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Feed in tariff for micro hydro power plant of Nepal

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The government of Nepal has been promoting the installation of Micro Hydro Power (MHP) in rural areas for a long time. Currently, thousands of MHP are providing clean electricity to more than 20% of the country's rural population. However, most of these MHPs are struggling to sustain their operation in a long run because of low operational revenue and grid encroachment. Also, the government's policies and regulations are hinged upon conventional capital subsidy which is not linked with the utilization of energy, i.e., the performance of the system. The situation is exacerbated by the uncoordinated effort of the grid and off-grid rural electrification governance structure. The paper analyses the macro context of MHPs operating in the country and utilizes levelized cost of electricity (LCOE) and the market price of electricity to design a simplified version of Feed-In Tariff (FIT) for MHP. The study revealed that Premium based FIT, i.e., Feed-in Premium (FIP) where a premium price is paid to MHP developer on the top of market price for each unit of electricity generated could be appropriate in Nepalese context. However, study finds that FIP shall consider the size, location, plant load factor, grid connection and purpose of installation of MHP because LCOE varies significantly with the variation of these factors. Appropriate FIP will link subsidy with a performance of MHP, ensure sustain operational revenue, discourage closure of MHP because of grid encroachment, eliminate uncoordinated ambiguous institutional mechanism between the grid and off-grid rural electrification initiative and instill transparency in the disbursement of the fund. The paper also discusses on a policy framework for renewable energy policy reforms in the country.

Biography

Suraj Baral is a passionate development practitioner with an expertise in energy, livelihood and climate change adaptation. Having worked for rural communities in Nepal for several years, he is a dedicated change agent aiming to contribute in achieving Sustainable Development Goals across the globe through local based integrated approach and solutions, community mobilization, and partnership and collaboration among stakeholders.

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