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PROJECT H20GEN: A SUSTAINABLE HYDRO-FILTERED GENERATOR FOR CLEAN AND EFFICIENT POWER GENERATION

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ABSTRACT

Project H20GEN aims to address energy sustainability challenges by developing an innovative hydropower system. The study explores the feasibility of using a hydro-filtered generator that simultaneously generates electricity and purifies water, contributing to environmental sustainability, economic resilience, and educational advancement. Conducted at Tuy Senior High School, the research employs an experimental design, surveying STEM students to assess the generator's impact. Findings indicate that the hydro-filtered generator significantly reduces reliance on fossil fuels, minimizes financial losses during power outages, and enhances learning by ensuring a stable power supply in schools. The study further identifies key risk factors and proposes an action plan to improve adaptability to varying water sources and environmental conditions. PROJECT H20GEN demonstrates the potential of integrating hydropower with water filtration, providing a cost-effective, renewable energy solution that supports both community development and climate change mitigation.

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