



QUALITY MEGAWATTS

FOR SUSTAINABLE VALUE

Management's Discussion and Analysis for the 2nd Quarter 2023

Banpu Power Public Company Limited and Subsidiaries



1. Management Discussion and Analysis

The onset of the El Niño phenomenon early this year has continued to impact the second quarter, with several countries experiencing the most severe hot weather in their history due to the extreme heatwave covering the northern hemisphere. This includes the state of Texas, United States, where the location of the natural gas power plants, Temple I and Temple II, have experienced temperatures higher than the normal average in June, and the electricity demand reached an all-time high in July. The company had prepared by conducting Spring Maintenance in May 2023 to ensure the continuous operation, efficiency, and responsiveness of the power plants to meet the high electricity consumption during this hot summer. Banpu Power continues to accelerate its efforts to enhance business operations with the aim of minimizing environmental impacts and fostering sustainable growth in the era of "Climate Change." It strives to be one of the driving forces towards a low-carbon society and a more sustainable world.

In the second quarter of 2023, Banpu Power achieved a net profit of THB 1,338 million, including an FX translation gain of THB 183 million. The company's EBITDA of THB 1,798 million was driven by efficient operations and high EAF at the HPC and BLCP power plants. Notably, the Temple I gas-fired power plant also reported strong EBITDA despite planned maintenance in May. The unexpected heat wave crisis in Texas led to a surge in electricity demand, contributing to the overall good profitability of Temple I.

The Company reported consolidated revenue of THB 2,918 million, mainly driven by the three CHPs in China which contributed THB 1,155 million. This reflected a decrease of THB 252 million, which represents an 18% decline compared to the same quarter last year due to reduced electricity sales and the impact of THB strengthening against the RMB. Despite these challenges, the Company successfully optimized power plant operations and benefitted from a 14% drop in average China coal price per ton, resulting in a positive gross profit turnaround for the three CHPs this quarter. Moreover, the Company recognized revenue from the Temple I gas-fired power plant at THB 1,763 million, a 45% decrease compared to the same quarter last year, attributed to reduced electricity sales because of a 24-day planned maintenance. However, the plant exhibited improved gross profit margins due to lower gas costs and strong electricity demand, reporting THB 492 million in gross profit for this quarter.

Total profit sharing was reported at THB 1,253 million, mainly from the HPC power plants which contributed to THB 1,051 million of share profit. Despite HPC conducted semi-annual test and short unplanned outage, it still maintained high Equivalent availability factor (EAF) of 90% for this quarter. The BLCP power plant reported a share profit of THB 189 million with high EAF at 99.8%. This is composed of THB 337 million of operating profit and THB 149 million of loss from deferred tax and foreign exchange translation. SLG power plant in China

reported a share profit of THB 9 million. The Nakoso power plant reported a profit sharing of 38 million baht, with expenses from maintenance shutdowns netted against compensation from the long-term service agreement. There was a share of losses from investments in renewable energy and energy technology businesses, totaling 33 million baht. This marks a remarkable improvement of 363 million baht compared to the same quarter of the previous year, primarily driven by the renewable energy business in Australia, the renewable energy and energy trading business in Japan, and the less impact of the exchange rate.

Banpu Power is fully aware of and places utmost importance on addressing climate change. We continue to push forward in fostering energy growth with quality megawatts as an integral part of our Greener & Smarter strategy. Our objective is to expand our power business portfolio by leveraging high efficiency, low emissions technologies (HELE), along with renewable energy, and fostering the growth of energy technology businesses that support clean energy. Our goal is to achieve a production capacity of 5,300 megawatts by 2025 and deliver sustainable returns and value to all of our stakeholders.

2. Group Performance Analysis

The analysis and explanation performance for the period ended 30 June 2023 and 2022:

Consolidated Statement of Income for the 2nd quarter ended 30 June 2023 and 2022:

Consolidated financial performance (Unit: Million Baht)	2Q2023	2Q2022	Change	
			Amount	%
Sales	2,918	4,377	(1,459)	-33%
Cost of sales	(2,410)	(3,899)	1,489	-38%
Gross profit	508	478	30	6%
Selling & Administrative expenses	(500)	(336)	(164)	49%
Share of profit from an associate and joint ventures	1,253	791	462	58%
Other Income (Expense)	507	(409)	917	224%
Other financial costs	(297)	(196)	(101)	52%
Profit before income taxes	1,471	328	1,143	349%
Income taxes	(36)	33	(70)	-208%
Profit for the period	1,435	361	1,074	298%
Owners of the company	1,338	685	653	95%
Non-controlling interests	97	(324)	421	-130%
Basic earnings per share (unit : Baht)	0.439	0.225	0.214	95%

The group reported 2Q2023 net profit at THB 1,338 million, increased by THB 653 million or 95% compared to 2Q2022. This was mainly from an increase in profit sharing from an associate and joint ventures from renewable energy and energy technology business in Australia, renewable energy and energy trading business in Japan and a lesser impact from foreign exchange rate conversion. Additionally, SLG power plant reported profits continually since the prior quarter from higher sales volume and entering a long-term coal supply contract at favorable price, even though profit sharing from Nakoso power plant was decrease from the shut down for maintenance to improve efficiency and stability of the power plant in the long run. Temple I gas -fired power plant was shut down for a planned maintenance during this quarter but gross margin ratio was better, driven by higher electricity demand in Texas which encountered severe heat wave with all- time record high temperature, also there was a recognition of gain on derivative instruments during this quarter.

Details of the group operating performance for 2Q2023 were described as followings:

Sales, Cost of sales and Gross profit

Sales reported at THB 2,918 million, decreased by THB 1,459 million or 33% compared to 2Q2022. This was mainly from a decrease in power and steam sales from CHP plants in China of THB 252 million and from electricity sales from Temple I gas-fired power plant in USA of THB 1,207 million. Details were described as followings:

Items	Power Sold (GWh)		Steam & Others Sold (Million Tonnes)		Average Power tariff (RMB/KWh)		Average Steam & others price (RMB/Tonne)	
	2Q2023	2Q2022	2Q2023	2Q2022	2Q2023	2Q2022	2Q2023	2Q2022
100 % Basis								
Zhending CHP	32.65	42.71	0.08	0.08	0.47	0.47	214.87	209.29
Luannan CHP	66.11	53.85	0.64	0.48	0.40	0.40	141.81	139.49
Zouping CHP	42.94	102.12	0.39	0.48	0.39	0.46	174.63	189.28
Total CHP Power Plant	141.70	198.68	1.11	1.04	0.41	0.45	158.59	167.34
	(GWh)				(USD/MWh)			
Temple I Power Plant	952.46	1,109.05	-	-	42.85	77.66	-	-

Combined Heat and Power (CHP) plants in China: Decrease THB 252 million

A decrease of sales from CHP plants compared to 2Q2022 was derived from:

1. A decrease of THB 150 million from power sales. This was a result of a decrease in demand from industrial customers of Zhouping CHP plant and Zhending CHP plant that caused a decrease in sales volume of 56.98 GWh and a decrease in power sales tariff of 0.04 RMB. Power sales tariff in 2Q2023 was 0.41 RMB (2Q2022: 0.45 RMB).
2. An increase of THB 9 million from steam sales and others, resulting from an increase in demand of steam sales from industrial customers of Luannan CHP, while a decrease in demand from industrial customers of Zhouping CHP, led to an increase in steam sales of 0.07 million tonnes, while average price of steam sales and others per tonne decreased by RMB 8.75. Average sale price per tonne in 2Q2023 was 158.59 RMB (2Q2022: 167.34 RMB).
3. The effects of foreign exchange rate translation of THB 111 million due to an appreciation of THB currency against RMB currency compared to 2Q2022. This caused a lesser revenue in THB currency when converting from revenue in RMB currency. Average exchange rate of RMB/THB in 2Q2023 was THB 4.9154 (2Q2022: THB 5.2001).

Temple I Gas-Fired Power Plant in USA: Decrease THB 1,207 million

Temple I gas-fired power plant business reported a decrease in sales volume of 156.59 GWh or 14% compared to 2Q2022, resulting from 24 days maintenance shutdown during this quarter, also a decrease in sales

price per MWh by \$34.81 from a decrease in natural gas price during this year. Average sales price in 2Q2023 was \$42.85 (2Q2022: \$77.66).

**Cost of sales:
Decrease 38%**

Cost of sales reported THB 2,410 million, decreased by THB 1,489 million compared to 2Q2022 was derived from:

1. CHP Plants in China that cost of sales decreased by THB 314 million from:
 - A decrease in coal cost THB 301 million was driven by a decrease in coal used of 0.02 million tonnes. The coal used in 2Q2023 was 0.16 million tonnes (2Q2022 :0.18 million tons). Average coal cost per tonne in 2Q2023 was RMB 1,035 or decreased by RMB 163 (2Q2022: RMB 1,198)
 - The effects from an appreciation of THB currency to foreign exchange rate translation of THB 13 million. This resulted in lesser cost of sales in THB currency when converting from cost of sales in RMB currency. Average exchange rate of RMB/THB in 2Q2023 was THB 4.9154 (2Q2022: THB 5.2001).
2. Temple I gas-fired power plant in USA that cost of sales decreased by THB 1,175 million was a result from:
 - A decrease in cost of natural gas THB 1,458 million from a decrease in average cost of sales \$5.08 per Mcf. The average cost of sales per Mcf was \$2.22. (2Q2022: \$7.29). Also, from a decrease in natural gas consumption of 1.12 million cubic feet. Average gas used in 2Q2023 was 6.75 million cubic feet (2Q2022: 7.87 million cubic feet).
 - The effects from a depreciation of THB currency against USD currency of THB 283 million. This caused a higher cost of sales in THB currency when converting from USD currency. Average exchange rate of USD/THB in 2Q2023 was THB 34.4783 (2Q2022: THB 34.3970)

**Gross profit:
Increase 6%**

Gross profit was THB 508 million, or increased by THB 30 million compared to 2Q2022 was from:

1. An increase in operating performance from CHP plants in China of THB 63 million from higher steam sales volume and a decrease in coal cost compared to 2Q2022.
2. A decrease in operating performance from Temple I gas-fired power plant in USA of THB 33 million with better gross margin at 28% (2Q2022:18%). However, sales volume decreased compared to 2Q2022 due to the shut down as Spring Maintenance plan.

Selling and Administrative expenses: Increase 49%

Administrative expenses of THB 500 million increased by THB 164 million compared to 2Q2022. This was mainly from administrative expense for business expansion to power retail market in USA.

Items	Profit (loss) sharing		Increase/(Decrease)	
	2Q2023	2Q2022	Amount	%
(Unit: Million Baht)				
BLCP	189	32	157	499%
HPC & PFMC	1,051	1,293	(242)	-19%
SLG	9	(213)	222	104%
Holding Company for Nakoso power plant	38	76	(38)	-50%
Banpu Next	(33)	(396)	363	92%
Total	1,253	791	462	58%

Share of profit from joint ventures and associates: Increase 58%

Recognition of profit sharing from joint ventures and an associate was increased by THB 462 million compared to 2Q2022 was a net result of:

1. A decrease in loss sharing recognition from investment in renewable power and energy technology business of THB 363 million, primary from renewable energy business in Australia, renewable energy and energy trading business in Japan, and a lesser impact from foreign exchange rate conversion compared to 2Q2022.
2. An increase in profit sharing recognition from BLCP of THB 157 million, which was mainly an increase in operating profit of THB 56 million. This included a decrease in deferred tax and loss on foreign exchange rate translation, totaling THB 101 million.
3. An increase in profit sharing recognition from SLG power plant of THB 222 million resulting from better operating performance due to higher sales volume and entering a coal supply contract at favorable price. The coal price decreased by 29% compared to 2Q2022 led to substantially decrease in coal cost.
4. A decrease in profit sharing recognition from Nakoso power plant in Japan of THB 38 million. This was a result of power plant shut down for maintenance, net with compensation under long term service agreement condition of unable to achieve agreed upon Equivalent Availability Factor (EAF) due to shut down for maintenance to improve efficiency and stability in the long run.
5. A decrease in profit sharing recognition from HPC power plant and PFMC of THB 242 million. This was a decrease in operating performance of THB 80 million, resulting from half-year inspection and unplanned shutdown, however, the plant attained high level of EAF at 90% and recognized a decrease in gain on exchange rate of THB 162 million.

Other income

Other income of THB 507 million was comprised of:

1. Net gain on financial derivatives THB 99 million, that was unrealized gain on fair value of financial derivatives of THB 56 million and realized gain on fair value of financial derivatives of THB 43 million.
2. Interest income of THB 72 million.
3. Management fee income of THB 38 million, mainly was management fees charged to related companies and joint ventures.
4. Net compensation from insurance claim due to equipment replacement of Temple I gas-fired power plant under insurance contract of THB 76 million.
5. Net gain on foreign exchange rate of THB 183 million was mainly from unrealized gain on exchange rate from USD currency loan from related party at the end of the period caused by a depreciation of THB currency against USD currency compared to the prior year. Average exchange rate of USD/THB for 2Q2023 was THB 35.5893 (31 Dec 2022: THB 34.5624).
6. Other income of THB 39 million comprised of:
 - Pipeline connecting fee income charged to new steam customers of CHP plants in China of THB 4 million.
 - Ash and slag sales from CHP plants in China of THB 6 million.
 - Subsidy income from China government for electricity production of THB 14 million.
 - Other income of THB 15 million.

Interest expenses and finance cost: Increase 52%

Interest expenses and finance cost of THB 297 million, increased by THB 101 million compared to 2Q2022, primarily was from debenture issuance during 2Q2022 and from higher interest rates.

Income tax: Increase 208%

Income tax expenses of THB 36 million, increased by THB 70 million compared to 2Q2022. This comprised of:

1. An increase of recognition in deferred income tax asset of THB 54 million, was from tax loss utilization due to higher operating profit from Temple I gas-fired power plant in USA.
2. An increase in corporate income tax expense of THB 16 million, mostly from higher operating profit from CHP power plant business in China.

Net profit for the 2nd quarter ended 30 June 2023 reported at THB 1,338 million, increased by THB 653 million compared to 2Q2022.

Basic Earnings per Share reported at THB 0.439 (2Q2022: THB 0.225)

3. Statement of Consolidated Financial Position

Statement of Consolidated Financial Position as of 30 June 2023 in comparison with Statements of Consolidated Financial Position as of 31 December 2022

Items (Unit: Million Baht)	Financial Position		Increase/(Decrease)	
	30-Jun-23	31-Dec-22	Amount	%
Assets	78,876	77,665	1,211	2%
Liabilities	24,605	24,873	(268)	-1%
Equity	54,271	52,792	1,479	3%

3.1 Total assets of THB 78,876 million, increased by THB 1,211 million or 2% compared to the 31 December 2022, with mainly described as follows:

Financial Position (Unit: Million Baht)	Assets		Increase/(Decrease)	
	30-Jun-23	31-Dec-22	Amount	%
Cash and cash equivalents	2,637	4,055	(1,418)	-35%
Financial assets measured at fair value	164	58	106	184%
Trade accounts receivable, net	2,193	1,754	439	25%
Fuel and Spare parts & supplies, net	1,153	1,101	52	5%
Current portion of dividend receivables from related parties	64	50	14	28%
Other current assets	4,414	4,652	(238)	-5%
Total current assets	10,625	11,670	(1,046)	-9%
Dividend receivables from related parties	-	114	(114)	-100%
Investments in an associate and joint ventures	43,374	40,513	2,862	7%
Property, plant and equipment, net	22,926	22,876	50	0%
Right of use assets, net	545	567	(22)	-4%
Other non current assets	1,406	1,926	(520)	-27%
Total non current assets	68,251	65,995	2,256	3%
Total assets	78,876	77,665	1,211	2%

- Cash and cash equivalents of THB 2,637 million, decreased by THB 1,418 million or 35% (Explanation in no. 4 Statement of Consolidated Cash Flows).
- Financial assets measured at fair value of THB 164 million, increased by THB 106 million or 184 % was from an addition of THB 426 million; net with redemption of THB 320 million.

- Account receivable of THB 2,193 million increased by THB 439 million or 25%. This was an increase from Temple I gas-fired power plant of THB 565 million, and effect from foreign exchange conversion of THB 4 million, while a decrease from CHP plant in China of THB 130 million due to a decrease in sales volume and average sale price compared to prior year.
- Fuel and Spare parts, net of THB 1,153 million, increased by THB 52 million or 5%. This was an increase from CHP plant in China of THB 111 million and effect from foreign exchange conversion of THB 5 million, while a decrease from Temple I gas-fired power plant of THB 64 million.
- Other current assets of THB 4,414 million, decreased by THB 238 million or 5% was mainly from:
 1. A decrease in short-term loans to related parties of THB 245 million. This was a net result of cash received THB 276 million from settlement and unrealized gain on foreign exchange conversion of THB 31 million.
 2. A decrease in accrued interest income from related parties of THB 93 million. This was a net result of a recognition of interest income during the period of THB 109 million, cash receives THB 199 million from settlement, and unrealized loss on foreign exchange rate translation of THB 3 million.
 3. An increase from the current portion of long-term loan to related parties of THB 160 million was a reclassification from non-current part.
 4. A decrease from other accrued income and other receivable of THB 60 million.
- Current and non-current portions of dividend receivables from related party totaling THB 64 million, decrease by 100 million from dividend receivables from a domestic power plant joint venture.

Dividend receivables from related parties (Unit: Million Baht)	Financial Position		Increase/(Decrease)	
	30-Jun-23	31-Dec-22	Amount	%
Current portion of dividend receivables from related parties	64	50	14	28%
Dividend receivables from related parties	-	114	(114)	-100%
Total	64	164	(100)	-61%

- Investment in joint ventures and associates of THB 43,374 million, increased by THB 2,862 million or 7%. This was a recognition of shares of profits of THB 3,709 million, other comprehensive loss of THB 91 million, offset with unrealized loss on foreign exchange rate translation at the end of period of THB 218 million, and dividend declaration during the period of THB 538 million.

- Net property plant and equipment of THB 22,926 million, increased by THB 50 million or 1%. This was from additions of machinery and equipment of CHP plants THB 525 million net with write-off of THB 218 million and depreciation charges THB 587 million and unrealized gain on foreign exchange rate translation at the end of period of THB 330 million.
- Right-of-use assets of THB 545 million, decreased by THB 22 million or 4%, was the amortization THB 15 million and unrealized loss on foreign exchange rate translation at the end of period 7 million.
- Other non-current assets of THB 1,406 million, decreased by THB 520 million or 27% was mainly from:
 1. A decrease in loan to related parties of THB 642 million resulting from reclassification to current portion of THB 160 million, received from loan settlement of THB 475 million and unrealized loss on foreign exchange rate translation at the end of period of THB 7 million.
 2. An increase in deferred tax assets of THB 55 million, mainly from tax loss from Temple I gas-fired power plant.
 3. An increase in other assets of THB 67 million.

3.2 Total liabilities of THB 24,605 million, decreased by THB 268 million or 1% compared to total liabilities as of 31 December 2022 with details mainly described as follows:

Financial Position (Unit: Million Baht)	Liabilities		Increase/(Decrease)	
	30-Jun-23	31-Dec-22	Amount	%
Short-term loans from financial institutions	604	242	362	150%
Trade accounts payable	327	220	107	49%
Current portion of long-term loans from financial institutions	1,215	1,231	(16)	-1%
Current portion of lease liabilities	8	13	(5)	-38%
Other current liabilities	7,408	7,680	(272)	-4%
Total current liabilities	9,562	9,385	177	2%
Long-term loans from financial institutions, net	9,456	9,860	(404)	-4%
Debenture, net	5,493	5,492	1	0%
Lease liabilities	3	4	(1)	-32%
Other non current liabilities	91	131	(40)	-31%
Total non-current liabilities	15,043	15,488	(445)	-3%
Total liabilities	24,605	24,873	(268)	-1%

- Short-term loans from financial institutions of THB 604 million, increased by THB 362 million or 150 % was from a net result of additional loans THB 2,656 million and repayment THB 2,287 million. Also, there was an unrealized gain on foreign exchange rate translation

at the end of period of THB 7 million on RMB currency loan, resulting from an appreciation of THB currency against RMB currency. Average exchange rate of RMB/THB as of 30 June 2023 was THB 4.9043 (31 Dec 2022: THB 4.9664).

- Current portion of long-term loans from financial institutions of THB 1,215 million, decreased by THB 16 million or 1%. This was a net result of reclassification from non-current portion THB 485 million (including net front end fee), repayment THB 500 million and from unrealized gain on foreign exchange rate translation at the end of period of THB 1 million.
- Other current liabilities of THB 7,408 million, decrease by THB 272 million or 4% was mainly from:
 1. A decrease in advance received from steam residential customers CHP plants in China THB 231 million.
 2. A decrease in account payable related party THB 363 million.
 3. An increase in financial derivative liabilities of Temple I gas – fired power plant THB 716 million.
 4. An increase in current portion of long-term loan from related party THB 415 million due to additions of THB 276 million and unrealized loss on foreign exchange rate translation at the end of period of THB 139 million.
 5. An increase in payable from asset purchase of CHP plant of THB 10 million.
 6. A decrease in other accrued expense THB 275 million from payment during the period.
- Long-term loans from financial institutions of THB 9,456 million, decrease by THB 404 million or 4%, was a result of reclassification to current portion THB 485 million, additions of THB 25 million, and unrealized loss on foreign exchange rate translation at the end of period THB 56 million on USD loan from a depreciation of THB currency against USD currency. Average exchange rate of USD/THB as of 30 June 2023 was THB 35.5893 (31 Dec 2022: THB 34.5624)

3.3 Shareholders' equity of THB 54,271 million, an increase of THB 1,479 million or 3% compared to shareholders' equity as of 31 December 2022 was due to:

Financial Position (Unit: Million Baht)	Equity		+ / (-)	
	30-Jun-23	31-Dec-22	Amount	%
Owners of the parent	50,367	48,481	1,886	4%
Non-controlling interests	3,904	4,311	(407)	-9%
Total equity	54,271	52,792	1,479	3%

- An increase of THB 3,452 million from net profits for 6 months period.
- A decrease of THB 109 million from the change in fair value of hedged financial instruments.
- A decrease of THB 294 million from cashflows hedge reserves of associate and joint venture.
- A decrease of THB 248 million from foreign exchange translation of subsidiaries and joint ventures financial statements.
- A decrease of THB 914 million from dividend paid.
- A decrease of THB 407 million from non-controlling interests.
- A decrease in remeasurement of employment benefit of THB 1 million.

Net debt to equity ratio as of 30 June 2023 from consolidated financial positions was 0.25 times (31 December 2022: 0.24 time)

4. Statements of Consolidated Cash Flows

Statement of consolidated cash flows for 2nd quarter ended 30 June 2023 reported a decrease of net cash flows from 31 December 2022 total of THB 1,418 million (included exchange rate translation gain of THB 3 million). The consolidated cash flows were as follows:

Cash flow (Unit : Million Baht)	Consolidated
Net cash used in operating activities	(1,654)
Net cash receipts from investing activities	986
Net cash used in financing activities	(753)
Net decrease in cash and cash equivalents	(1,421)
Exchange differences on cash and cash equivalents	3
Cash and cash equivalents at beginning of the period	4,055
Cash and cash equivalents at end of the period	2,637

4.1 Net cash outflows from operating activities of THB 1,654 million comprised of:

- Collection from sales of power and steam THB 2,545 million.
- Payment to suppliers and contractors THB 3,581 million.
- Payment of interest expense THB 566 million.
- Payment of corporate income tax THB 52 million.

4.2 Net cash inflows from investing activities of THB 986 million comprised of:

- Receipts of dividends from joint ventures THB 638 million.
- Receipts from interest income THB 218 million.
- Receipts from investment in debt instruments THB 320 million.
- Receipts from loan to related party THB 753 million.
- Payments for machines, equipment, and project in progress THB 516 million.
- Payments for investment in debt instruments THB 427 million.

4.3 Net cash outflows from financing activities of THB 753 million comprised of:

- Receipts from short-term and long- term loans from financial institutions THB 2,949 million.
- Repayments of short-term and long-term loans from financial institutions THB 2,788 million.
- Payment for dividend of THB 914 million.