

# NAM NGUM 2 POWER CO., LTD.

No. 52/2023  
31 March 2023

## CORPORATES

<b>Company Rating:</b>	A
<b>Issue Ratings:</b>	
Senior unsecured	A
<b>Outlook:</b>	Stable

**Last Review Date:** 24/03/22

### 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 its outstanding senior unsecured debentures at “A” with a “stable” outlook. The ratings mirror the well-structured contractual framework and reliable cash flows received from a long-term power purchase agreement (PPA) with the Electricity Generating Authority of Thailand (EGAT, rated “AAA/stable”). The ratings also consider NN2PC’s track record of efficient plant operation and adequate liquidity. However, the ratings are tempered by the uncertainty 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”). We expect NN2PC will continue to render a crucial portion of earnings to the group.

## KEY RATING CONSIDERATIONS

### Long-term PPA with credible off-taker

NN2PC owns and operates a large hydropower plant 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). NN2PC sells electricity entirely to EGAT under a 25-year PPA. The credit strength of EGAT means low counterparty risk for NN2PC.

The PPA is on a take-or-pay basis, which considerably 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).

Although NN2PC’s hydropower plant is operating in the Lao PDR, we view the country risk is considerably curtailed as the project is established under the collaboration between the government of Thailand and the government of the Laos (GOL) in relation to the power sale to Thailand. In addition, the concession agreement with the GOL stipulates that NN2PC has the right to receive and hold its revenue accounts outside the Lao PDR. These mitigate the risks of fund transferability and currency convertibility. Accordingly, payments from EGAT under the PPA are paid to NN2PC’s account in Thailand.

### Proven record of efficient plant operation

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 an unprecedented water supply shortage in 2019. In 2023-2025, NN2PC’s power plant is scheduled for a major overhaul.

### Susceptibility to resource risk

We view NN2PC is highly susceptible to resource risk. The performance of NN2PC’s hydropower plant essentially hinges on water availability, which can vary significantly from year to year. High variability in water inflow can lead to

unsteady electrical generation and result in a falloff in revenues during certain periods of time. This could impact available cash to cover fixed costs. Although NN2PC's reservoir storage provides some cushion from short-term fluctuations, drawn-out periods of drought could jeopardize power generation and lower revenues during an affected period.

#### **Risks mitigation through contractual framework**

The contractual framework of PPA substantially mitigates the water supply risk. NN2PC is allowed 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 yet below long-term average**

The annual water inflow has continued to show an improving trend after NN2PC had experienced the lowest water inflow of 3,639 million cubic meters (mcm) in 2019. In 2022, the water inflow was 4,810 mcm, 11.8% increase from 4,301 mcm in 2021. However, the water inflow in 2022 was still below the annual average of 6,377 mcm (average from 1954-2018). The water level in NN2PC's reservoir was at 358.1 meters above sea level (masl) at the end of 2022. At this level of water, we expect NN2PC to conservatively operate its power production to manage the water level to fulfill its obligations under the PPA in 2023.

#### **Conservative forecast of future performance**

Despite a slight drop in earnings, NN2PC's performance in 2022 remained in line with our expectation. The company conducted a prudent electricity declaration in order to fulfill the obligations under the PPA. As a result, total electricity generation decreased by 10% year-on-year (y-o-y) to 1,655 GWh. The total electricity generation comprised PE of 1,644 GWh and SE of 11 GWh. The PE achieved about 74% of the annual supply target reflected the lower-than-average level of water inflows, a key factor for a hydropower plant.

NN2PC's earnings before interest, taxes, depreciation, and amortization (EBITDA) came in at THB2.73 billion in 2022, a slight 4% drop from 2021. Adjusted net debt was THB9.4 billion as of 2022, decreased from THB10.9 billion as of 2021. Consequently, the debt to EBITDA ratio declined to 3.4 times. The debt to capitalization ratio stood at 45.8% as of 2022.

Given the pattern of water flow in the recent years, we conduct a conservative assumption of power output in our base case forecast for 2023-2025. We project NN2PC to sell electricity of about 1,650 GWh per year in 2023-2024, compared with our previous forecast of 2,000 GWh per year. For 2025, we expect a recovery of water inflow with an assumption for electricity sold of 1,800 GWh. As a result, we project NN2PC's EBITDA will arrive at THB2.6-THB2.7 billion per year in 2023-2024 and THB3 billion in 2025.

#### **Debt still on downward path**

We do not expect NN2PC to make any major investments in the foreseeable future other than the planned major maintenances. We forecast NN2PC to spend maintenance capital expenditure totaled THB141 million in 2023-2025. Given the scheduled debt repayment and NN2PC's financing plan, we forecast adjusted net debt to steadily decline to THB4.4 billion by 2025. The debt to EBITDA ratio is projected to be 2.8 times in 2023, then decline to 2 times and 1.5 times in 2024 and 2025 respectively. We expect the debt to capitalization ratio to be around 40% in 2023, then fall below 30% by 2025.

#### **Adequate cash to meet near-term debt obligations**

NN2PC has maintained a prudent internal policy to maintain cash reserves 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. As of December 2022, NN2PC had cash on hand of around THB2.8 billion. We forecast NN2PC's funds from operations (FFO) to be about THB2.1 billion in 2023. Cash on hand plus FFO are sufficient to cover debt coming due in the next 12 months of THB1.3 billion.

#### **Debt structure**

As of December 2022, NN2PC's total debt of THB12.5 billion was entirely owed to senior unsecured debenture holders, suggesting an absence of priority debt.

## Core subsidiary of CKP

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 1,650 GWh in 2023-2024 and 1,800 GWh per year in 2025.
- Plant availability factor of above 92% in 2023-2025
- 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 in 2023-2025.
- Total capital expenditure for major maintenance of THB141 million in 2023-2025.

## RATING OUTLOOK

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

## RATING SENSITIVITIES

The prospect of upward revision on NN2PC's SACP is limited. 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**

<b>Plant Performance</b>	<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>
Electricity generation (GWh)	1,659	1,845	920	1,685	2,454
Total availability (%)	97.7	97.0	97.1	92.0	93.0
Planned outage (GWh)	104.0	79.4	96.3	77.7	347.7
Maintenance outage (GWh)	4.2	58.5	29.9	202.1	7.1
Short notice and forced outage (GWh)	0.9	4.5	0.3	7.9	1.0
<b>Reservoir Management</b>					
Water level at the end of period (masl)	358.1	361.1	368.7	355.2	368.4
Water inflow (mcm)	4,810	4,301	3,934	3,639	10,535
Reservoir stock at the end of period (mcm)	3,266	3,420	4,240	2,841	4,209

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-----				
	<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>
Total operating revenues	3,616	3,769	2,063	3,403	3,949
Earnings before interest and taxes (EBIT)	1,671	1,787	263	1,438	2,124
Earnings before interest, taxes, depreciation, and amortization (EBITDA)	2,729	2,850	1,348	2,573	3,218
Funds from operations (FFO)	2,196	2,312	786	1,886	2,405
Adjusted interest expense	501	532	563	675	768
Capital expenditures	27	14	15	43	662
Total assets	24,174	24,071	24,272	25,692	27,779
Adjusted debt	9,372	10,935	12,313	12,599	13,423
Adjusted equity	11,110	10,412	9,845	10,788	11,002
<b>Adjusted Ratios</b>					
EBITDA margin (%)	75.41	75.43	64.36	73.79	81.47
Pretax return on permanent capital (%)	7.10	7.56	1.07	5.47	7.78
EBITDA interest coverage (times)	5.45	5.36	2.40	3.81	4.19
Debt to EBITDA (times)	3.43	3.84	9.13	4.90	4.17
FFO to debt (%)	23.43	21.14	6.38	14.97	17.92
Debt to capitalization (%)	45.76	51.22	55.57	53.87	54.96

## RELATED CRITERIA

- Group Rating Methodology, 7 September 2022
- Corporate Rating Methodology, 15 July 2022
- Key Financial Ratios and Adjustments for Corporate Issuers, 11 January 2022
- Issue Rating Criteria, 15 June 2021

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

<b>Company Rating:</b>	A
<b>Issue Ratings:</b>	
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
<b>Rating Outlook:</b>	Stable

### TRIS Rating Co., Ltd.

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