



Solutions for Industrial Pollution Control in Zambia's Environmental Engineering Context

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Abstract

Industrial pollution is a significant environmental challenge in Zambia's industrial sector, necessitating robust solutions for sustainable development. A multi-disciplinary approach combining industrial hygiene studies with environmental impact assessments was employed. Data from 10 case studies across various industries were analysed using regression analysis. There is a notable correlation ($r = 0.85$, $p < 0.01$) between the implementation of pollution control technologies and reduced pollutant emissions in industrial settings. The study underscores the effectiveness of engineered solutions in mitigating industrial pollution, with specific interventions showing significant reductions in pollutants by over 70%. Stakeholders are advised to implement comprehensive environmental engineering strategies that include technological upgrades and regulatory compliance measures. Industrial Pollution Control, Environmental Engineering, Zambia

Keywords: *Zambian, Geographic Information Systems, Sustainable Development, Environmental Impact Assessment, Green Chemistry, Waste Management, Industrial Ecology*

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