



Betan Karnali PRoR Hydroelectric Project (BKHEP) (439 MW)



Background

Betan Karnali PROR Hydroelectric Project (BKHEP) is a Peaking Run of River scheme hydropower with 5.2 hours daily peaking designed to harness the potential of Karnali River. The project is in Achham and Surkhet District with installed capacity of 439 MW and total annual energy generation of 2302.86 GWh. It is a peaking run off river with 5.2 hours daily peaking. The project is located at 35 km from Gutu which lies on the Madan Bhandari lokmarga which is 30 km from Mahendra highway through Karnali Chisapani and 62 km from Birendranagar.



Sector:
Hydropower



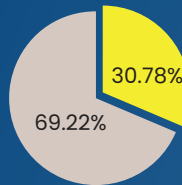
Location:
Surkhet, Achham district,
Karnali and Far-western provinces



Land Required:
691.99 hectares
(private: 93.11 ha and
forest area: 598.88 ha)

Salient Feature:

- Intalled Capacity: 439 MW
- Total Energy: 2302.86 GWh



Wet Energy: 1593.68 GWh
Dry Energy: 708.88 GWh

Features/ Components

- Catchment area: 22,511.25 km²
- Design Discharge: 551m³/s
- Head: 99.13m (Gross), 94.13m (Net)
- RCC gravity dam with height 140 m
- 9 number of side intake
- 3 Circular Headrace tunnel totalling length of 6045.79m and diameter of 8m
- Restricted orifice Surge Shaft with 24 m diameter
- 3 numbers of surface penstock
- Underground Powerhouse
- 6 units Vertical Axis Francis turbine each with installed capacity of 71.68 MW
- 6 number of 6.5 m diameter concrete lined tailrace tunnel
- 5 Km 400 KV transmission line connected to Betan Hub Sub-Station (RPGCL)

Project Outcome



Excess energy Export to neighboring country



Achievement of Sustainable Development Growth and Green Growth



Promote Tourism and Development



Enhancing local infrastructure, including access roads & bridges

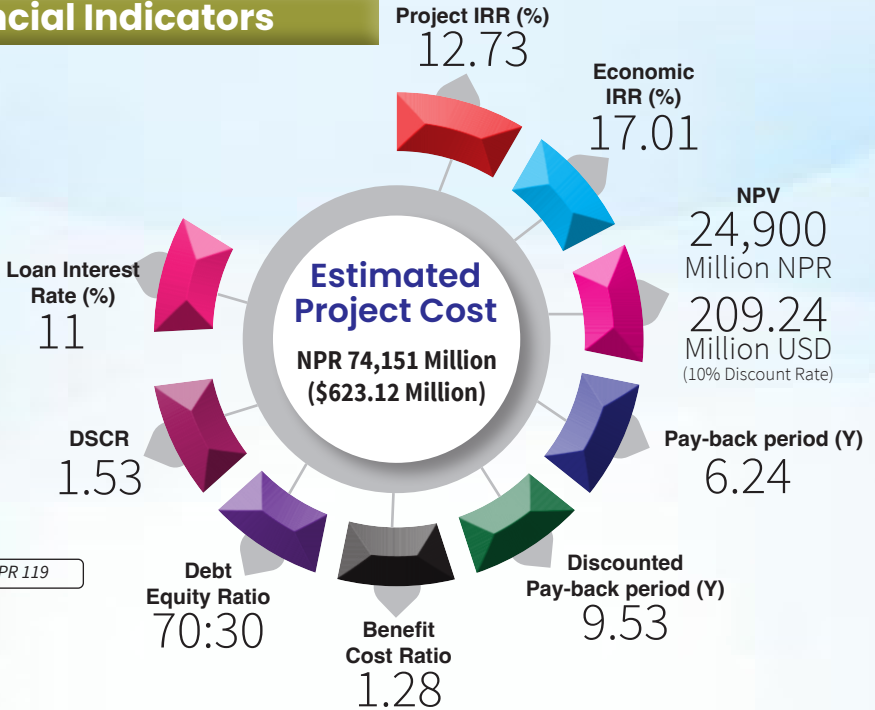


Increment in economic activities



Employment Opportunities

Financial Indicators



Project Modality & Requirement



Public
Private
Partnership
(PPP model)

Build
Own
Operate
Transfer
(BOOT)

Project Seeking Finance



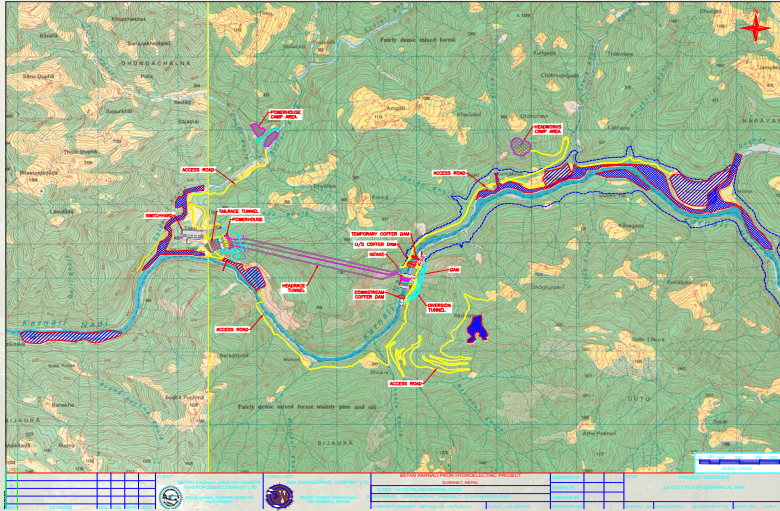
Seeking lenders to finance 70% of the total project cost as a debt

Project Implementation Timeline



Additional Information

Betan Karnali PRoR Hydroelectric project is financially attractive due to its revenue collection (energy generation throughout the year) and estimated project cost. The generated power will be fed into the integrated power system of Nepal through a 5 km long 400 kV transmission line to the nearest national grid substation proposed at Baghmara (Puchma) in Surkhet.



Pic 1: Project Layout

Relevant Agencies

- Ministry of Energy, Water Resource and Irrigation (MoEWRI)
- Betan Karnali Sanchayakarta Hydropower Company Limited (BKSHCL)
- Karmachari Sanchaya Kosh (Employees Provident Fund - EPF)

About the Agency

Agency: Betan Karnali Sanchayakarta Hydropower Company Limited

Betan Karnali Sanchayakarta Hydropower Company Limited (BKSHCL) is a public limited company as an initiative of the Karmachari Sanchaya Kosh (KSK) and the major shareholders of the company are the contributors of KSK (40% shareholding). Other shareholders include KSK (15%), Nepal Electricity Authority (10%), and Vidhyut Utpadan Company Limited (10%). The authorized and paid-up capital of the company is: Twenty Billion and Ten Billion Nepali Rupees respectively. BKSHCL has obtained the Feasibility License of the 439 MW Betan Karnali Hydroelectricity Project (HEP) for development from the Ministry of Energy (currently Ministry of Energy, Water Resources and Irrigation).

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