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Run of River Bulk Hydroelectric Generation from the Congo River without a Conventional Dam

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ABSTRACT

The paper discusses harvesting the Congo River for bulk hydroelectric generation based on run of river, low head generation technology, as employed at the existing Inga 2 power station in the Democratic Republic of Congo. The evolutionary approach builds on existing infrastructure. The results show that the footprint is much smaller than that which employs a conventional dam. The environmental impact is minimized. These collectively will contribute to lower capital costs. In summary, 10,000 cm³/sec of constant river flow will produce 5,000 MW of base power. On average, the constant recorded flow of the river is 30,000 cm³/sec and a total of 15,000 MW of base power generation is possible.

KEYWORDS

Hydroelectric Power Generation, River Engineering, Environmental Impact, Hydropower Development in DRC

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