

# Bess assets

Are Bess assets a new asset class?

To some, BESS assets are considered a new asset class that doesn't necessarily require fixed revenue to be commercially viable from a developer perspective, therefore a more innovative approach to debt financing is needed.

How does a Bess work?

A BESS collects energy from renewable energy sources, such as wind and or solar panels or from the electricity network and stores the energy using battery storage technology. The batteries discharge to release energy when necessary, such as during peak demands, power outages, or grid balancing.

What is a battery energy storage system (BESS)?

The other primary element of a BESS is an energy management system (EMS) to coordinate the control and operation of all components in the system. For a battery energy storage system to be intelligently designed, both power in megawatt (MW) or kilowatt (kW) and energy in megawatt-hour (MWh) or kilowatt-hour (kWh) ratings need to be specified.

What is the future of the Bess market?

Looking to the future, Jacob Lloyd, Head of NatWest's Specialist Asset Finance, is optimistic about the growth of the BESS market and lenders' potential to contribute to progress towards net zero through deploying more capital: "The opportunities are fast flowing across all of Europe. And they don't seem to be slowing down."

What is a Bess solar PV system?

BESS are typically Behind-the-Meter (BtM), and applications include avoiding electricity network charges, benefiting from tariff differences, delivering value-added balancing services, or enhancing on-site resilience and energy consumption when paired with on-site solar PV, thus saving money and optimising the sustainability benefits.

Why do we need grid-scale Bess assets?

This is where grid-scale BESS assets are being utilised: they are highly suited to ensuring stability of supply, plugging the gaps left by shortfalls in the availability of solar and wind, and in turn support the rollout of further renewable generation.

The first BESS asset, which is a one hour duration battery, is expected to become operational in June 2022. It is located in the North of England and has a total capacity of 20MW. The other three BESS assets are located in Scotland (two hour duration battery; total capacity 50MW), Wales (two hour duration battery; total capacity 20MW), and the ...



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While the UK has seen significant BESS deployment and investor familiarity, the European continent has been more cautious in adopting this asset class. Despite growing interest, continental investors remain relatively hesitant to make initial BESS investments. One potential approach is to decouple the BESS asset from its trading operations.

Now operational, the BESS asset is capable of storing up to 100MWh of energy for flexible dispatch when needed to the National Grid. When called upon, the system can operate for up to two hours at a time at times of peak demand. "I am delighted to formally open Salisbury's battery storage site. SSE Renewables have installed 26 batteries on ...

The 20MW, 1-hour duration (20MWh) BESS asset is located in the tiny town of Chateaugay, which has a population of around 2,000 in Franklin County. It's near the US border with Canada to the far north of New York State. Owned and developed by the New York Power Authority (NYPA), a public benefit utility corporation, the system will participate ...

Benefits of Integrating Battery Energy Storage System. BESS are expected to provide fast response and efficient intraday flexibility, with storage duration ranging from a few seconds to 4-8 hours .For such a reason, they might be ...

A BESS can also support power generation assets. Commercial and Industrial. BESS are typically Behind-the-Meter (BtM), and applications include avoiding electricity network charges, benefiting from tariff differences, delivering value-added balancing services, or enhancing on-site resilience and energy consumption when paired with on-site solar ...

The Company may also provide loan finance to BESS Projects prior to acquisition so that the BESS Projects can acquire equipment prior to construction, provided that no more than 15% of Gross Asset Value (calculated at the time that finance is provided based on the latest available valuations) may be exposed in aggregate to any such investments.

Warley BESS is a 57MW project on the outskirts of London. Both sites have grid connection dates in 2024 and, together, will store enough electricity to power 215,000 homes for up to two hours, helping the UK energy system to meet peaks in demand and maximise generation from renewable energy assets.

BESS financing landscape. Evolution of offtake structures and maturing BESS track record are supporting growing momentum behind banks lending to BESS assets & platforms. The traditional lending model developed in the GB market with a single long term offtaker (e.g. a utility trading desk) offering floor protection.

Sustainable Australian Real Assets Fund & Federation Alternative Investments II. May 2022. Riverina Battery Energy Storage System (Riverina BESS) is a 150MW / 300MWh under-construction battery project located in New South Wales, Australia. Riverina BESS will be one of the largest utility-scale grid-forming

batteries in the National Electricity ...

All of this makes the operation of BESS assets more intricate than ever before. In summary, the evolution of BESS in 2024 is characterised by several key trends: a continued focus on safety, the commercialisation of non ...

The average duration of BESS assets in GB is 1.1 hours. Asset durations range from around 30 mins to just over 2 hours. (Given the different durations of the assets across the country, this equates to 1,725 MWh.) In 2021, BESS assets in Great Britain made £123k/MW on average. Evolution of the battery energy storage revenue stack

The acquisition of this UK-based BESS asset will support EDPR in achieving its strategy of having over 500MW of storage capacity available by 2026. This is expected to be achieved via co-location whereas a smaller portion will ...

Explore how Europe's BESS landscape is transforming with significant developments in battery storage capacity. Learn about the key players and countries leading the charge in adopting renewable energy solutions for a sustainable future. ... Using a renewable energy asset marketplace like PF Nexus provides a more efficient and transparent way of ...

BESS assets make money by charging at a certain time of day and discharging at a later time. In this way, their net revenue is a function of the difference in power prices at certain times of day compared to others; something often referred to as the price shape. BESS assets also make money by capturing extreme and unexpected spikes in power ...

Before we move on to some takeaways for BESS investors, we want to clarify why gas prices are having such an important influence on BESS asset revenue capture. Gas prices directly drive power price intraday spreads and volatility given gas-fired power plants are the dominant "price setting" capacity across European power markets.

was regarded as a generation asset by regulators and policymakers. New generation BESS technologies now offer a high degree of flexibility, which sees them offering ancillary services (reserves) in those markets where they are operating. With such an important role to play for grid stability, should BESS assets be considered

The Q2-Q3 recovery in German BESS revenues is supporting a recovery in offtake floor & toll levels and driving strong investor interest in acquiring & developing projects. GB - a more cautious recovery. If German BESS found Q1 2024 challenging, it was even tougher for GB BESS assets.

What is BESS? Battery storage or "BESS" (Battery Energy Storage Systems) projects are electrochemical infrastructure assets that allow energy to be stored and released on demand, and most of these projects are Lithium-Ion batteries (the vast majority of new BESS projects are currently lithium iron phosphate (LFP) and



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some are lithium nickel manganese ...

For the second Triad, we saw a much higher success rate among available BESS assets - i.e. those not participating in FFR, and therefore available to export during the Triad. 92% of available BESS capacity exported at this time. The third Triad (20th January) had a very similar profile to the second. BESS asset breakdown

BESS assets can be co-located with any form of renewable generation but the most common co-located projects we see involve a solar pv - BESS combination primarily because the generation profile from solar pv aligns well with the optimal charge and discharge hours from the BESS. Although it is possible to co-locate a wind asset with BESS, the ...

Challenges of co-locating systems alongside renewable power generation assets. How new BESS planning guidance in the UK is prompting the re-evaluation of project risk and design. Here is a summary of some of the themes examined at the summit and the measures developers and asset owners can take to mitigate risk associated with BESS projects.

BESS value drivers. BESS assets can provide multiple services, each of which may be separately remunerated. They include: Arbitrage - buying energy in off-peak periods when prices are low and selling in peak periods when prices are high. This reduces total costs of supply by shifting surplus low-cost generation to peak periods and operators ...

370 community BESS assets to be rolled out across Australia. Community batteries in Australia continue to grow in number, and this is set to increase further. The Australian Renewable Energy Agency (ARENA) recently allocating AU\$143 million in financial backing to build 370 community assets across Australia.

System integrators critical to successful delivery of BESS projects, best-placed to provide servicing too, argues Ray Saka of IHI Terrasun. ... project, but they are perhaps also best-placed to service the asset once its in operation, argues Ray Saka of IHI Terrasun. The energy storage market is entering a period of exponential growth, and this ...

Power Factors" Unity renewable energy management suite (REMS) covers the entire spectrum of BESS asset lifecycle management, from control and grid integration to asset performance and market operations. Today, Power Factors" customers have around 5 GWh of BESS assets operating globally on our platforms, with another 7 GWh in construction or ...

To some, BESS assets are considered a new asset class that doesn't necessarily require fixed revenue to be commercially viable from a developer perspective, therefore a more innovative approach to debt financing is needed. Overcoming BESS specific challenges is key ...

Lucrative wholesale opportunities for battery energy storage system (BESS) assets have become more



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prevalent in recent months. As shown in Figure 1 (below), the average wholesale spreads available on a daily basis in power exchanges have been at a five-year record-high, with even larger spreads available for longer duration BESS assets.

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