Powerop for energy storage developers and operators

Power scheduling and dispatch software by Power Optimisation

Why use Powerop?

- Powerop uses a robust optimisation algorithm to **maximise the profit from operating one or several energy storage assets, such as battery storage units and pumped storage hydro-electric stations,** either on their own or as part of a larger portfolio of generating assets.
- Powerop can achieve a **significant increase in profits** relative to spreadsheet-based scheduling models.
- It determines **optimal generation and storage regimes** given each storage project's operational parameters and a forecast of power prices.
- Powerop can be used for **short-term operational optimisation, or for longer-term business planning, asset evaluation and project development purposes**.
- Powerop can be run on any Windows PC via a **user-friendly Excel interface**.
- It achieves **rapid solution times**, even for complex optimisation problems.
- Powerop is an **extremely powerful and flexible optimisation program with numerous options** and can be readily configured to solve a wide range of power generation and energy storage optimisation problems.

Power Optimisation

Powerop is developed by Power Optimisation, which is an independent UK-based consultancy business with significant experience in developing and implementing optimisation software for electricity generators. Our Powerop software has been used successfully by generators in the UK's NETA and BETTA markets since 2001, and in Ireland's Single Electricity Market since its inception in 2007.

How does Powerop work?

Powerop is an extremely powerful and flexible optimisation program, designed to maximise a company's profits through the optimal scheduling and dispatch of a portfolio of power generation units, storage assets and energy contracts. Powerop takes full account of each asset's physical characteristics and operating costs, and of any forward-traded power positions, customer demand, and the forecast energy market prices and volumes. Input data is supplied to Powerop via a user-friendly Excel interface.

Unlike many spreadsheet-based scheduling models, Powerop uses a mathematically rigorous optimisation algorithm to determine the optimum generation and storage regimes, subject to constraints, costs and energy market prices. Accordingly, it can deliver a significant increase in profits relative to rule-based scheduling tools.

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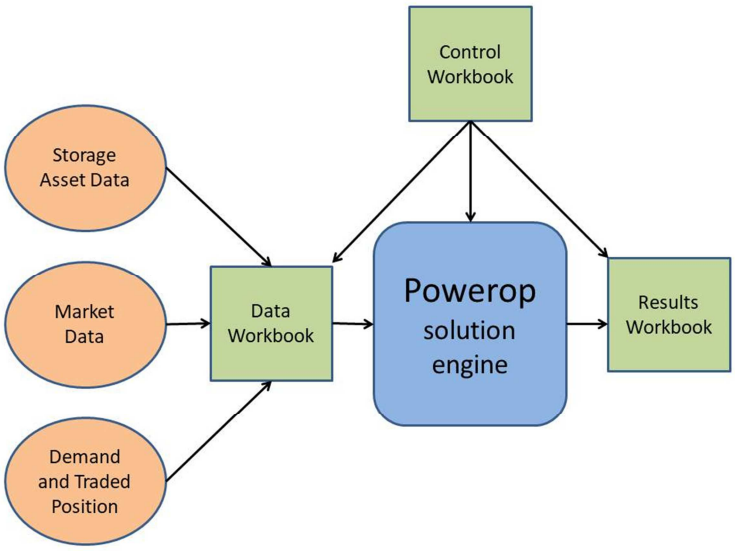
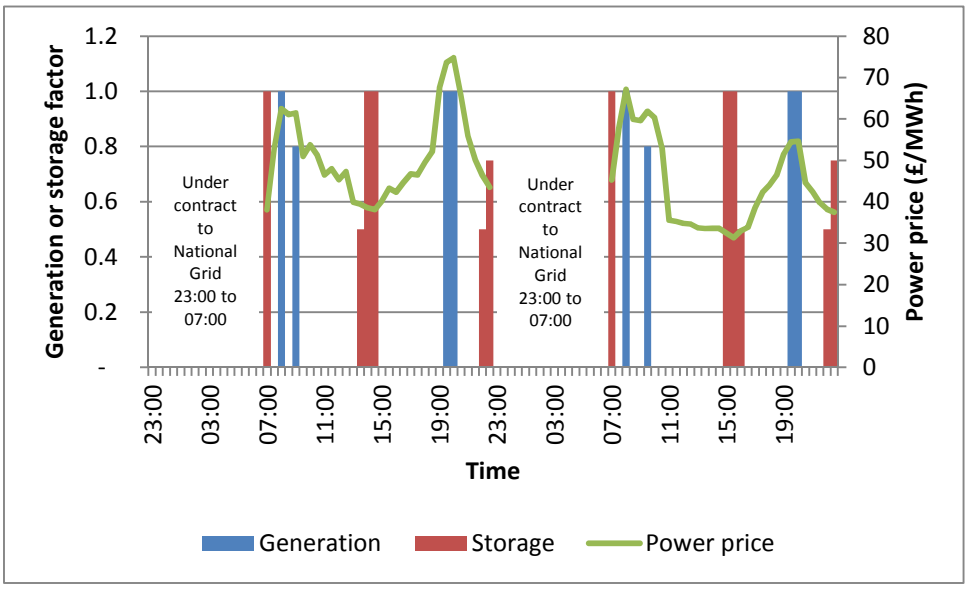
Powerop



Powerop schematic

Input data is supplied via the Excel Data Workbook. The Powerop solution engine uses a mathematically rigorous optimisation algorithm, plus sophisticated algorithms developed by Power Optimisation, to rapidly determine the optimal generation and storage regimes. The results are recorded in an Excel Results Workbook, allowing post-processing of the output data.

Powerop provides the results of each run via its Excel interface, allowing users to examine the optimised generation and storage regimes, trading activity, costs and revenues in detail.



Optimised battery operation

This battery is under contract with the System Operator from 23:00 to 07:00, and only available for operation in the power market from 07:00 to 23:00. The power price profile is shown by the green line, Optimal periods of storage are shown by the red bars. Optimal periods of generation are shown by the blue bars. A generation or storage factor of 1.0 indicates maximum output or input.

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/

To discuss how Powerop can benefit your organisation, please telephone Power Optimisation on **+44 (0) 1494 675 175**, or email us at **info@powerop.co.uk**

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