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Environmental news: Is microbial desalination cell the future for water treatment and energy systems?

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Water shortage has been a major problem for most countries due to the limited amount of fresh water in the world. Over the few years, most research had focused on technologies such as reverse osmosis, electro dialysis, ultra violet radiation, constructed wetlands, microbial fuel cell, Nano and thermal filtration and other systems, for the treatment of waste water, and desalination of brackish water or sea water. Microbial Desalination Cell (MDC), due to its high efficacy, has offered significant advantages over the techniques currently used for seawater desalination, waste water treatment and energy production, which require enormous pressure to operate, and use up huge amounts of energy. The proof-of-principle of MDC system removes a high percentage of the salt from a seawater-like solution, treat waste water and produces energy simultaneously. A search of database sites such as PUBMED, Google Scholar, SCI-Hub, and Web of Science as well as other sources of literature available across public libraries was conducted to obtain relevant information related to the topic. This research presents the novel components and types of MDC systems. Also, it tackles the most contemporary advances and research in MDC, their applications and challenges. It then examines the future prospects of MDC at the commercial and industrial level which seeks to enlighten scientists and other stakeholders on waste water treatment, energy production and its related challenges.

Biography

Desmond Ato Koomson has completed Bachelor's degree at the University of Cape Coast, Ghana and is currently studying Environmental Science and Engineering for his master's degree at Hohai University, China. He has served on several committees, including constitutional committees, and has already published two articles reputable Journals.

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