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Solar Powered UV-C LED Water Sterilizer

Background

Contaminated water is one of the leading causes of death and illness around the world. Two billion people lack access to clean drinking water (CDC, 2019), and one million people are estimated to pass away every year due to waterborne illnesses related to unsafe drinking water (World Health Organization, 2022). Globally, 80% of wastewater returns to the environment without being treated (Denchak, 2023), making inadequate sewage infrastructure a significant source of water contamination. Untreated effluent in drinking water sources introduces harmful pathogens such as *Escherichia coli* into the water, which is a primary cause of diarrheal diseases, and in some cases, death.