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[摘要]

隨著化石燃料日益減少，加上能源需求遽增，使得世界各國積極尋求二次能源以解決能源短缺的問題。二次能源中化石燃料的百分之一，可降低空氣污染且不增加溫室氣體排放，因而爲值得開發之能源技術。燃料電池具有能源效來能源之星。

高溫型燃料電池中，最具代表性爲熔融碳酸鹽燃料電池(MCFC)和固態氧化物燃料電池(SOFC)，其適合應用於區域可再度用於氣渦輪機、蒸汽渦輪機或其他熱驅動設備，進而組成燃料電池汽電共生系統。

故本論文係針對生質能源轉化技術種類及燃料電池汽電共生系統爲研究主題，藉以解析生質能源連結燃料電池汽電之性能表現，以期發展出高效生質能源燃料電池汽電共生系統之最佳設計規劃。

[英文摘要]

Due to the fossil fuel is being decreased and energy consumption is being increased, to find the renewable energ in the world. In the renewable energy biomass energy has an unlimited resource characteristics, which only conta pollution and does not increase the greenhouse gases emission, therefore, that energy technology can be develo efficiency and can’t be affected by the environmental factors as well as low pollution advantages, etc. It is the fu

High temperature fuel cell the typical products are Molten Carbonate Fuel Cell and Solid Oxide Fuel Cell. It is sui plants. High temperature fuel cell exhaust the waste energy can be used to gas turbines, steam turbines and oth cogeneration system.

This thesis concentrates on biomass energy conversion technology and fuel cell cogeneration system as a majo fuel cell cogeneration system and explain the performance biomass fuel apply to fuel cell cogeneration system, t energy fuel cell cogeneration system.

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