# Power Optimisation

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 one or more Battery Energy Storage Systems ("BESS")**.

- Powerop can achieve a **significant increase in profits** relative to spreadsheet-based scheduling models.

- It determines **optimal Dynamic Frequency Response Service levels ahead of NESO's daily auction** given each BESS's operational parameters and a forecast of response and power prices.

- Once 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.
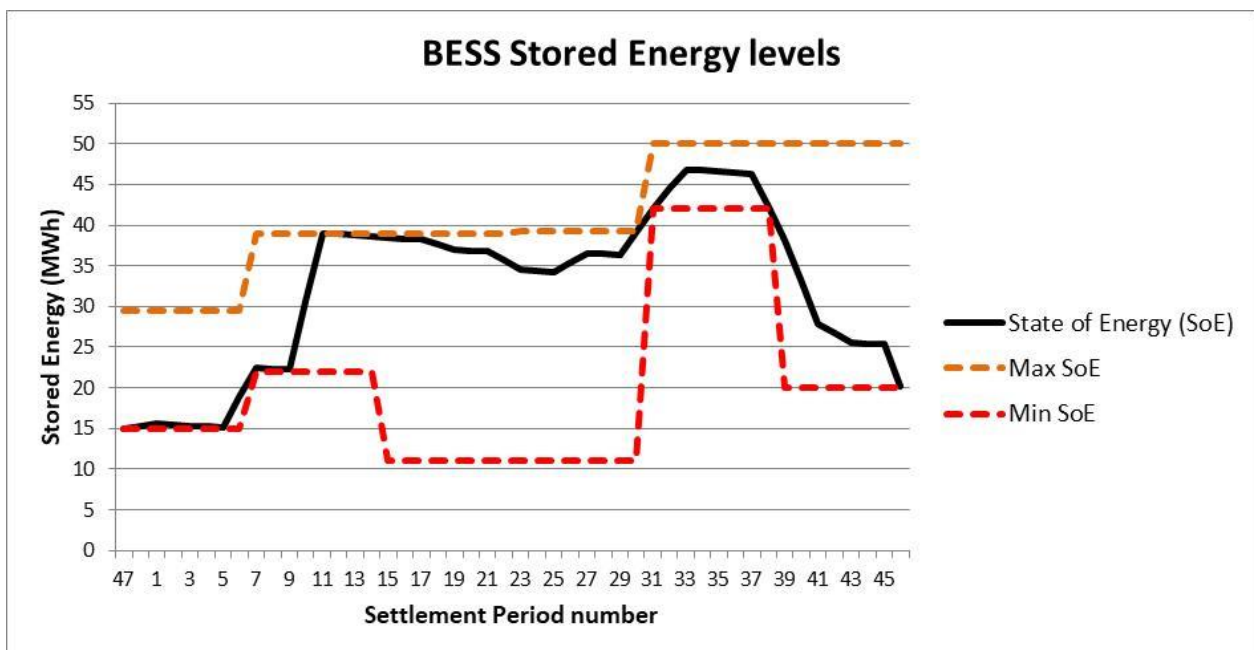
Optimising the stored energy levels of a 50MW / 50MWh BESS over a one day period. The BESS is capable of offering Dynamic Containment (DC), Dynamic Moderation (DM) and Dynamic Regulation (DR) in both Low and High directions. The State of Energy (SoE) always complies with NESO's SoE management rules, as represented by the dashed lines.

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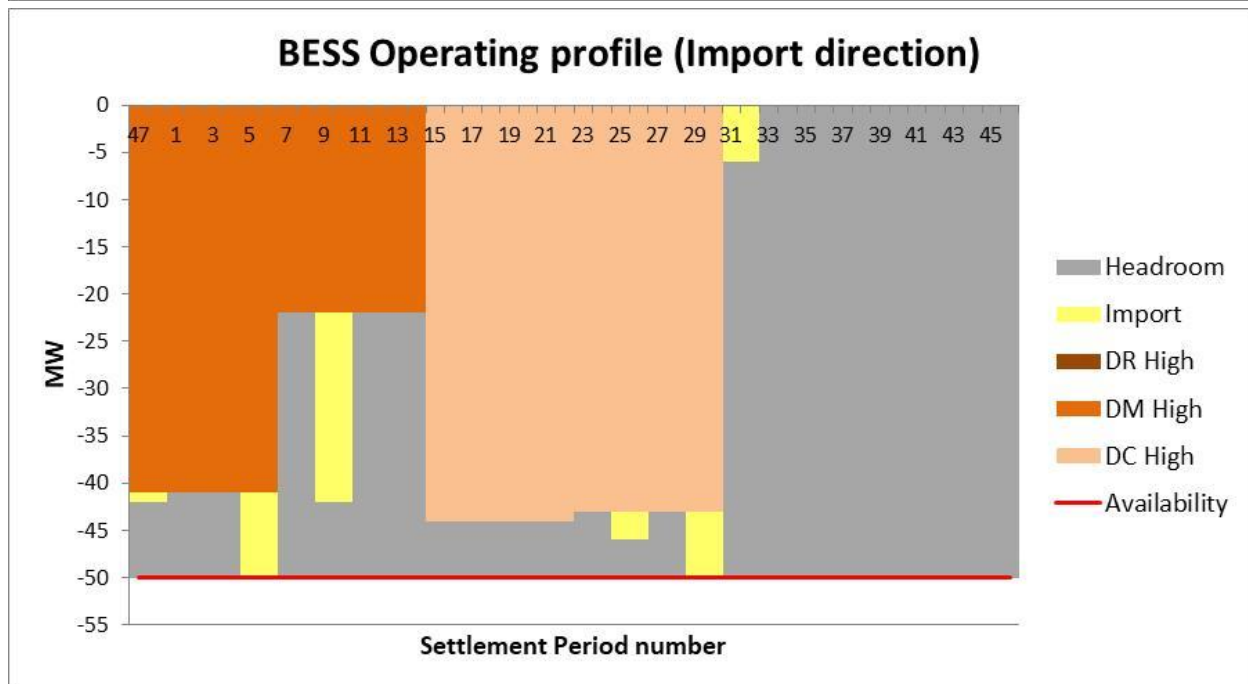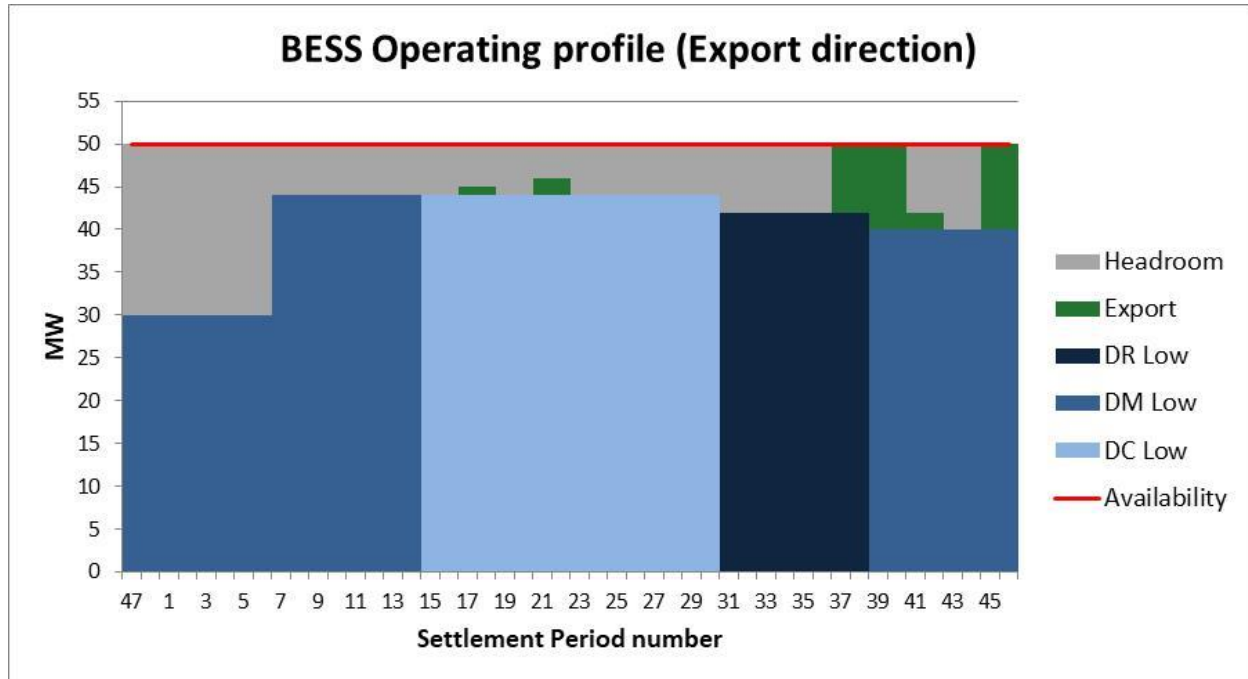
The optimal Dynamic Response Service levels in each EFA block and the optimal power export and import levels in each Settlement Period for a 50MW / 50MWh BESS over a one day period. Sufficient headroom is maintained to ensure at least the minimum required level of Energy Recovery is possible following 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 **info@powerop.co.uk**