

Title (en)  
ENERGY STORAGE POWER STATION

Title (de)  
ENERGIESPEICHERKRAFTWERK

Title (fr)  
CENTRALE D'ACCUMULATION D'ÉNERGIE

Publication  
**EP 2956660 A2 20151223 (DE)**

Application  
**EP 13830203 A 20131119**

Priority  
• DE 102012023539 A 20121124  
• DE 2013000699 W 20131119

Abstract (en)  
[origin: WO2014079410A2] Nowadays storage power stations, in particular for electrical energy, require either a very large volume at a low efficiency, such as in gas-based pressure or hydraulic storage facilities, or expensive technology such as in battery banks. In electricity storage technologies, the efficiency and storage capacities inter alia vary enormously. Pumped storage power stations with over 80 % efficiency, for example, are classed as being extremely efficient and have storage capacities of up to approximately 10 GWh, however they are considered to have limited storage capacity in comparison to storage facilities comprising combustible gases with a low efficiency of around 40 %. They are therefore only suitable for compensating fluctuations in supply and demand for durations of hours. Storage facilities with capacities that can compensate for generating shortages over a period of days to weeks are therefore necessary for a high proportion of regenerative energy resources in the supply of electricity. The invention advantageously combines efficient storage based on the pumped storage principle for compensating energy shortages with durations of hours, with long-term storage. This is achieved without additional storage volume in a separate installation that is necessary for long-term storage. Said combination in one installation location permits the provision of an efficient power station that is also equipped to deal with long-term generating shortages.

IPC 8 full level  
**F03B 13/06** (2006.01); **F02C 6/14** (2006.01); **H02J 15/00** (2006.01)

CPC (source: EP)  
**F03B 13/06** (2013.01); **H02J 15/006** (2013.01); **H02J 2300/30** (2020.01); **Y02E 10/20** (2013.01); **Y02E 60/16** (2013.01); **Y02E 60/32** (2013.01)

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See references of WO 2014079410A2

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