Data center energy storage spain

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MADRID (AURORA ENERGY RESEARCH)-- Aurora Energy Research, a global provider of energy market analysis, has published a new report highlighting how data centres are becoming critical infrastructure in the Iberian Peninsula, driving significant growth in energy demand. Currently, data centres account for approximately 2.8 TWh of electricity demand in Iberia, equivalent to 1% of the global market. This demand is projected to quadruple, reaching 12.8 TWh by 2030. According to Aurora, industrial energy demand is expected to grow by nearly 50% by 2040, with the petrochemical sector experiencing the largest increase.

The Iberian Peninsula is currently witnessing an oversupply of electricity due to high renewable energy generation relative to demand. Aurora anticipates that the arrival of data centres can help absorb this surplus energy from the grid and incentivise investment in the sector. With technological advancements and expanding connectivity, the energy consumption of data centres is set to reshape the region’s energy landscape. Key hubs such as Madrid, Barcelona, Zaragoza, Lisbon, and Sines are leading this growth, with larger and more advanced facilities under development.

Regarding energy use, seasonal variations in cooling requirements result in annual demand fluctuations of up to 21%, underscoring the need to optimise thermal systems. Advances have been made in cooling technologies, such as liquid cooling. However, despite seasonal differences, Aurora points out that data centre consumption remains stable, necessitating base-load generation technologies.

The Iberian Peninsula has emerged as a critical location for data centres, driven by several key factors. Its abundance of renewable energy contributes to low electricity prices. Additionally, Iberia"s strategic geographical location enhances its appeal as a connection point with the Americas and Africa. A well-developed fibre network provides connectivity advantages, while the availability of land offers extensive opportunities for large-scale facility development. In Spain specifically, the mature market for PPAs is a standout feature.

As data centres expand, their contribution to the Iberian Peninsula"s total electricity demand is projected to increase, reaching 11% by 2060. Aurora"s projections for Spain indicate a sharp rise in data centres demand, with consumption reaching approximately 25 TWh by 2040--a growth of 7% of total electricity demand. In Portugal, demand is expected to grow to 10 TWh over the same period. This significant growth is driven by projects such as the 1.2 GW installation in Sines and the 1.8 GW facility in Aragon, marking a shift towards large-scale operations. This trend reflects a broader movement towards electrification and industrial transformation in the region.

The rising demand for data centres highlights the urgency for collaboration between policymakers and industry to streamline permitting processes, strengthen renewable energy integration, and promote innovations in energy efficiency. Spain leads the data centre market in the Iberian Peninsula, attracting significant interest

from major tech companies. Meanwhile, although Portugal has a smaller share, it is also emerging as a competitive market within the EU, thanks to its strategic ambitions.

Christina Rentell, Research Lead for Iberia and France at Aurora Energy Research commented:

"Following improvements in data centre efficiency, which have reduced energy requirements for cooling, the Iberian Peninsula has become a more attractive location for installing data centre capacity. Spain in particular stands out as an appealing location due to its mature PPA market and land availability."

The report "A shift in Iberian demand: from machinery to data centres?" is available now for subscribers. Get in touch for further information.

ABOUT AURORA ENERGY RESEARCH

Established in 2013, Aurora Energy Research is a leading global provider of power market forecasting and analytics for critical investment and financing decisions. Headquartered in Oxford, we operate out of 15 offices worldwide covering Europe, North & South America, Asia, and Australia. Our comprehensive services include market outlook packages for energy industry participants, advisory support, and innovative software solutions. We foster diversity with a team of over 800 experts with backgrounds in energy, finance, and consulting, offering unparalleled expertise across power, renewables, storage, hydrogen, carbon, and fossil commodities. Our mission is to ease the global energy transition through widely trusted quantitative analysis and high-quality decision support.

MADRID, Spain and NEW YORK, USA, April 6, 2021 – MERLIN Properties SOCIMI, S.A. (MC:MRL), the Iberian Peninsula"s largest and most technologically advanced REIT and a leading developer and operator of green assets, announced today a long term, multi-phase strategic partnership with Edged Energy, a subsidiary of Endeavour devoted to net zero digital infrastructure, to build a major network of ultra-efficient, waterless data centers in the cities of Madrid, Bilbao, Barcelona and Lisbon, within MERLIN"s existing land bank.

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