Spain energy storage for electric vehicles

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In this regard, BNEF projects a 50% reduction in costs per kW/h by 2030, driven by growing demand in two key markets: stationary storage and electric vehicles. This forecast anticipates an exponential increase in global energy storage installations from a modest 9GW/17GWh in 2018 to 1,095GW/2,850GWh by 2040, requiring an investment of ...

This study explores the potential of Vehicle-to-Grid (V2G) technology in utilizing Electric Vehicle (EV) batteries for energy storage, aiming to fulfil Spain"s 2030 and 2050 energy goals. The validated Simulink model uses 3.15 million EVs in 2030 and 22.7 million EVs in 2050 as primary energy storage.

It also considers the use of the energy available in the electric vehicle fleet. In addition, this strategy includes ten lines of action and 66 measures covering aspects such as: The participation of storage in the electricity system. Circular economy or energy communities to generate spaces for citizen participation.

Spain"s charging infrastructure coverage needs strengthening to convert electric mobility into a reality. Electric mobility is a key for decarbonisation of transport. Spain"s National Energy and Climate Plan 2021-2030 (NECP) established a target of 5 million electric vehicles (EVs) in Spain by 2030, including cars, vans, motorcycles and buses.

Spain’s government has approved an energy storage strategy that it says will put the country “at the forefront” of what is being done in Europe and help it move towards its 2050 climate neutrality target.

The strategy includes policies to remove administrative barriers to facilitate new projects, the promotion of green hydrogen, the creation of new business models to support areas such as the second life of batteries as well as new researchand development efforts.

Ecological Transition Minister, Teresa Ribera, said storage “allows the perfect integration” of renewables in the system, adding that“Spain is an energetic island, which compels us to have to go ahead to fulfil our commitment to climate neutrality.”

Noting the potential for batteries in self-consumption systems for homes and businesses, the strategy targets the deployment of 400MW of behind-the-meter battery storage by 2030. The government said the deployment of batteries on a large-scale by paring with renewable projects is also “relevant”. The strategy includes efforts to boost thermal storage deployment, renewable hydrogen and pumped hydro plants.

The roadmap follows the recent publication of Spain’s Integrated National Energy and Climate Plan 2021-2030 (PNIEC), which foresees the staggered introduction of battery storage installations into the system

to maximise the capacity of non-dispatchable renewable technologies. It is hoped these batteries will have a capacity equivalent to approximately 2.5GW by 2030.

While participants in Spain’s renewable energy auction last month were permitted to include bids with energy storage, the technology didn’t feature. According to consultancy Clean Horizon, this was in part due to a short timeline to submit bids as well as a condition that winning storage plants would be limited to charging from the renewable project they are paired with, excluding the possibility of charging from the grid.

With 19.4GW of renewables capacity to be assigned through Spain’s new auction system by 2025, calls have been made to alter the mechanism to encourage the participation of energy storage in future tenders.

Repsol and IBIL have developed the first recharging station for electric vehicles that incorporates energy storage at a Repsol service station on the N-I highway as it passes through the Basque town of Tolosa, in the province of Gipuzkoa.

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