

**THE SYNOPTIC VIEW OF USING PHOTOVOLTAIC-MICROBIAL FUEL CELL (PV-MFC)
RENEWABLE HYBRID SYSTEM TO ADDRESS MUNICIPAL ELECTRICITY NEEDS: CASE
STUDY CITY OF UMHLATHUZE**

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ABSTRACT

Municipalities are often faced with the challenge of balancing their demand for electricity from the utility and the cost of securing adequate electricity from the same. This, together with poor planning, has led to municipalities ordering more electricity from the utility than the actual energy required and consumed on a month-to-month basis, at the expense of its citizenry because of the additional charges incurred by the municipality in this process. This paper proposes a lasting solution which involves renewable sources that the municipality can easily attain to address challenges highlighted by the problem statement and the research questions. The paper highlights the approach of acquiring electricity from renewable energy sources and the impact that feasibility studies as part of planning and the implementation of photovoltaic-microbial fuel cell (PV-MFC) hybrid system can have on municipal electricity status and the municipality's ability to provide effective services that support economic growth and improved quality of life within its jurisdiction.

KEYWORDS: *Municipality, Electricity Status, Renewable Energy & PV-MFC Hybrid System*

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