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HYDROPOWER POTENTIAL MAPPING OF NIGER STATE

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ABSTRACT

The paper provides an evaluation and mapping of hydropower potentials in Niger State. The aim of the study was to evaluate and map the renewable energy potentials in Niger State with the objective of assessing the hydro energy that can be harnessed for national development. An automated interpolation computer program (Surge) was used to produce hydropower potential maps. The Hydro power potential data were obtained from Nigeria Hydrological Service Agency (NIHSA), Abuja. The analysis of the data indicates that the existing large Dams in the state have a total capacity of 22,880 Mm^3 and total output power of 1840 MW. The proposed large dams in the state have a total capacity of 30,232 Mm^3 with output power of about 2431MW, while the proposed medium and small Dams indicate a total capacity of 750 million Mm^3 and output of 60 MW. The hydro potential map produced using the software shows the locations of the prospective medium and small dams.

Significance: Mapping the hydropower potentials of Niger state will serve as a guide to energy experts and policy makers on effective exploitation and conservation of alternative energy resources in Nigeria.

Keywords: Hydropower; Dam; River; Renewable energy; Mapping.