

24 July 2017

FACTORS TO CONSIDER BEFORE INVESTING IN BATTERY STORAGE: PART I

This new series of blogs highlights the factors which a prospective end-user should weigh up before deciding whether and how to invest in electric storage.

The decision whether or not to invest and, if so, exactly which type of package to go for, will depend on a host of factors. These include the nature and configuration of any embedded generation, the user's demand profile and the value of 'security of supply' to his business.

We should split the 'all in' value of electric storage in two parts.

- **Visible benefits:** These include the added value to the business through reduced annual power bills; enhanced micro-generation efficiency; improved power quality; energy efficiency and additional plant income, such as Frequency Response revenues from grids or other customers. Each Visible benefit should be quantified and included in the financial model.
- **Intangible benefits:** These cover security of supply or 'resilience', i.e. the added value to the corporation in the form of 'business continuity', 'catastrophe avoidance' amongst other liabilities a plant manager may hold responsibility for.

In each case, especially the first, it is important to avoid double counting when valuing benefits and including them in a financial model. For example, if a user employs a battery to sell a specific service to a third party, like a high-flexibility Frequency Response service to National Grid, this could conflict with other uses the battery may be needed for in the event. Fortunately, there are now twenty-seven different Frequency Response categories which National Grid is inviting through its 2017 reverse-auction process, i.e. these include cheaper, less flexible types of service, precisely to address such conflicts and to encourage storage users to free up and sell them any surplus capacity they may have to spare.

Above all, the commercial payoff of a battery will ultimately depend on how well it is specified and installed and how well it is optimised subsequently, both on-site and out in the marketplace.

Some batteries installed recently operate profitably as 'standalone projects'. Here the visible benefits alone justify the expenditure; resilience is just a bonus. The main benefits involve Frequency Response income and/or annual electricity bills savings of circa 50% to 60% by virtue of an effectively flattened demand-profile, avoiding the Climate Change Levy, TRAIID and Red Zone capacity payments to the system.

Prospect Law Ltd
23 Berkeley Square, London W1J 6HE
T +44 (0)20 7947 5354

Regus House, Pegasus Business Park, Castle
Donington, Derbyshire DE74 2TZ
T +44 (0)1332 818 785

 @prospectupdate
E info@prospectlaw.co.uk
www.prospectlaw.co.uk

24 July 2017

Other batteries might only be considered worthwhile once visible and intangible benefits are considered together, chiefly in cases where 'business continuity' is seen as critical and so resilience becomes the principal value that a battery will provide.

The visible benefits may be of secondary importance. This value still needs to be evaluated separately and be viewed as a way of subsidising the battery.

Financial modelling relies on detailed user profile, power market data and complex forecasting techniques. The storage arena is relatively new and highly sophisticated, even by power generation industry standards. However, some robust financial models have been developed, prepared by a prospective end user's own agent, battery supplier or manufacturer. Although not perfect, certain models should give a prospective buyer a good 'feel' of the investment return they can expect, also flag up whether or not storage itself is a sensible option, and if not what alternative optimisation or Resilience options may be worth looking at.

This article has discussed the importance of valuing benefits, visible and intangible, and including them in a financial model. Part II of this series will analyse, in greater detail, the visible savings a financial model should include, and will also introduce factors to take into account when evaluating the resilience benefit for a company.

By Dominic Whittome

Prospect Law and Prospect Advisory provide legal and business consultancy services for clients involved in the infrastructure, energy and financial sectors.

This article remains the copyright property of Prospect Law Ltd and Prospect Advisory Ltd and neither the article nor any part of it may be published or copied without the prior written permission of the directors of Prospect Law and Prospect Advisory.

Dominic Whittome is an economist with 25 years of commercial experience in oil & gas exploration, power generation, business development and supply & trading. Dominic has served as an analyst, contract negotiator and Head of Trading with four energy majors (Statoil, Mobil, ENI and EDF). As a consultant, Dominic has also advised government clients (including the UK Treasury, Met Office and Consumer Focus) and various private entities on a range of energy origination, strategy and trading issues.

For more information please contact us on 020 7947 5354 or by email on: info@prospectlaw.co.uk.

Prospect Law Ltd
23 Berkeley Square, London W1J 6HE
T +44 (0)20 7947 5354

Regus House, Pegasus Business Park, Castle
Donington, Derbyshire DE74 2TZ
T +44 (0)1332 818 785

 @prospectupdate
E info@prospectlaw.co.uk
www.prospectlaw.co.uk