

Title (en)
ELECTROLYSIS SYSTEM AND METHOD FOR ENERGY RECYCLING

Title (de)
ELEKTROLYSESYSTEM UND VERFAHREN ZUR ENERGIERÜCKGEWINNUNG

Title (fr)
SYSTÈME D'ÉLECTROLYSE ET PROCÉDÉ DE RECYCLAGE D'ÉNERGIE

Publication
EP 4433627 A2 20240925 (EN)

Application
EP 22817549 A 20221109

Priority
• GB 202116618 A 20211118
• EP 2022081275 W 20221109

Abstract (en)
[origin: GB2612985A] The present disclosure relates to an electrolysis system (200) for generating hydrogen, the system comprising an electrolyser (202) comprising an electrolyte water inlet, a first gas outlet (204) and a second gas outlet (206), an electrical generator (212) configured to generate electricity (212), that can be used in the electrolyser. The electrical generator (212) is connected to the first and/or second gas outlet (204, 206) of the electrolyser and configured to be powered, at least in part, by gas flow provided via the first and/or second gas outlet. The system also comprises an electrolyte pump (214) for supplying the electrolyser (202) with electrolyte water. The electrical generator (212) is a motor-generator comprising a first mode for generating electricity and a second mode for using electricity to drive the electrolyte pump (214). A method of recycling energy in an electrolysis system is detailed as well as an electrolysis system where the electrolyte pump (214) for supplying the electrolyser (202) with electrolyte water and where the electrolyser powers, at least in part, the electrolyte pump.

IPC 8 full level
C25B 1/04 (2021.01); **C25B 1/042** (2021.01); **C25B 5/00** (2006.01); **C25B 9/05** (2021.01); **C25B 9/70** (2021.01); **C25B 11/032** (2021.01); **C25B 15/02** (2021.01); **C25B 15/08** (2006.01); **H01M 8/18** (2006.01)

CPC (source: EP GB)
C25B 1/04 (2013.01 - EP GB); **C25B 1/042** (2021.01 - EP); **C25B 5/00** (2013.01 - EP); **C25B 9/05** (2021.01 - EP); **C25B 9/70** (2021.01 - EP); **C25B 11/032** (2021.01 - EP); **C25B 15/02** (2013.01 - EP GB); **C25B 15/081** (2021.01 - GB); **C25B 15/087** (2021.01 - EP); **H01M 8/0656** (2013.01 - EP); **H01M 8/186** (2013.01 - EP); **Y02E 60/36** (2013.01 - EP)

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA

Designated validation state (EPC)
KH MA MD TN

DOCDB simple family (publication)
GB 202116618 D0 20220105; **GB 2612985 A 20230524**; CN 118679278 A 20240920; EP 4433627 A2 20240925; WO 2023088749 A2 20230525; WO 2023088749 A3 20230803

DOCDB simple family (application)
GB 202116618 A 20211118; CN 202280089156 A 20221109; EP 2022081275 W 20221109; EP 22817549 A 20221109