

This paper presents a brief account of Nepal's renewable energy resources and the current status of various renewable energy technologies (RETs) such as micro-hydro, solar power, wind energy, biofuel/bioenergy, improved cook stoves, and improved water mill. It also highlights the opportunities and barriers for the development of RETs.

Based on the Nepal Renewable Energy Programme (NREP) budget analysis of FY 2019/20 for Province 2, Lumbini and Karnali, approximately NPR 3.6 billion (USD 32 million¹) has been allocated in renewable energy and rural electrification with a 60:40 ratio between local and provincial governments.

Solar energy in Nepal presents a promising avenue to diversify the country's energy mix. Currently, Nepal's domestic electricity supply is almost entirely reliant on hydropower, which is susceptible to seasonal variations and the impacts of climate change, such as altered rainfall patterns and reduced snowmelt.

As there is no site specific data on solar irradiance a reference value of 1650 kWh/m²/year is assumed. The target electricity generation will change if the actual (measured) solar irradiance at site is different to this assumed value.

Along with other programs and projects, AEPC is executing a project "Promotion of Solar Energy in Rural and Semi-urban Regions of Nepal" with financial assistance from the Federal Government of Germany through KFW Development Bank.

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It covers a wide range of activities such as designing and developing solar PV systems to address local problems in the country (e.g., Solar Fridge), introducing new PV technologies emerging elsewhere in the world to meet local needs (e.g., Floating solar PV system), proliferating knowledge, and imparting technical skills on solar energy ...

Solar Minigrid : In the context of Nepal, solar and solar-wind hybrid mini grids are one of the most innovative technologies deployed to provide energy access to rural and isolated communities, and meet their development needs. In 2011, the first solar-wind hybrid mini grid of 12 kW installed capacity (10 kW wind + 2 kW solar PV) was ...

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