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COST BENEFIT ANALYSIS AND SUSTAINABLE DEVELOPMENT PATH OF SEWAGE TREATMENT IN THE DIGITAL ECONOMY ERA

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Abstract

The sewage treatment industry is a key focus of national environmental protection policies. With the advent of the digital economy, the industry has gradually undergone intelligent transformation. However, during the construction and operation phases, issues such as cost-benefit imbalances persist. This article conducts a cost-benefit analysis of the sewage treatment industry in the digital economy era, employing digital economy technology to explore sustainable development paths and reduce operational risks. The aim is to promote the sustainable development of the sewage treatment industry and enhance modern environmental governance capabilities. Using digital economy technology, the article analyzes the costs and benefits of sewage treatment and examines the cost-benefit model. It also explores sustainable development pathways for sewage treatment, providing new solutions for the sustainable development of other energy sources. Experimental analysis revealed that applying the life cycle assessment (LCA) method optimizes sewage discharge, increasing the removal rate of chemical oxygen demand by 2.88%. By studying and analyzing the costs and benefits of sewage treatment in the digital economy era, along with sustainable development pathways, this article addresses the cost-benefit imbalance in sewage treatment, laying a technical foundation for future advancements in the field.

Key words: cost benefit analysis, digital economy era, sewage disposal, sustainable development path

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