

Greenlife Hydropower Limited

Ratings

Facility/Instrument	Amount (Rs. in Million)	Ratings ¹	Rating Action
Issuer Rating	NA	CARE-NP B- (Is) [Single B Minus (Issuer)]	Reaffirmed
Long Term Bank Facilities	5,704.54 (Increased from 3,956.53)	CARE-NP B- [Single B Minus]	Reaffirmed
Total Facilities	5,704.54 (Five Thousand Seven Hundred Four Million and Five Hundred Forty Thousand Only)		

**The issuer rating is subject to the company maintaining overall gearing not exceeding 3.50x at the end of FY23.*

Details of Facilities in Annexure 1

CARE Ratings Nepal Limited (CRNL) has reaffirmed the issuer rating of 'CARE-NP B- (Is)' assigned to Greenlife Hydropower Limited (GLH). Issuers with this rating are considered to offer high risk of default regarding timely servicing of financial obligations, in Nepal.

Also, CRNL has reaffirmed the rating of 'CARE-NP B-' assigned to the long term bank facilities of GLH.

Detailed Rationale & Key Rating Drivers

The ratings assigned to GLH continue to remain constrained by project implementation and stabilization risk associated with its under-construction hydropower project, significant cost overrun in the project leading to relatively high project cost with substantial debt on the books coupled with financial closure yet to be achieved for the full revised project cost. The ratings also take cognizance of the time overrun leading to decreased project life, low tariff rate for major part of contracted energy leading to low return from the project. The ratings also factor in risk of natural calamities, limited experience of the management in hydro power sector, hydrology risk associated with run-of-the-river power generation and exposure to regulatory risk. The ratings, however, continue to derive strength from power purchase agreement (PPA) with sufficient period coverage, low power evacuation risk and government support for the power sector.

Going forward, timely execution of the project avoiding any further cost overrun and swift stabilization of operations thereafter will be the key rating sensitivities.

Detailed Description of the Key Rating Drivers

Key Rating Weaknesses

Project implementation and stabilization risk

GLH is setting up a 40 MW run-of-river Khani Khola 1 Hydropower Project (KK1HPP) in Dolakha district of Nepal. The estimated cost of the project is Rs. 9,800 Mn for total installed capacity of 40 MW (Rs. 245 Mn per MW) which is being funded by debt of Rs. 7,350 Mn and equity of Rs. 1,800 Mn. Balance Rs. 650 Mn is proposed to be funded through director's loans. Till mid-April, 2023, GLH has achieved financial closure amounting to Rs. 5,705 Mn and remaining is still pending. Hence, timely tie-up of the additional funding requirement remains crucial from credit standpoint. As on April 13, 2023, the company has achieved financial progress of ~80%. The expected COD of the first phase (25 MW) is by mid-August 2023. Any further time overrun will lead to cost overrun and consequently impact the financial risk profile of the company. Furthermore, any delay in completion of the 25 MW phase of the project will also lead to delay in completion of the 15 MW phase, timely completion of which is critical from overall cost perspective. Hence, the company continues to remain exposed to the risks associated with project implementation and satisfactory operations thereafter as the plant is

¹Complete definitions of the ratings assigned are available at www.careratingsnepal.com and in other CRNL publications

located in the Himalayan region where the uncertain geology and adverse climatic conditions plays a major role in timely completion of the planned activities. Completion of the project within the revised cost is critical from credit perspective. The Required Commercial Operation Date (RCOD) of the project was March 31, 2022. The company has applied for extension of the RCOD for August 26, 2023. If approved, the extension is likely to provide some cushion to complete the project in revised timeframe. If the project is not completed within the approved RCOD, then the company will be required to pay delay penalty. Furthermore, if Commercial Operation Date (COD) is delayed by 6 months to 18 months from RCOD, there are restriction clauses in escalation of tariff rate. It is crucial for the company to complete the project within the timelines to avail the accelerated clauses of tariff. Any delay in the same would impact the project's expected returns and debt servicing capabilities which is critical from credit perspective.

Significant time and cost overrun leading to high cost of project

The initial estimated cost of the project was Rs. 4,795 Mn (Rs. 3,338 Mn for 25 MW and Rs. 1,457 Mn for 15 MW). There have been several revisions to this and the latest estimated cost of the project has been further revised to Rs. 9,800 Mn (Rs. 8,343 Mn for 25 MW and Rs. 1,457 Mn for 15 MW). The estimated cost per MW is high at Rs. 334 Mn for 25 MW and Rs. 97 Mn for 15 MW, with overall cost of Rs. 245 Mn per MW. Estimated cost has increased multiple times on back of delay in completion of the project leading to overall increase in cost, majorly in interest during construction. Furthermore, the project has been impacted by COVID-19 with non-availability of materials and labour resources adding to the delay in project completion. As the cost of project per MW is substantially high for the first phase of 25 MW, timely completion of the second phase of 15 MW without any further cost overrun will be critical for the project as it will likely reduce the overall cost per MW of the project to a more manageable level.

Low tariff rate for major part of contracted energy leading to low return from the project and decreasing project life amid substantial delay in execution

Due to multiple delays in execution of the project, life of the project has been reduced. If the project comes into operation in August, 2023 as expected by management, generation license which was obtained on May 11, 2011, would be valid for next ~24 years only, resulting in six year loss of revenue from project. Further, tariff rate for 25 MW contracted capacity is low (i.e., Rs 4/7 per kWh for wet/dry season) in comparison to tariff rate for additional 15 MW contracted capacity (i.e., Rs 4.8/8.4 per kWh for wet/dry season), due to which overall return from the project life is expected to be on a lower side.

Risk of natural calamities

In Nepal, hydropower projects are usually located in terrains that are topographically challenging making their construction and operations vulnerable to adversities of nature. Floods and landslides that tend to occur in these areas pose threat to these power projects damaging their infrastructures as well as impacting their timely completion. Moreover, disruption in their construction in turn could lead to time and/or cost overrun, negatively impacting the project's financial aspects. Moving forward also, these natural calamities can adversely affect the smooth flow of power generation and distribution, which can further impact financial returns of the projects. GLH is also exposed to such risks of natural calamities that might cause infrastructural, operational and financial damages to the project.

Limited experience of management in hydro power sector

The promoter group of the company has limited prior experience of executing power projects and the project under consideration is the first power project being developed by the group. GLH has seven members in its board of directors chaired by Mrs. Yanchen Doma Lama, who has more than two decades of experience in manufacturing and trading

business. Mrs. Keshang Dikee Lama, Managing Director, manages day to day operation. The BOD are further supported by a team of experienced management team members.

Hydrology risk associated with run-of-the-river power generation

Run-of-the-river power is considered an unsteady source of power, as a run-of-the-river project has little or no capacity for water storage and therefore is dependent on the flow of river water for power generation. It, thus, generates much more power during summer season when seasonal river flows are high (Mid-April to Mid-December) and less during the winter season (Mid-December to Mid-April). GLH is proposed to utilize discharge from Khani Khola, Hanapu Khola and Napke Khola having catchment area of 76 sq kms based on snow fed river. The project has 5.10 m³/s design discharge at 40% exceedance flow and gross head of 963m. Hence, the project is exposed to risk associated with variation in discharge of water from the aforesaid river/khola.

Exposure to regulatory risk

Government of Nepal (GoN) has established Electricity Regulatory Commission (ERC) for regulating generation, transmission and distribution of electricity in Nepal. ERC will be the regulator under the GoN which will be responsible for regulating hydropower companies in Nepal. Policies and directives issued by ERC like approval process for IPO issuance, PPA approval through ERC poses a new challenge to hydropower companies. Hence, sector is prone to regulatory risk and changes in other policies by GoN.

Key Rating Strengths

Power purchase agreement with sufficient period coverage

GLH had entered into a long term PPA with NEA as on October 10, 2010 for sale of 25MW power which was amended to 40 MW on June 4, 2017. The period of the PPA is 30 years from the Commercial Operation Date (COD) or till validity of Generation License (received on May 11, 2011 for 35 years), whichever is earlier. PPA period may be extended with mutual consensus during the last six month of validity. For the 25 MW project, the tariff for wet season (Mid-April to Mid-December) is Rs 4 per kWh and for dry season (Mid-December to Mid-April) is Rs 7 per kWh with 3% escalation on base tariff for 9 times. For additional 15MW project, the tariff for wet season is Rs 4.80 per kWh and for dry season is Rs 8.40 per kWh with 3% escalation on base tariff for 8 times.

Low power evacuation risk

The Power generated from the project will be evacuated through 18km long 132KV transmission line to NEA's Singati substation and then connected to national grid through Singati-Lamosangu Transmission line via Lamosangu substation. Construction of Singati-Lamosangu transmission line within the scope of NEA has been completed. Construction of transmission line from powerhouse to Singati substation is in progress. Timely completion of the transmission lines will be key rating sensitivity.

Favourable government policies towards power sector

Government of Nepal (GoN) considers hydropower generation as a priority sector and intends to maximize private sector participation in generation of hydroelectricity by offering different exemptions and facilities. GoN has announced full tax exemption for first 10 years and 50% tax exemption for next 5 years for such person/entity who starts commercial operation, transmission and distribution of electricity up to mid-April 2027. Also, with government focus more toward reservoir-based hydropower projects; Monetary Policy FY23 has provided full tax exemption for first 15 years and 50% tax exemption for next 6 years to reservoir and semi- reservoir projects completing financial closure within mid-April 2029

with a capacity higher than 40 MW. As per various directives from NRB whereby all the banks (type A, B C, D) have to allocate minimum share of their total advances to energy sector which argues well for the sector. Also, increasing trend of cross-border energy trade and its prospect in upcoming days with bilateral agreements with the neighboring nations shows positive outlook on long- term demand for the power sector.

About the Company

GLH was incorporated on September 20, 2009 as Greenlife Energy Private Limited and later converted to public limited company on June 23, 2017. It is promoted by institutional promoters and individual promoters from different background for setting up of 40 MW run-of-river Khani Khola 1 Hydropower Project (KK1HP) in Dolakha district of Nepal. The power project is proposed to be constructed in two phases. In the first phase, the generation capacity will be 25 MW by utilizing discharge from Khani Khola which will be upgraded to 40 MW in the second phase by adding discharge from Hanapu Khola and Napke Khola.

Annexure 1: Details of the Facilities Rated

Name of the Bank Facilities	Type of the Facility	Amount (Rs. In Million)	Rating
Long Term Bank Facilities	Term Loan	5,704.54	CARE-NP B- [Single B Minus]

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About CARE Ratings:

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