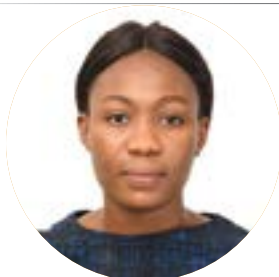




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Ministry of Local Government and Rural Development

A predictive model for real time hydroelectric power supply and corresponding dynamics due to climate change in Italy and Ghana

The consequence of climate change leaves the world with no other option than to transition to 50% renewable energies by 2030. To make such transition possible for Italy and Ghana, there must be a calculated effort to optimize hydroelectric power to increase its ability to generate enough power to meet electricity demand. However, the limited research on renewable energies in developing countries has brought a knowledge gap, which makes renewable energies less efficient and less utilized. This study uses various methodologies to forecast weather, temperature, rainfall patterns, and dam level in real-time. The study also devices innovative ways to store water in support of the dam during a fall in the dam level, especially during drought and periods of high evaporation. The results are expected to help keep the dam usage optimized, help reduce power outage, and load-shedding. Upon completion, the project will help drive least-cost electric power decision-making, employment, economic growth, and poverty reduction in Italy and Ghana.

Keywords: Hydroelectric Power, climate Change, real time, optimized system, Italy, Ghana

Biography

Jennifer Alover is the Assistant Programmes Officer at the Ministry of Local Government and Rural Development, Accra-Ghana from 2016 to date. As part of her achievements, Mrs. Jennifer Alover has Assisted in the collecting and analyzing data for report writing, implementation of policies such as rural solar panel extension in the greater Accra region. Again, She has Ensured the development of the capabilities, skills and knowledge of staff in renewable projects in Greater Accra region. In addition, she has successfully assisted the schedule Head in the provision of IT systems support to all MDA's and MMDAs during budget preparation at the ministry of finance. Her interest in research has enabled her successfully publish article at MIT-Harvard Applied Energy Conference, 2020 and 2021. Mrs Jennifer Alover is working on other projects under the supervision of Dr. Mark Agyei-Sakyi.

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