

Title (en)

APPARATUS AND METHOD FOR UTILIZING OFF-GASES FROM A POWER-TO-X SYSTEM

Title (de)

VORRICHTUNG UND VERFAHREN ZUR VERWERTUNG VON OFF-GASEN AUS EINER POWER-TO-X-ANLAGE

Title (fr)

DISPOSITIF ET PROCÉDÉ POUR VALORISER DES GAZ DE DÉGAGEMENT PROVENANT D'UNE INSTALLATION P2X

Publication

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Application

EP 20838920 A 20201215

Priority

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Abstract (en)

[origin: WO2021122584A1] The invention relates to a power-to-X system (1) for the utilization of off-gases, comprising an electrolyzer (2) for generating hydrogen H₂ and oxygen O₂, a unit, connected to the electrolyzer (2), for processing the hydrogen H₂ (3), for removing any remaining water H₂O and oxygen O₂ from the generated stream of hydrogen H₂, a compressor (4), connected to the unit for processing the hydrogen H₂ (3), for compressing the hydrogen H₂, and a chemical reactor (5), connected to the compressor (4), for producing a synthesis gas (6) consisting of hydrogen H₂ and carbon dioxide CO₂ that can be added. The invention further relates to an oxy-fuel combustion system (7) to which non-condensable off-gases (8) from the chemical reactor (5) and oxygen O₂ from the electrolyzer (2) can be supplied, and carbon dioxide CO₂ generated during the combustion of the off-gases (8) in the oxy-fuel combustion system (7) can be returned to the stream of hydrogen H₂ downstream of the electrolyzer (2) via a return line (9).

IPC 8 full level

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