



ECONOMICAL, FLEXIBLE, AND RELIABLE STORAGE SOLUTION

Decentralized Pumped Storage

ANDRITZ



Premium technology

Are you seeking a sustainable smaller scale energy storage solution?
Would you like to implement a storage solution that also reduces the ecological impact of your facility?

The demand for decentralized pumped storage is growing due to the increasing use of renewable energy sources and the associated need for flexibility. The possible integration of multipurpose lakes and the need for a low environmental impact (footprint) is fostering this. Decentralized pumped storage will support weak local grids and help to minimize high-voltage lines.

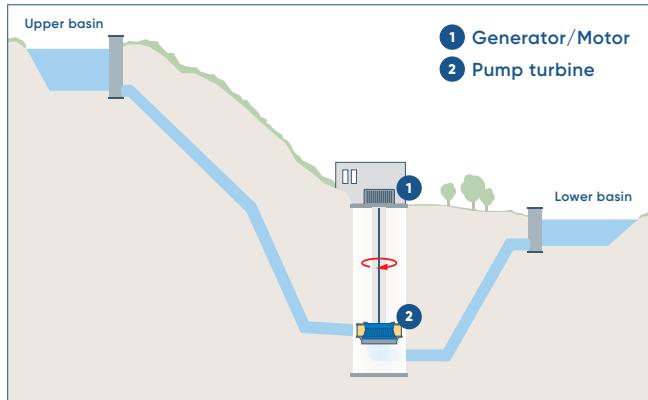
ANDRITZ considers decentralized pumped storage for hydropower plants under 100 MW.

PUMPED STORAGE CONFIGURATIONS: BINARY, TERNARY, AND QUATERNARY SETS

At ANDRITZ we offer three advanced configurations for pumped storage applications: **binary**, **ternary**, and **quaternary sets**, each designed to meet specific energy storage and generation needs.

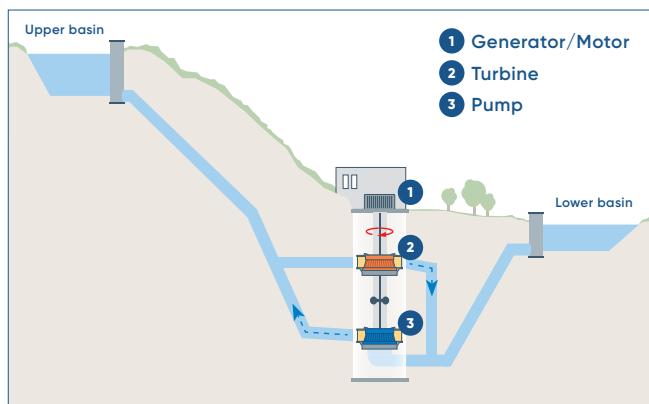
Binary Sets

The most commonly used configuration today, binary sets – also known as reversible pump turbines – integrate both pumping and generation functions in a single unit.



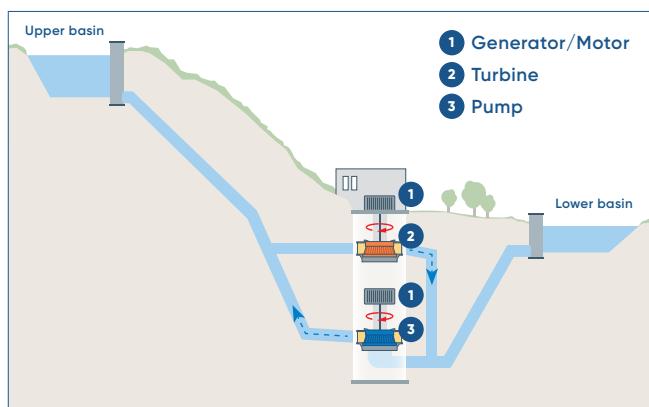
Ternary Sets

Ternary sets provide a higher level of flexibility by using multiple machines on a shared shaft line: separate pumps and turbines, a common motor-generator, and a hydraulic torque converter or clutch.



Quaternary Sets

For even greater optimization and flexibility, quaternary sets separate pumps and turbines into distinct units, each with its own motor and generator.



For decentralized pumped storage ANDRITZ is mainly focusing on binary and quaternary sets.