European Commission

Policy brief:

Competitiveness of clean energy technology – Batteries

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Headline findings

- Batteries are crucial in transitioning to clean energy for transport and stationary applications. Batteries support integration of renewable energy into the grid.
- Despite the overall decline in car sales in the EU in 2022, sales of fully battery electric vehicles (BEV) increased by **28%** compared to 2021, accounting for **12.1%** of the 9.1 million vehicles sold in EU markets. Battery electric vehicles, plug-in EVs, and hybrid EVs accounted for **44.1%** of EU car sales in 2022. The rising trend continues, and sales are estimated at 14 million vehicles worldwide by the end of 2023.
- While most batteries will enter the automotive sector, stationary storage is also increasing at an increasing rate. Battery storage of **154 GWh** Battery Energy Storage Systems is forecast to be installed globally by the end of 2023, more than double than 2022, of which roughly **10%** will be installed in the EU.

Key (competitiveness) challenges for Batteries

Challenge 1

To achieve the EU's Fit-for-55 and REPowerEU objectives, the roll-out of stationary energy storage must accelerate rapidly to achieve the forecast demand of 200 GW by 2030.

Challenge 2

Average prices for lithium-ion battery (LIB) packs increased by 7% compared to 2021. Due to higher production costs in Europe among other factors (e.g. higher performance batteries), average prices in 2022 were 24% higher than in the US and 33% higher than in China.

Challenge 3

There is high global demand for the key raw materials for battery production.

Key policy recommendations

Recommendation 1

Ensure that batteries are dismantled and disposed of appropriately at the end of their life cycle, including appropriate collection, recycling, and treatment of waste batteries.

Recommendation 2

Increased battery use will require increased recycling facilities in the EU to ensure 2030 recycling targets are met.

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