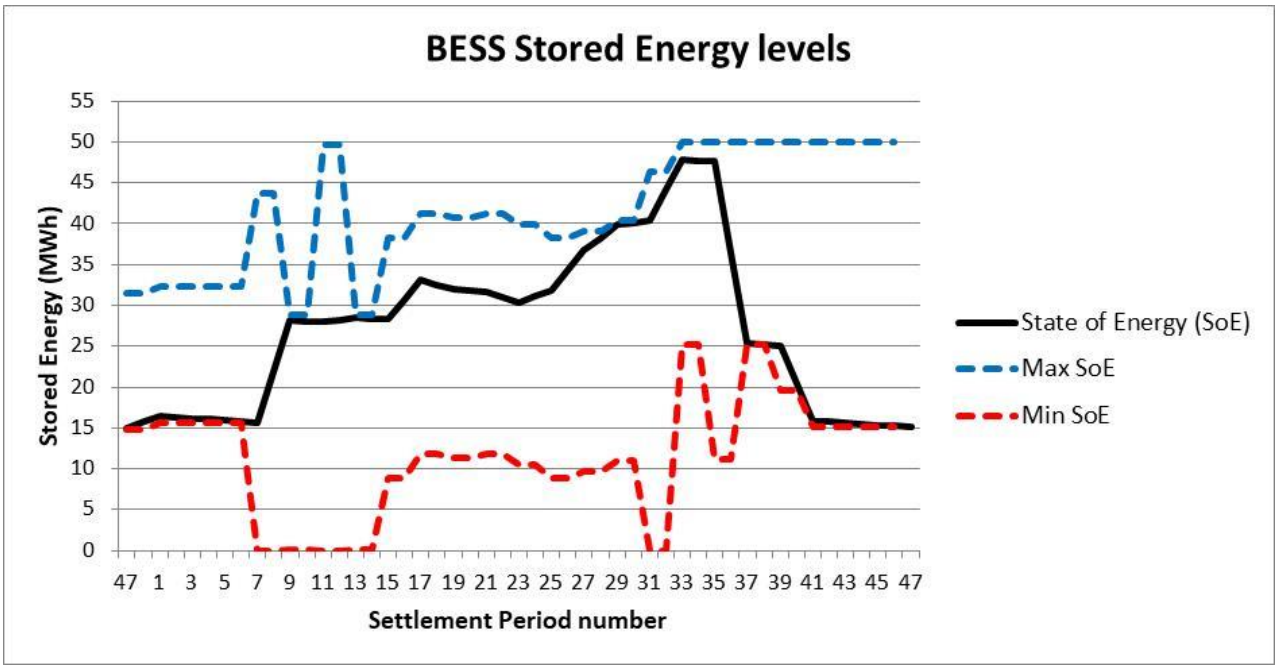
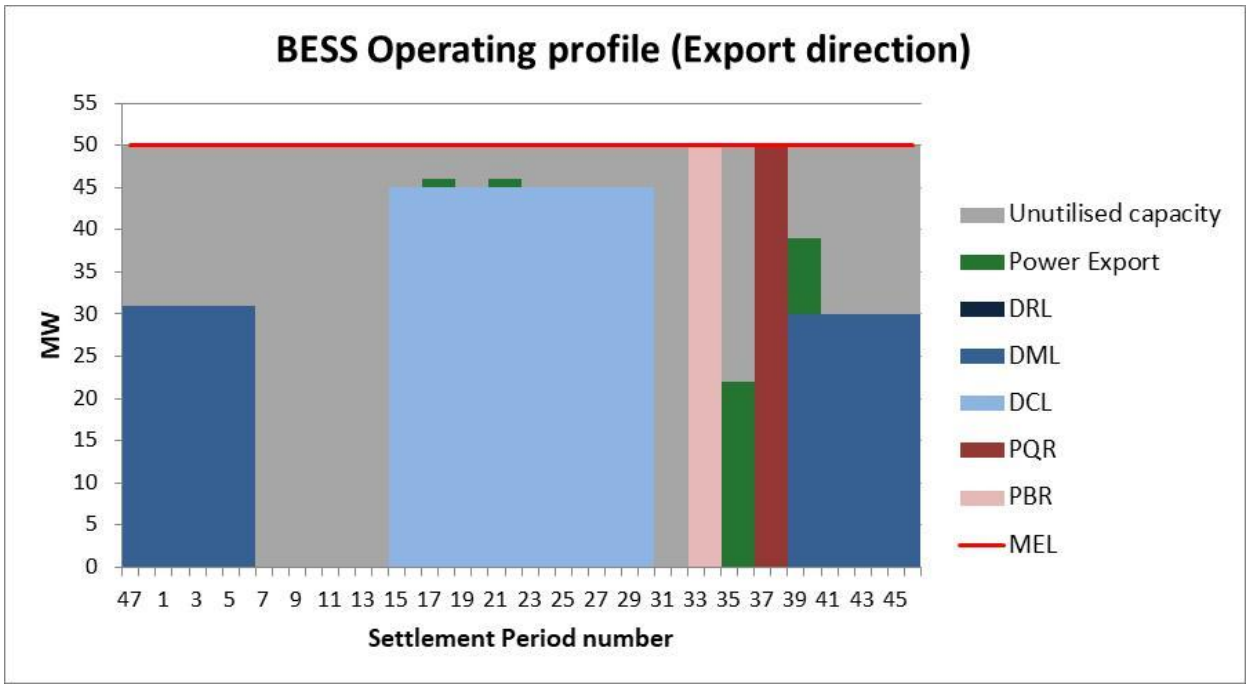
Powerop for Battery Energy Storage System operators and optimisers

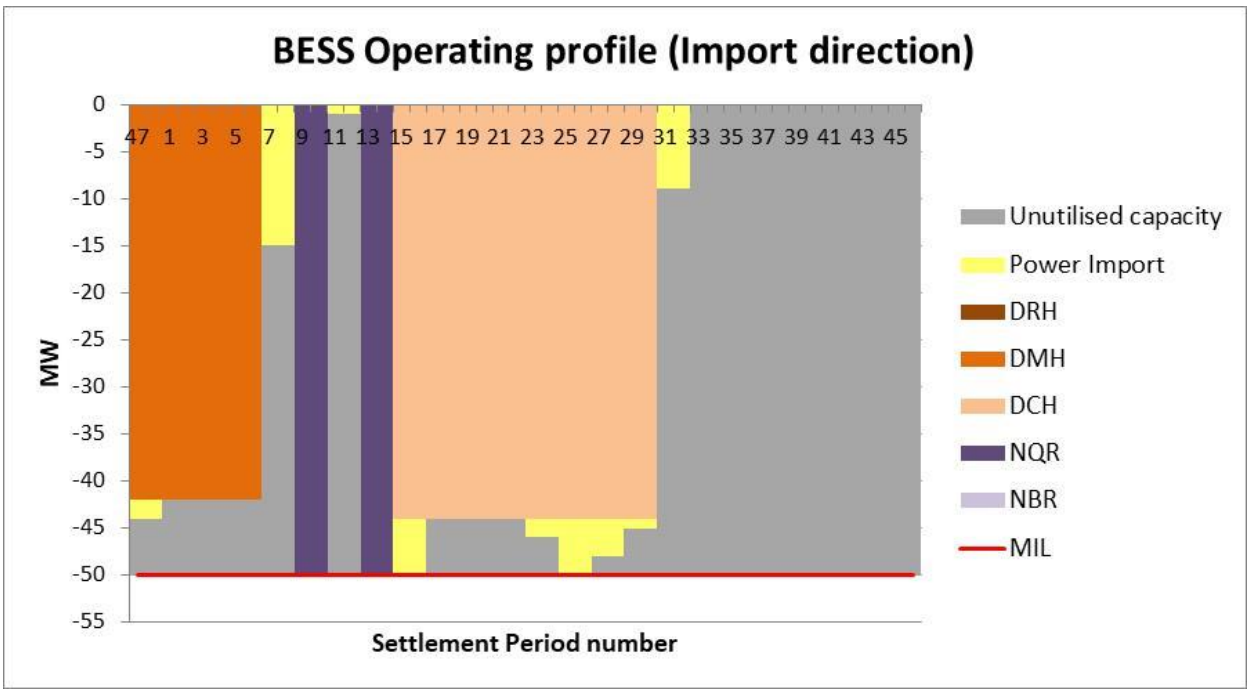
Why use Powerop to optimise Battery Energy Storage Systems?

- Powerop uses a rigorous Mixed Integer Linear Programming optimisation algorithm to **maximise the profit from operating Battery Energy Storage Systems (BESS)**.
- Powerop can achieve a **significant increase in profits** relative to spreadsheet-based scheduling models.
- It determines **optimal Balancing Reserve, Quick Reserve and Dynamic Frequency Response Service levels ahead of the National Energy System Operator's (NESO) daily auctions**, given each BESS's operational parameters and a forecast of reserve, response and power prices.
- After the auction results have been published, Powerop can be used to **regularly re-optimise BESS generation profiles and storage levels as power prices evolve.**
- Powerop will ensure that the recommended BESS stored energy levels **remain compliant with NESO's state of energy management rules** at all times.
- Powerop can be used for **short-term operational optimisation (i.e. day-ahead or within-day), or longer-term business planning and asset evaluation purposes**.
- Powerop can be run on any Windows PC via a **user-friendly Excel interface** and can be readily integrated within existing trading and optimisation software.
- It achieves **rapid solution times**, even for complex optimisation problems.



The optimised stored energy levels of a 50MW / 50MWh BESS over a one day period. The BESS is capable of offering positive and negative Balancing Reserve (BR) and Quick Reserve (QR), as well as Dynamic Containment (DC), Dynamic Moderation (DM) and Dynamic Regulation (DR) in both High and Low directions. The State of Energy (SoE) determined by Powerop always complies with NESO's SoE management rules, as represented by the dashed lines.





The optimised Balancing Reserve, Quick Reserve, Dynamic Frequency Response Service and power export and import levels in each Settlement Period for a 50MW / 50MWh BESS over a one day period. Sufficient headroom is maintained to ensure at least the minimum required level of Energy Recovery is possible following a period of response delivery.

Further information

For more information about Power Optimisation and our power scheduling and dispatch software Powerop, please visit our website at **http://www.powerop.co.uk/**

If you would like to explore further how Powerop can benefit your organisation, please email us at **contact@powerop.co.uk**