

Title (en)
HIGH TEMPERATURE FUEL CELL POWER PLANT

Title (de)
HOCHTEMPERATUR-BRENNSTOFFZELLENKRAFTANLAGE

Title (fr)
SYSTEME DE PILES A COMBUSTIBLE A HAUTE TEMPERATURE

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Application
EP 03700758 A 20030127

Priority
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• US 35179802 P 20020125

Abstract (en)
[origin: WO03063276A2] The present disclosure relates to a high temperature fuel cell-based electrical generation system, which employs gas separation means for enhancing the energy efficiency of high temperature fuel cells, such as solid oxide and molten carbonate fuel cells. High temperature fuel cell generation systems of the prior art have not successfully addressed the problem of how to optimize the management of fuel and exhaust gases in the system to maximize energy efficiency and provide optimal use of fuel resources while minimizing environmental impact. An object of the invention is to provide MCFC or SOFC generation systems adapted to manipulate reactant concentrations for enhanced performance and economics, and MCFC systems more particularly adapted to efficiently transfer carbon dioxide from the anode to the cathode while enhancing electrical power output. Another object of the present invention is to provide MCFC or SOFC electrical generation systems adapted to enable selective generation of electrical power, and/or hydrogen fuel, and/or useable heat, allowing flexible operation of the generation system while incorporating means for mitigation of "greenhouse" gas and other environmentally deleterious gas emissions, and enhancing overall efficiency of operation to increase sustainability of fuel resource use.

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