

Exploring the determinants of demand for solar systems in Ghanaian Healthcare Facilities - a choice experiment

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Background: Access to electricity is one of the enabling factors for healthcare service provision. From the sustainable development perspective, an essential requirement for improving health and caring for our environment is to assure that health facilities have sufficient and reliable access to the supply of clean and sustainable energy. The objective of this work is to investigate the users' perceptions of electricity needs and electricity sources and the way those influence different attributes and their relevance for the diffusion of renewable electricity systems in healthcare facilities.

Methods: To identify preferences and choices, Stated Choice modelling was applied as the use of solar PV systems in health facilities is not widespread in Ghana. This method allows to present the respondents with hypothetical options, which have attributes close to the real world. Four attributes were considered, namely electricity system configuration, initial investment cost, monthly costs, and improvements to the reliability of the electricity supply.

Results: The largest share of the 200 health facilities interviewed reported services provision as outpatient treatment, provision of maternity services and family planning, which are relatively low electricity-intensive services. However, there was a general perception that increased reliability on the electricity supply can improve the health service provision and operation of the facilities. Moreover, despite that preferences towards the solar systems, the initial investment costs of the solar systems is still perceived as preventing the adoption of this technology

Conclusion: From this study we can conclude that health facilities in Ghana rely greatly on the national supply which has issues with reliability, compromising the delivery of healthcare services. However, the adoption of alternative electricity technologies based on renewable sources is not likely to occur at the facility level without the engagement of other actors that can help bridging the barriers for adoption, as initial investment costs.

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