



Humla Karnali Hydropower Project (61.02 MW)



Government of Nepal
Ministry of Energy, Water Resources and Irrigation
Department of Electricity Development



Background

The Humla Karnali Hydropower Project is a Run of River (RoR) scheme Hydropower designed to harness energy from Humla Karnali river. The project capacity is 61 MW and produces an annual energy of 390.29 GWh. The project lies in Humla district, Namkha rural municipality, which is not connected with any vehicular road from Nepal side. However, Hilsa-Simikot road section has been built from the Tibet Autonomous Region border crossing at Hilsa. The project area can be accessed through Simikot, the headquarter of Humla District, which is to be accessed from Kathmandu by about 1-hour flight to Nepalgunj followed by another 50-minute flight to Simikot or 601 km drive to Surkhet followed by 50-minute flight to Simikot.



Sector:
Hydropower



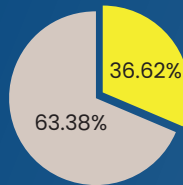
Location:
Namkha Rural Municipality,
Humla District, Karnali province



Land Required:
21.73 hectares

Salient Feature:

- Scheme: Run-of-the-River (RoR)
- Power generation: 61.02 MW
- Total Energy: 390.29 GWh



■ Wet Energy: 247.39 GWh
■ Dry Energy: 142.90 GWh

Features/Components

- Catchment area at intake site: 4430.66 km²
- Design discharge: 44.50 m³/s
- Net Head: 156.51 m
- Headworks arrangement: 34m long, 10m high ogee type concrete wier (crest elevation: 3066 masl), 2 bays of under sluice 3m x 4m radial gates, side intake with 4 openings of 4.3m x 4.5m
- Design Flood (1 in 100 year flood): 727 m³/s
- Approach tunnel: Three D-shaped pressurized approach tunnel of length 176.86 m
- Settling basin: underground, double hopperr, and 3 bays (100m x 12.3m each)
- Headrace tunnel: Pressurized, D-shaped, 5.5 m diameter and length 6.94 Km
- Surge Tank: 10 m diameter, 67m high simple cylindrical type
- Penstocks: surfaced, 491.4m long, 3.5m diameter, 14-36mm thick, 7 numbers of anchor block
- Powerhouse: surface, dimensions 53 x 15.6 x 37.7 m
- Turbine: 3 units of vertical axis Francis turbine with rated head 156.51m and discharge 14.83m³/s each
- A 31.6 km, 132 KV transmission line connected to the switchyard of Humla Karnali cascade hydropower project - 914 MW, (under study by DoED)

Project Outcome



Increased electricity generation capacity



Contribution to sustainable development and environmental conservation



Enhanced regional connectivity and access to remote areas



Water resource management

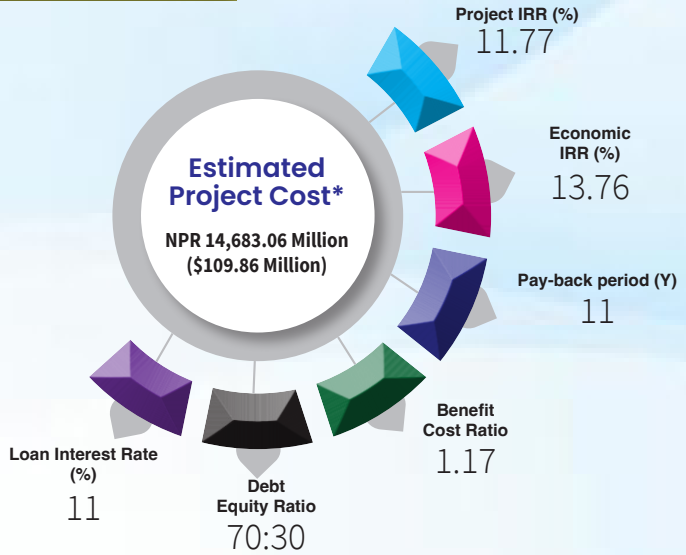


Revenue generation for central, provincial, and local governments



Job creation during construction and operation

Financial Indicators



Note: 1 USD = NPR 133.65

*based on final report, November 2023

Project Implementation Modality



Public Private Partnership
(PPP model)

Build Own
Operate Transfer
(BOOT)

Project Implementation Timeline



