

New Prospect of Hydropower Generation in the Sewage Treatment Plant: A Review †

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Abstract: Conventionally, fossil fuels have been used as the main energy source to generate electricity, but they would not be sufficient to fulfill worldwide demand due to their finite end. Increasing the use of renewable energy sources is a commendable approach in the generation of electricity. In Renewable energy, the exploitation of hydro energy dates back of thousand years ago. Environmental issues are the major barriers to new hydropower stations. In that sense, there is a need to explore the new prospect for power generation by using hydro energy. A sewage treatment plant (STP) is available in every region to efficiently reuse wastewater. The treated water is released to the closest river or khadi by providing the gravity structure. Gravity structures are considered the probable sites for power generation at STP. Researchers have carried out work on low-head hydro turbines towards the harnessing of hydro energy. An attempt has been made in this paper to present the different schemes of hydropower plants and explore the conventional and non-conventional low & ultra-low head hydro turbines with their applicability and functionality, which give the new prospect for harnessing electrical energy based on available site conditions at STP.

Keywords: hydropower; renewable energy; low head; sewage treatment plant.

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Conflicts of Interest

The authors declare no conflict of interest.