= iSTORMY =

EUROPEAN COMMISSION

HORIZON 2020 PROGRAMME – TOPIC: Hybridisation of battery systems for stationary energy storage

Interoperable, modular and Smart hybrid energy STORage systeM for stationarY applications

GRANT AGREEMENT No. 963527

Deliverable Report

D5.4 – Report on total cost of ownership analysis for the use cases

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Publishable summary

Assessing the economic benefits of an innovative hybrid battery energy storage system such as the one developed in iSTORMY requires a comprehensive analysis of the Total Cost of Ownership (TCO). This document examines the methodology for calculating the TCO for the iSTORMY system, presents the results including a sensitivity analysis. A direct comparison of TCO between the iSTORMY HBESS and reference alternatives highlights the financial advantages of the iSTORMY HBESS, notably with a high degree of flexibility and reduced costs across diverse and specific Use Cases, such as EV charging and microgrid support. Additionally, the growing challenges in grid frequency response services increasingly demand a high level of flexibility to maintain financial viability, a requirement that the iSTORMY HBESS effectively addresses through its exceptional flexibility and interoperability.

Storage costs contextualized against total delivered energy for purposes of benchmarking highlight positive trends driven by the iSTORMY project innovations and the ongoing decline in the purchase prices of core components. Normalized costs per kilowatt-hour discharged, abstracted from specific use cases and volatile energy prices, have decreased below the target KPI of 0,10 EUR/kWh/cycle. It is reasonable to anticipate that the implementation of innovations developed under the iSTORMY project, coupled with continued reductions in the prices of core components, will lead to a further significant decline in the normalized cost of storage by 2030.