

Title (en)

HEAT EXCHANGED MEMBRANE REACTOR FOR ELECTRIC POWER GENERATION

Title (de)

MEMBRANREAKTOR MIT WÄRMEAUSTAUSCH FÜR ELEKTRISCHE ENERGIEERZEUGUNG

Title (fr)

GENERATION D'ELECTRICITE AVEC UN REACTEUR A MEMBRANE A ECHANGE THERMIQUE

Publication

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Application

EP 01946649 A 20010622

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Abstract (en)

[origin: WO0202460A2] This invention is directed to a head exchanged membrane reactor for electric power generation. More specifically, the invention comprises a membrane reactor system that employs catalytic or thermal steam reforming and a water gas shift reaction on one side of the membrane, and hydrogen combustion on the other side of the membrane. Heat of combustion is exchanged through the membrane to heat the hydrocarbon fuel and provide heat for the reforming reaction. In one embodiment, the hydrogen is combusted with compressed air to produce lectricity. A carbon dioxide product stream is produced in inherently separated form and at pressure to facilitate injection of the CO₂ into a well for the purpose of sequestering carbon from the carth's atmosphere.

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IPC 8 full level

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Cited by

US11492255B2; US11583824B2; US11492254B2; US11578016B1; US11639290B2; US11787759B2; US11322766B2; US11617981B1; US11718575B2

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