

Dutch flywheel energy storage





Overview

A hybrid energy storage system combining lithium-ion batteries with mechanical energy storage in the form of flywheels has gone into operation in the Netherlands, from technology providers Leclanché and S4 Energy. How much does a hybrid battery-flywheel storage facility cost?

S4 Energy and ABB recently installed a hybrid battery-flywheel storage facility in the Netherlands. The project features a 10 MW battery system and a 3 MW flywheel system and can reportedly offer a levelized cost of storage ranging between €0.020 (\$0.020)/kWh and €0.12/kWh. ABB regenerative drives power S4 Energy Kinext's energy-storage flywheels.

What is flywheel energy storage?

Flywheel energy storage is mostly used in hybrid systems that complement solar and wind energy by enhancing their stability and balancing the grid frequency because of their quicker response times or with high-energy density storage solutions like Li-ion batteries .

How many flywheels are in a hybrid energy storage system?

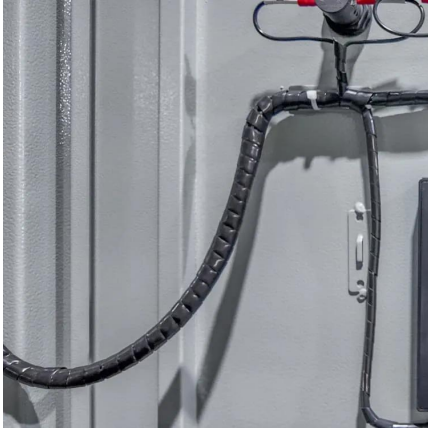
In a 9-megawatt energy storage project, six flywheels have been installed in combination with a large battery to create an innovative hybrid storage system in Heerhugowaard, around 35 kilometers from Amsterdam.

Can flywheels help the Dutch grid maintain a 50 Hz frequency?

S4 Energy, a Netherlands-based flywheel technology, and Swiss conglomerate ABB recently switched on a storage project that combines battery and flywheels to help the Dutch grid maintain a stable frequency of 50 Hz. The facility is located in Heerhugowaard, in the province of North Holland.



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[Another big battery ready to join Dutch grid](#)

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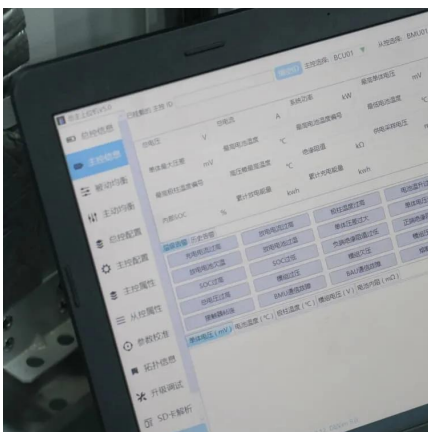
[Regenerative drives and motors unlock the power of flywheel energy](#)

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Sep 1, 2020 · The project is an extension of an earlier pilot system created by Leclanché and S4 Energy. The overall system, now in operation, is a combination of Leclanché lithium-ion ...

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