Sustainable electricity for low-income earners

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The access[1] to affordable, reliable and adequate energy is essential to the sustenance of modern civilization. Apart from energy availability being a key backbone of socio-economic activities in the urban cities, uninterrupted access to energy supply is also important for improved quality of life in remote communities. These communities use electricity for water pumping, lighting and for powering refrigerators used for storing vaccines. Electricity, therefore, plays a major role in the accomplishment of sustainable development goals (SDGs). The attainment of SDGs is expected to improve the quality of education, well-being, access to clean water and economic growth as well as reduces poverty and minimizes hunger. Creation of more industries, enhancement of innovations, and reduction in climate change are among other benefits of SDGs attainment. In developed countries, most of these benefits have been achieved, while several developing countries are yet to achieve several of these benefits. Hence, researchers in developing countries have reported that there exists a relationship between energy consumption and poverty level. High poverty level affects energy consumption pattern, while access to affordable and reliable electricity improves a community's socio-economic status. High reliance on fossil fuel sources is among the factors that affect access to affordable and reliable electricity in many developing countries, especially in sub-Sahara Africa (SSA). Several studies have shown that the adoption of a hybrid renewable energy system (HRES) can solve this problem in SSA. For instance, different studies have reported the technical, economic and the environmental implications of adopting in SSA, but the lack of HRES affordability and acquisition consideration have limited their adoption in SSA, especially among low-income earners. It is, therefore, important to investigate how low-income earners can afford HRESs. This study aims to investigate the techno-economic, environmental analysis of deploying HRES among low-income earners. It places emphasis on a possible mode of acquiring the optimal HRES system.

[1] access here means availability