Thimphu energy storage investment trends

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The landscape for energy storage is poised for significant installation growth and technological advancements in 2024. Countries across the globe are seeking to meet their energy transition goals, with energy storage identified as critical to ensuring reliable and stable regional power markets. The demand for energy storage continues to escalate, driven by the pressing need to decarbonise economies through renewable integration on the grid while electrifying sources of consumption.

In this dynamic environment, staying abreast of the latest market trends and developments is crucial for industry players. This insight explores five key trends shaping the energy storage market in 2024 that will shape how the industry continues to mature and progress forward.

Alternatives to lithium are heating up as companies like Form Energy, EnerVenue, and ESS, Inc have manufacturing facilities under construction, and sodium-ion cell manufacturing has commenced in China. Developers are looking to diversify their options from traditional lithium-ion with non-lithium alternatives, driven by systems deemed to be safer, with no augmentation, and lower life cycle costs, amongst other attributes.

Incentives in Latin America, long-term contracts in Europe, capacity markets in APAC, and revenue stacking in the US all point to the increasing importance of stable, guaranteed revenue streams, particularly for standalone storage systems. Capacity reform and implementation provides reliability to the grid and much-needed offtake revenue streams. The full report includes regional details on revenue trends.

The evolution of energy storage safety has been marked by a dynamic interplay between technological advancements, regulatory frameworks, and industry best practices. One significant catalyst for the improvement of energy storage safety has been the accumulation of operational experience – Wood Mackenzie has tracked 14.8 GW of operational capacity in the US as of Q3 2023, a 159% increase from just 2021.

Although early adopters in the field helped refine best practices and learn to navigate regional safety regulations, this knowledge is not evenly distributed across the industry. This year, developers will be contending with the rapidly evolving learning curve of safety implementation in design, siting, and operations.

Pressure to engage with local communities much earlier than in years past will only heighten in 2024, which increases costs, logistics, and labour for developers. These early-stage development challenges will persist well into this year, as the industry grapples with storage adoption at the local level.

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Distributed storage will continue to increase as more households aim to hedge against increasing retail prices, reduce their carbon footprint, and have back-up power available and permitting is becoming more challenging as battery fire safety comes under scrutiny.

o BloombergNEF"s Energy Transition Investment Trends 2024 finds that renewable energy, electric vehicles, hydrogen and carbon capture all drive investment growth year-on-yearo China leads with $676 billion invested in 2023, or 38% of the global totalo Together, the EU, US and UK invested more than China in 2023, which was not the case in 2022o Investment in the clean energy supply chain hit $135 billion globally in 2023, and could rise to $259 billion by 2025

New York, January 30, 2024 – Global investment in the low-carbon energy transition surged 17% in 2023, reaching $1.77 trillion, according to Energy Transition Investment Trends 2024, a report published today by research provider BloombergNEF (BNEF). This number is a new record level of annual investment and demonstrates the resilience of the clean energy transition in a year of geopolitical turbulence, high interest rates and cost inflation.

The report finds that electrified transport is now the largest sector for spending in the energy transition, growing 36% in 2023 to $634 billion. This figure includes spending on electric cars, buses, two- and three-wheelers and commercial vehicles, as well as associated infrastructure.

Electrified transport overtook the renewable energy sector, which saw an 8% increase to $623 billion. This figure reflects investment to construct renewable energy production facilities, such as wind, solar and geothermal power plants, and biofuels production plants - among other things. Power grid investment was the third-largest contributor at $310 billion. Grids are a critical enabler for the energy transition, and investment in them will need to rise in the coming years.

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