tment plant in Shanghai was selected as the research subject. The study analyzed the power usage and photovoltaic installation at this wastewater treatment plant. It was found that by ...

The future research direction of solar energy application in wastewater treatment is also proposed. Key words: Solar energy, Photoelectric conversion, Sewage treatment, Electrochemistry

As wastewater treatment plants (WWTPs) contribute to climate change by emitting greenhouse gases (GHGs), this study estimated the total GHG emissions of WWTPs by classifying ...

This review provides an overview of the waste (water)-based energy-extracting technologies, their engineering performance, techno-economic feasibility, and environmental benefits.

Because solar adoption at wastewater treatment plants is still relatively new, there is little known about these facilities, including where they ...

Present review work is aimed to address explicit questions which would guide to better understanding towards application of solar power for treatment of industrial and domestic wastewater.

As the decarbonization of wastewater treatment plants (WWTPs) progresses, leveraging photovoltaic (PV) systems to reduce greenhouse gas (GHG) emissions has received increasing ...

The results of coupling our plant with an on-grid PV system and wind turbine show that it was able to reach an electrical coverage of about 72% of the wastewater treatment (WWT) plant"s...

In this study, three innovative photovoltaic wastewater treatment routes that integrate resource utilization processes are proposed. A comparative assessment of the sustainability ...

By assessing the effectiveness of different energy sources through LCA and thermodynamic analysis, the study aims to provide a comprehensive understanding of how this ...

This paper proposes a new bidirectional buck-boost converter, which is a key component in a photovoltaic and energy storage system (ESS). Conventional bidirectional ...

In this study, the effect of supplying the energy required by a real domestic biological wastewater treatment plant from a photovoltaic (PV) system ...

This review comprehensively examines the treatment technologies for fluorine-rich, ammonia-rich, and nitrate-rich PV wastewater, revealing the advantages, disadvantages, and ...

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