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關鍵詞: 太陽光電建材；風力機；燃料電池；廚餘厭氧發電；混元型發電系統

英文關鍵詞: Building Integrated Photovoltaic Module(BIPV)；
Wind Machine；Fuel Cell；Kitchen Garbage Anaerobic Power Genrating；
Hybrid Power Generating System

[摘要]

因應京都議定書所提出減少溫室氣體排放計畫，使得世界各國積極發展再生能源以降低溫室氣體排放問題。再生能
餘厭氧發電具有民生廢物回收再利用之特性；燃料電池具有能源利用效率高、不受自然環境因素影響、環境污染低
排放，因而為值得開發之能源技術。
使用太陽光電板作為建築外牆玻璃或裝置於屋頂，除了可降低建築物外殼之熱傳，達到降低建築物冷卻負載及減低
到有效發電；利用風力機善用自然風力資源以產生電力；廚餘為大量有機廢棄物，可回收經由厭氧發電技術，得到
外，所排出的水分可回收至電解器中，產生氫氣，再度供給於燃料電池使用。
故本論文係針對建築物應用太陽光電板建材、小型風力機、小型廚餘厭氧發電及燃料電池汽電共生系統為研究主題
現，以期發展出高效建築用混元型再生能源發電系統之最佳設計規劃。

[英文摘要]

Kyoto Protocol requires to reduce the emission of greenhouse gases, which induces the internal countries to agg
decrease the emission of greenhouse gases. The solar energy and wind power have an unlimited resource of the
anaerobic power generating is a waste energy recovery and utilization advantages. Fuel cell has high energy util
environmental factors and low environmental pollution, etc. advantages. These renewable sources of energy car
greenhouse gases. It is a valuable development of energy technology.
BIPV is installed at the exterior wall or roof of building, which can reduce the heat transfer of building shell. It can
power consumption of HVAC. That will minimize the used land area and cable length then archive the effective p
resources to produce power. Kitchen garbage contains lots of organic, which ca be recovered via anaerobic gene
separated into hydrogen via reformer. The fuel cell not only produces power, it also discharge water to electrozer
cell.
This thesis is concentrate on BIPV, small wind machine, small kitchen garbage anaerobic power generating and
the hybrid power generating system and explain the system performance that develop a high performance with c
building use.

[論文目次]

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