

NAM NGUM 2 POWER CO., LTD.

No. 38/2022
24 March 2022

CORPORATES

Company Rating:	A
Issue Ratings:	
Senior unsecured	A
Outlook:	Stable

Last Review Date: 24/02/21

Company Rating History:

Date	Rating	Outlook/Alert
26/07/17	A	Stable

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RATIONALE

TRIS Rating affirms the company rating on Nam Ngum 2 Power Co., Ltd. (NN2PC) and the ratings on NN2PC's outstanding senior unsecured debentures at "A" with a "stable" outlook. The ratings reflect the solid contractual framework and reliable cash flows received from a long-term power purchase agreement (PPA) signed with the Electricity Generating Authority of Thailand (EGAT; rated "AAA" with a "stable" outlook by TRIS Rating). The ratings also reflect NN2PC's track record of efficient plant operation and adequate liquidity. However, the ratings are constrained by the fluctuation of water flow from the Nam Ngum river and the country risk of the Lao People's Democratic Republic (Lao PDR).

The "A" rating incorporates NN2PC's stand-alone credit profile (SACP) of "a" and our view that NN2PC is a core subsidiary of, CK Power PLC (CKP; rated "A/Stable" by TRIS Rating). NN2PC is expected to contribute substantial earnings of around 60%-70% of the group's earnings before interest, taxes, depreciation, and amortization (EBITDA).

KEY RATING CONSIDERATIONS

Long-term PPA with credible off-taker

NN2PC's hydropower plant is located on the Nam Ngum river in the central part of the Lao PDR. The power plant has an installed capacity of 615 megawatts (MW). Despite its location and operation in a high-risk country, the ratings are built on reliable cash flow, which is backed by a 25-year PPA with EGAT. The credit strength of EGAT means low counter-party risk for NN2PC.

The PPA is on a take-or-pay basis, which largely mitigates market risk. EGAT is obliged to purchase up to 2,310 gigawatts-hour (GWh), which is the annual supply target. The annual supply target breaks down into primary energy (PE; 2,218 GWh) and secondary energy (SE; 92 GWh).

In addition to the PPA, the concession agreement with the government of Lao PDR (GOL) mitigates the risks of fund transferability and currency convertibility. The concession agreement stipulates that NN2PC has the right to receive and hold its revenue accounts outside the Lao PDR. Accordingly, payments from EGAT under the PPA are paid to NN2PC's account in Thailand.

Proven record of efficient plant operation

Operation of a hydropower plant requires expertise in several aspects, such as water resource management, maintenance, and production planning. NN2PC holds an operation and maintenance agreement (OMA) with EGAT covering the entire term of the PPA. EGAT has extensive experience and expertise in operating hydroelectric power plants in Thailand. Moreover, NN2PC also engages EGAT to provide major maintenance services.

Since the onset, the company's power plant availability factor has been higher than 94%, except for 2018 and 2019. During 2018-2019, the plant availability factor was about 92%-93% due to a partial overhaul in 2018 and a water supply shortage in 2019.

Water resource uncertainty

Hydropower output primarily relies on water availability, which can vary significantly from year to year. High variability in water inflow can lead to variable electrical generation and result in a drop-off in revenues during

certain periods of time. This could impact available cash to cover fixed costs. Although NN2PC's reservoir storage provides some buffer from short-term fluctuations, drawn-out periods of drought could translate into less power generation and lower revenues during an affected period.

Contractual framework mitigates key risks

The water supply risk is mitigated through the mechanism in the PPA. It allows NN2PC to sell electricity in excess of the annual supply target in wet years and receive compensation for exceeding target sales in dry years. Whenever NN2PC sells an amount of electricity below the annual supply target, the shortfall can be added to the annual supply target in the following years.

Also, in the event that the water supply is not sufficient for NN2PC to meet the production requirements, NN2PC has the right to declare a drought year. Under the terms of PPA, NN2PC is obliged to maintain minimum availability to generate electricity at (i) eight hours per day in each month, and (ii) 10 hours per day in each year. A drought year declaration will temporarily exempt NN2PC from such obligation. NN2PC can declare a drought year twice during the 25-year period of the PPA. NN2PC exercised the first drought year declaration in 2020. Despite the merits of the scheme, a downside pressure on the ratings could arise if NN2PC encounters serious water insufficiencies repeatedly over successive years.

Improving trend of water inflow

Although NN2PC has continued to experience the lower-than-average water inflow for three consecutive years since 2019, the water inflow has shown an improving trend. The water inflow has increased to 3,934 million cubic meters (mcm) in 2020 and 4,301 mcm in 2021 from the lowest level of 3,689 mcm in 2019. However, the water inflow in 2021 was still below the annual average of 6,262 mcm. (average from 1949-2021). The water level in NN2PC's reservoir was at 361.1 meters above sea level (masl) at the end of 2021. At this level of water, we expect NN2PC to carefully operate its power production to manage the water level to fulfill its obligations under the PPA in 2022.

Performance in line with expectation

Regardless of lower-than-average water inflow in 2021, NN2PC's performance was in line with our expectation. Total electricity generation increased by 101% year-on-year (y-o-y) to 1,841 GWh, mainly due to a declaration for a drought year in 2020. The total electricity generation in 2021 comprised PE of 1,743 GWh and SE of 99 GWh. The PE achieved about 79% of the annual supply target reflected the low level of water inflows, a key factor for a hydropower plant.

In 2021, NN2PC's EBITDA increased by 111% y-o-y to THB2.9 billion. The higher EBITDA resulted in a substantial reduction of the debt to EBITDA ratio to 3.8 times from 9.1 times in 2020.

Our base-case forecast is based on the level of water at the beginning of 2022 and a conservative assumption on the volume of water inflow. We forecast NN2PC to generate electricity of about 1,600-1,650 GWh in 2022, which will translate into EBITDA of around THB2.3-THB2.5 billion. We forecast NN2PC's debt to EBITDA ratio of about 3.7-4.0 times in 2022. For 2023-2024, we expect the water inflow to recover nearly to the average level. Therefore, we forecast NN2PC's EBITDA of about THB3.0-THB3.2 billion per year, reflecting our assumption of electricity generation of about 2,000 GWh per year. Moreover, we expect NN2PC to repay debentures coming due over 2022-2024, totaling THB3.1 billion, resulting in a gradual decrease in debt. As a result, the debt to EBITDA ratio is expected to improve to around 1.8-2.0 times in 2024.

Expected improvement in capital structure

We expect NN2PC's debt to capitalization ratio will gradually improve to a level below 40% in 2024. We do not expect NN2PC to make any major investments or expenditures in the foreseeable future other than the planned maintenances. The company's most recent investment was an upgrade of the Nabong power substation, which was completed in 2018 with an investment cost of THB3.12 billion. At the end of 2021, the company's adjusted debt was THB10.9 billion. The debt to capitalization ratio stood at 51.2%.

Adequate cash to meet near-term debt obligations

NN2PC has maintained a conservative internal policy to maintain cash reserves of at least THB1 billion to cover the upcoming debt repayments. NN2PC also intends to maintain a minimum cash on hand of about THB700 million to cover operating expenses for about 12 months.

NN2PC already repaid its matured debenture obligation of THB500 million in early of March 2022. Looking forward, we believe NN2PC will prudently manage its liquidity over the forecast period. We forecast NN2PC's funds from operations (FFO) to be about THB1.8-THB2.0 billion in 2022. The company had THB1.6 billion cash on hand as of December 2021, after deduction of cash paid for the matured debentures. Cash on hand plus FFO should be sufficient to cover debenture repayments of around THB1.2 billion in 2023.

Debt structure

As of December 2021, NN2PC's total debt of THB12.9 billion was entirely owed to senior unsecured debenture holders, suggesting an absence of priority debt.

Ratings determined by group profile

NN2PC is a subsidiary of CKP. CKP owns 46% of NN2PC and has direct control over NN2PC's business and financial policies. NN2PC generally contributes about 60%-70% of EBITDA to CKP's entire power portfolio. Given its critical earnings contribution to the group, we assess NN2PC as a core subsidiary of CKP. Based on our "Group Rating Methodology", the company rating on NN2PC is equivalent to that assigned to CKP.

BASE-CASE ASSUMPTIONS

- Electricity sale to EGAT is forecast to be 1,600-1,650 GWh in 2022 and 2,000 GWh per year in 2023-2024.
- Plant availability factor during 2022-2024 is expected to be higher than 96%.
- The energy tariff will be adjusted in accordance with the terms of the PPA.
- Operation and maintenance (O&M) expenses are expected to increase by about 3% per annum during 2022-2024.
- During 2022-2024, bonds to be repaid as maturity

RATING OUTLOOK

The "stable" outlook reflects our expectation that NN2PC will continue to receive stable cash flows from its power plant, and that the water inflow will stay around its average level in the longer term. We expect NN2PC to continue its efficient management of power generation and water flow into the reservoir, enabling it to achieve the annual supply targets throughout the remaining period of the PPA.

RATING SENSITIVITIES

A credit upside scenario for NN2PC's SACP is limited in the next 12-18 months. A downward revision to the SACP could occur if NN2PC's performance is worse than our expectation, resulting in further material deterioration of cash generation against debt obligations. This could occur from prolonged low levels of water inflow.

According to TRIS Rating's "Group Rating Methodology", any change in CKP's rating will have direct impact on NN2PC's ratings.

COMPANY OVERVIEW

NN2PC is one of the flagship companies of the power segment under the CH. Karnchang Group (CK Group). NN2PC was incorporated in 2007, under the laws of the Lao PDR, to own and operate the Nam Ngum 2 hydroelectric power plant in the Lao PDR. The major shareholders of NN2PC comprise CKP (with a 46% stake), Ratchaburi Electricity Generating Holding PLC (RATCH; 25%), and EDL-Generation PLC (EDL-Gen; 25%).

The Nam Ngum 2 hydroelectric power plant has an installed capacity of 615 MW. The technology used in the hydroelectric power plant is proven, and this technology helps enhance the reliability of the plant. NN2PC's plant contains three Francis turbines, manufactured by Toshiba. Each turbine is connected to a 205-MW synchronous generator.

The power plant is located on the Nam Ngum river, 35 kilometers (km) upstream from the 150-MW Nam Ngum 1 hydroelectric power plant. The annual supply target is derived from a water inflow of 6,270 mcm, the yearly average calculated from historical records kept during 1949-2003. The construction of the power plant was completed on time within the budget of about THB31 billion. The plant commenced initial operations in March 2011 and commercial operations in January 2013.

KEY OPERATING PERFORMANCE
Table 1: Performance Statistics of Nam Ngum 2 Hydroelectric Power Plant

Plant Performance	2021	2020	2019	2018	2017
Electricity generation (GWh)	1,845	920	1,685	2,454	1,857
Total availability (%)	97.0	97.1	92.0	93.0	98.1
Planned outage (GWh)	79.4	96.3	77.7	347.7	20.1
Maintenance outage (GWh)	58.5	29.9	202.1	7.1	19.7
Short notice and forced outage (GWh)	4.5	0.3	7.9	1.0	5.9
Reservoir Management					
Water level at the end of period (masl)	361.1	368.7	355.2	368.4	364.1
Water inflow (mcm)	4,301	3,934	3,639	10,535	5,104
Reservoir stock at the end of period (mcm)	3,420	4,240	2,841	4,209	3,749

Notes: Electricity generation = PE + SE + EE + Test Energy
 GWh = gigawatt-hours
 masl = meter above sea level
 mcm = million cubic meters

Source: NN2PC

FINANCIAL STATISTICS AND KEY FINANCIAL RATIOS

Unit: Mil. THB

	-----Year Ended 31 December-----				
	2021	2020	2019	2018	2017
Total operating revenues	3,467	2,095	3,486	3,949	3,319
Earnings before interest and taxes (EBIT)	1,787	263	1,438	2,124	1,423
Earnings before interest, taxes, depreciation, and amortization (EBITDA)	2,850	1,348	2,573	3,218	2,505
Funds from operations (FFO)	2,312	786	1,886	2,405	1,522
Adjusted interest expense	532	563	675	768	967
Capital expenditures	14	15	43	662	1,577
Total assets	24,071	24,272	25,692	27,779	27,629
Adjusted debt	10,935	12,313	12,599	13,423	14,732
Adjusted equity	10,412	9,845	10,788	11,002	10,228
Adjusted Ratios					
EBITDA margin (%)	82.22	64.35	73.80	81.47	75.48
Pretax return on permanent capital (%)	7.56	1.07	5.47	7.78	5.27
EBITDA interest coverage (times)	5.36	2.40	3.81	4.19	2.59
Debt to EBITDA (times)	3.84	9.13	4.90	4.17	5.88
FFO to debt (%)	21.14	6.38	14.97	17.92	10.33
Debt to capitalization (%)	51.22	55.57	53.87	54.96	59.02

RELATED CRITERIA

- Key Financial Ratio and Adjustments for Corporate Issuers, 11 January 2022
- Issue Rating Criteria, 15 June 2021
- Group Rating Methodology, 13 January 2021
- Rating Methodology – Corporate, 26 July 2019

Nam Ngum 2 Power Co., Ltd. (NN2PC)

Company Rating:	A
Issue Ratings:	
NNPC233A: THB800 million senior unsecured debentures due 2023	A
NNPC239A: THB400 million senior unsecured debentures due 2023	A
NNPC240A: THB1,400 million senior unsecured debentures due 2024	A
NNPC253A: THB600 million senior unsecured debentures due 2025	A
NNPC259A: THB600 million senior unsecured debentures due 2025	A
NNPC273A: THB2,000 million senior unsecured debentures due 2027	A
NNPC270A: THB3,600 million senior unsecured debentures due 2027	A
NNPC303A: THB3,000 million senior unsecured debentures due 2030	A
Rating Outlook:	Stable

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