

Title (en)
STORING POWER PLANT

Title (de)
SPEICHERKRAFTWERK

Title (fr)
CENTRALE DE STOCKAGE

Publication
EP 2836575 A1 20150218 (DE)

Application
EP 13716185 A 20130312

Priority

- DE 102012007136 A 20120410
- DE 102012008164 A 20120424
- DE 102012009903 A 20120518
- DE 102012015788 A 20120808
- DE 102012021256 A 20121030
- DE 2013000140 W 20130312

Abstract (en)
[origin: WO2013152748A1] The inevitable surpluses of wind and solar power and the supply shortages that alternate with these surpluses, together with the inadequate suitability of electrical energy for storage, are the greatest obstacles to overcome for the introduction of renewable energy sources. The present application describes a method for generating and storing electrical energy in which synthesis gas is burned in a power plant to generate electrical energy in a power supplying phase and synthesis gas is converted with additional hydrogen into methane in a storage phase and the methane produced is introduced into the natural gas network and stored in the natural gas network, wherein the hydrogen additionally required for forming methane from synthesis gas is obtained by electrolysis of water. The synthesis gas is preferably produced by gasifying coal or coke. The method described uses coal and surplus wind and solar energy to make methane that has little impact on climate change. This methane is a hybrid methane, in which the carbon may be of fossil origin and the hydrogen originates from wind and solar energy. The overall effect is that electrical energy is drawn from the power network, and the methane produced from it with the addition of coal, which has the properties of natural gas, is fed into the gas network. The methane or equivalent thereof of natural gas that is fed in during the storage phase can be drawn again from the natural gas network in the power supplying phase and converted back into electrical energy in a gas power plant.

IPC 8 full level
C10L 3/08 (2006.01)

CPC (source: CN EP)
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Citation (search report)
See references of WO 2013152748A1

Citation (examination)
DE 102009018126 A1 20101014 - ZSW [DE]

Designated contracting state (EPC)
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Designated extension state (EPC)
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DOCDB simple family (publication)
WO 2013152748 A1 20131017; CN 104334695 A 20150204; CN 106967467 A 20170721; CN 107461606 A 20171212; EP 2836575 A1 20150218

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DE 2013000140 W 20130312; CN 201380029047 A 20130312; CN 201611094651 A 20130312; CN 201710186390 A 20130312; EP 13716185 A 20130312