World Academy of Science, Engineering and Technology
International Journal of Energy and Environmental Engineering
Vol:17, No:08, 2023

Harnessing the Potential of Renewable Energy Sources to Reduce Fossil Energy Consumption in the Wastewater Treatment Process

Authors : Hen Friman

Abstract : Various categories of aqueous solutions are discharged within residential, institutional, commercial, and industrial structures. To safeguard public health and preserve the environment, it is imperative to subject wastewater to treatment processes that eliminate pathogens (such as bacteria and viruses), nutrients (such as nitrogen and phosphorus), and other compounds. Failure to address untreated sewage accumulation can result in an array of adverse consequences. Israel exemplifies a special case in wastewater management. Appropriate wastewater treatment significantly benefits sectors such as agriculture, tourism, horticulture, and industry. Nevertheless, untreated sewage in settlements lacking proper sewage collection or transportation networks remains an ongoing and substantial threat. Notably, the process of wastewater treatment entails substantial energy consumption. Consequently, this study explores the integration of solar energy as a renewable power source within the wastewater treatment framework. By incorporating renewable energy sources into the process, costs can be minimized, and decentralized facilities can be established even in areas lacking adequate infrastructure for traditional treatment methods.

Keywords : renewable energy, solar energy, innovative, wastewater treatment
Conference Title : ICERES 2023 : International Conference on Environment, Renewable Energy and Sustainability
Conference Location : Bangkok, Thailand
Conference Dates : August 17-18, 2023