



Banpu Power Public Company Limited and Subsidiaries

Management's Discussion and Analysis

The Group Performance
For The Year Ended 2021



1. Management Discussion and Analysis

Banpu Power continues to accelerate its portfolio transformation through new investment in power plant development located in various countries especially with high efficiency, low emission (HELE) technologies. During 2021, the Company expanded its equity capacity equivalent in both thermal power plants and renewables by 541 MW in the high-growth countries and entered wholesale electricity market with advanced trading system and mechanism.

The Company reported its 2021 net profit of THB 3,127 million including the FX translation gain of THB 374 million due to weakening of the Thai currency against US Dollar. HPC operated with high efficiency and continue to provide firm share of profit. The Company had additional profit from Nakoso in Japan and Temple I in the United States. Its EBITDA was reported at THB 3,487 million.

The revenue for 2021 was reported at THB 6,784 million, increased by 23% compared to last year. This derived from 3 Combined Heat and Power Plants (CHPs) in PRC for THB 6,112 million. Although CHPs plants experienced high domestic coal cost over the year, the Company has mitigated this risk by counter measures such as implementing centralized coal procurement system, negotiating with its counterparty to raise steam selling price to reflect the higher coal cost, proactively optimize the plant operation mode to protect bottom line, and carefully manage its coal inventory to run the plant with smooth operation and be able to provide electricity and steam to serve industrial customers and residential customers efficiently. Moreover, there was additional revenue from Temple I of THB 673 million, the Company started to recognize Temple I revenue since November 2021 onwards.

The share of profit from associates and joint ventures was reported at THB 2,974 million, from HPC power plant equivalent to THB 3,612 million, increased by 12% from last year. It operated with high Equivalent Availability Factor (EAF) at 85%, resulting from an effective maintenance plan for the power plant. BLCPP power plant reported its share of profit of THB 215 million included impact from deferred tax and unrealized FX translation loss of THB 552 million. Nakoso power plant reported its share of profit of THB 210 million which started to recognize profit since Quarter 2. Although SLG power plant in PRC has started its electricity generation dispatch, it experienced a challenge for the high coal price, resulting in its share of loss of THB 542 million. For renewable and energy technology business invested through Banpu Next has reported its share of loss of THB 521 million mainly from energy trading business due to the market situation.

Banpu Power will continue its journey of sustainable development by enhancing the efficiency of its existing power plants to generate stable cash flow as well as seeking new investment opportunity through its synergy among Banpu group in order to optimize its invested asset value. Besides, the Company will focus to expand more in clean energy business and develop its existing business to meet future energy demand. The Company will also seek the investment opportunities in the high-growth potential regions with government policy support to achieve its capacity target of 5,300 MW within 2025 as planned.

2. Group Performance Analysis

The analysis and explanation performance for the year ended 31 December 2021 and 2020:

Consolidated Statement of Income for the year ended 31 December 2021 and 2020:

Consolidated financial performance (Unit: Million Baht)	Y2021	Y2020	Change	
			Amount	%
Sales	6,784	5,506	1,278	23%
Cost of sales	(6,824)	(4,391)	(2,433)	55%
Gross profit	(40)	1,115	(1,155)	-104%
Administrative expenses	(1,103)	(946)	(157)	17%
Share of profit from an associate and joint ventures	2,974	3,565	(591)	-17%
Other Income	1,649	1,169	480	41%
Other financial costs	(249)	(243)	(6)	3%
Profit before income taxes	3,232	4,083	(851)	-21%
Income taxes	(57)	(300)	243	-81%
Profit for the year	3,174	3,783	(609)	-16%
Owners of the company	3,127	3,702	(575)	-16%
Non-controlling interests	47	81	(34)	-42%
Basic earnings per share (unit : Baht)	1.026	1.214	(0.188)	-15%

The group reported net profit for 2021 at THB 3,127 million, decreased by THB 575 million or 16 % compared to 2020. In 2021, the group recognized income and profit sharing from new power plant businesses invested during the year, which are Nakoso power plant in Japan, and Temple I gas-fired power plant in USA. Net with a decrease in profit sharing from BLCP power plant from recognition of defer tax expense and unrealized loss on FX translation, and a decrease in profit sharing from SLG power plant that has already started commercial operation while encountered high coal cost situation.

Details of the group operating performance for 2021 were described as followings:

Sales, Cost of sales and Gross profit

Sales reported at THB 6,784 million, increased by THB 1,278 million or 23% compared to 2020. This was mainly from higher steam sales and others from CHP plants in China of THB 824 million and from electricity sales from gas-fired power plant in USA of THB 673 million, also the group did not consolidate income from solar power plant business in China and energy trading business in Japan in 2021 as a result from group restructuring since March 2020. Details were described as followings:

Items	Power Sold (GWh)		Steam & Others Sold (Million Tonnes)		Average Power tariff (RMB/GWh)		Average Steam & others price (RMB/Tonne)	
	Y2021	Y2020	Y2021	Y2020	Y2021	Y2020	Y2021	Y2020
100 % Basis								
Zhending CHP	312.68	414.85	0.30	0.44	0.34	0.34	150.81	115.05
Luannan CHP	537.65	708.75	2.28	1.39	0.35	0.34	120.10	106.27
Zouping CHP	328.73	439.60	1.75	2.34	0.43	0.42	164.92	91.71
Total CHP Power Plant	1,179.07	1,563.20	4.33	4.17	0.37	0.36	140.38	99.04
Gas Fired Power Plants	417.23	-	-	-	-	-	-	-
Solar Power Plants	-	47.47	-	-	-	0.83	-	-

Combined Heat and Power (CHP) plants in China: increase THB 824 million

An increase of sales from CHP plants compared to 2020 was derived from:

1. An increase of THB 967million from steam sales and others. This was a result of an increase of steam sales of 0.16 million tonne, and an average price of steam sales per tonne also increased by RMB 41.34. An average price of steam per tonne was RMB 140.38 (2020: RMB 99.04).
2. A decrease of THB 656 million from power sales volume 384.13 GWh. was from plant optimization to manage higher coal cost situation. An average power tariff was RMB 0.37 per kWh (2020: RMB 0.36 per kWh).
3. The effects of foreign exchange rate translation of THB 513 million due to a depreciation of THB currency against RMB currency compared to 2020. This impacts to higher revenue in THB currency when converting from revenue in RMB currency. Average exchange rate of RMB/THB in 2021 was THB 4.9665 (2020: THB 4.5385).

Gas-Fired Power Plant in USA THB 673 million

Sales from gas-fired power plant business was THB 673 million from investment for business expansion in USA during 4Q21.

Solar Power Plant in China

Sales decreased from 2020 of THB 90 million due to change in type of investment from group restructuring since March 2020, that changed profit recognition from consolidating net profits from solar power plant business as subsidiaries, to be taking profit sharing as an associate.

Energy Trading in Japan

Sales decreased from 2020 of THB 129 million due to change in type of investment from group restructuring since March 2020, that changed profit recognition from consolidating net profits from Energy trading in Japan as subsidiaries, to be taking profit sharing as an associate.

Cost of sales: Increase 55 %

Cost of sales was THB 6,824 million, increased by THB 2,433 million compared to 2020 from:

1. CHP Power Plant in China that cost of sales increased by THB 1,884 million from:
 - An increase in coal cost THB 1,661 million was from a higher average coal cost of RMB 370 per ton. Average coal cost was RMB 942 per ton (2020: RMB 572 per ton) or increased by 65 % compared to 2020. Whereas production was decrease by 0.15 million ton compared to 2020.
 - The effects of foreign exchange rate translation of THB 223 million This impacted to higher cost of sales in THB currency when converting from cost of sales in RMB currency. Average exchange rate of RMB/THB in 2021 was THB 4.9665 (2020: THB 4.5385).
2. Gas-fired power plant in USA that cost of sales increased by THB 711 million from new investment for business expansion in USA.
3. Solar power plant in China and energy trading business in Japan that cost of sales was decreased by THB 48 million and THB 114 million, respectively from changes in type of investment according to the Group investment restructuring resulted in unable to consolidate cost of sales since March 2020.

Gross profit: Decrease 104%

Gross loss was THB 40 million, or decreased by THB 1,155 million compared to 2020 was from:

1. A decrease in operating performance from CHP Plant in China THB 1,060 million. This was a result from higher coal cost as market price, also the lower power sales volume from CHP plant in China due to plant optimization to as a counter measure against higher coal cost situation.
2. A decrease in operating performance from gas-fired power plant business in USA of THB 39 million aligned with seasonal power consumption demand in Texas and warmer climate.
3. A decrease from change in investment type from group investment restructuring of solar power plant business in China and energy trading business in Japan, total of THB 56 million.

Administrative expenses: Administrative expenses of THB 1,103 million, increased by THB 157 million compared to 2020 was mainly from the employee expense and from professional and consulting fees related to business expansion in Japan and USA.

increase 17%

Items (Unit: Million Baht)	Profit (loss) sharing		Increase/(Decrease)	
	Y2021	Y2020	Amount	%
BLCP	215	543	(328)	-60%
HPC & PFMC	3,612	3,223	389	12%
SLG	(542)	76	(618)	-812%
Holding Company for Solar Power in Japan	-	21	(21)	-100%
Holding Company for Nakoso power plant	210	-	210	100%
Banpu Next	(521)	(290)	(231)	80%
Holding Company for solar power in Indonesia	(0)	(8)	8	0%
Total	2,974	3,565	(591)	-17%

Share of profit from joint and ventures associates: Profit sharing from joint ventures and an associate was THB 2,974 million, decreased by THB 591 million compared to 2020 was a net result of:

decrease 17 %

1. A decrease in profit sharing from BLCP of THB 328 million. This was from deferred tax expense recognition and impact from foreign exchange conversion for accounting purpose of THB 231 million, whereas a decrease in operating performance of THB 97 million in accordance with revenue structure under long term power purchase agreement.
2. An increase in profit sharing from HPC power plant and PFMC total of THB 389 million, was from gain on exchange rate of THB 371 million and from an increase in operating performance of THB 18 million.
3. A higher recognition of loss sharing from SLG power plant of THB 618 million caused by higher coal cost.
4. A decrease in profit sharing from investment in power plant associate in Japan of THB 21 million from change in investment type according to group investment restructuring.
5. An increase in profit sharing from Nakoso power plant, a joint venture in Japan of THB 210 million that start recognition since 2Q21.
6. An increase in loss sharing from investment in renewable power and energy technology business of THB 231 million from operating performance of energy trading business in Japan.
7. A decrease in loss sharing from an associate in Indonesia of THB 8 million.

Other income

Other income of THB 1,649 million was comprised of:

1. Interest income of THB 381 million.
2. Management fee income of THB 203 million, mainly was fees charged to related companies and joint ventures.
3. Pipeline connecting fee income charged to new steam customers of CHP plants in China of THB 128 million.
4. Subsidy income from Chinese government of THB 138 million.
5. Net gain on derivatives of THB 241 million that was unrealized gain on fair value from natural gas swap contract and electricity swap contract.
6. Net gain on exchange rate of THB 374 million was mostly from unrealized gain on exchange rate from USD currency loans at the end of the year caused by a depreciation of THB currency against USD currency compared to 2020. Average exchange rate of USD/THB for 2021 was THB 31.9771 (2020: USD/THB 31.2937).
7. Other income of THB 184 million consisted of ash & slag sales from CHP plants of THB 80 million, and others of THB 104 million.

Interest expenses and finance cost: Increase 3%

Interest expenses and finance cost of THB 249 million, increased by THB 6 million compared to 2020, primarily from additions of loan from financial institutions during the year.

Corporate income tax: Decrease 81%

Corporate income tax of THB 57 million, decreased by THB 243 million compared to 2020. This comprised of:

1. A decrease in corporate income tax of THB 267 million, mainly from a decrease in operating profit from CHP power plant businesses in China.
2. An increase in deferred income tax liability of THB 24 million from taxable expense from Nakoso power plant and gas-fired power plant in USA.

Net profit for the year ended 31 December 2021 reported at THB 3,127 million, decreased by THB 575 million.

Basic Earnings per Share reported at THB 1.026 (2020: THB 1.214)

3. Statement of Consolidated Financial Position

Statement of Consolidated Financial Position as of 31 December 2021 in comparison with Statements of Consolidated Financial Position as of 31 December 2020.

Items (Unit: Million Baht)	Financial Position		Increase/(Decrease)	
	31-Dec-21	31-Dec-20	Amount	%
Assets	74,867	49,563	25,304	51%
Liabilities	25,287	7,585	17,702	233%
Equity	49,580	41,978	7,602	18%

3.1 Total assets of THB 74,867 million, an increase of THB 25,304 million or 51% compared to the 31 December 2020 was mainly described as follows:

Financial Position (Unit: Million Baht)	Assets		Increase/(Decrease)	
	31-Dec-21	31-Dec-20	Amount	%
Cash and cash equivalents	2,635	2,169	466	21%
Financial assets	530	343	187	54%
Trade accounts receivable and note receivables	1,311	927	384	41%
Fuel and Spare parts & supplies, net	1,186	505	681	135%
Current portion of dividend receivables from related parties	125	150	(25)	-17%
Other current assets	4,095	3,424	671	20%
Total current assets	9,883	7,519	2,364	31%
Dividend receivables from related parties	239	289	(50)	-17%
Investments in an associate and joint ventures	33,766	26,639	7,127	27%
Property, plant and equipment, net	23,811	8,001	15,810	198%
Right of use assets, net	631	569	62	11%
Other non current assets	6,537	6,546	(9)	0%
Total non current assets	64,984	42,044	22,940	55%
Total assets	74,867	49,563	25,304	51%

- Cash and cash equivalents of THB 2,635 million, increased by THB 466 million or 21% (Explanation in no. 4 Statement of Consolidated Cash Flows).
- Financial assets measured at fair value through profit or loss of THB 530 million, increased by THB 187 million or 54%. This was from an additional of THB 1,874 million during the year; net with redemption of THB 1,742 million and gain on exchange rate translation at the end of the year of THB 55 million.
- Account receivable of THB 1,311 million, increased by THB 384 million or 41%. This was mainly from an increase in sales from CHP power plant of THB 250 million, steam sales during 4Q21 and gas-fired power plant of THB 134 million.

- Fuel and Spare parts, net of THB 1,186 million, increased by THB 681 million or 135%. This was from investment in gas-fired power plant business in USA of THB 310 million and increase from CHP power plant in China of THB 371 million caused by higher coal cost compared to 2020.
- Other current assets of THB 4,095 million, increased by THB 671 million or 20% was mainly from:
 1. An increase in prepaid expenses from investment in gas-fired power plant business in USA of THB 187 million.
 2. An increase in accrued interest income from related parties of THB 377 million. This was from recognition of interest income during the year of THB 381 million offset with cash receives from settlement of THB 58 million and gain on foreign exchange rate translation at the end of year of THB 54 million.
 3. An increase in prepaid tax from CHP power plant in China of THB 185 million.
 4. A decrease in loan to related party of THB 91 million. This was a net result of reclassification from non-current portion of THB 341 million, cash receives from settlement of THB 745 million and gain on foreign exchange rate translation at the end of year THB 313 million.
 5. An increase in other current assets of THB 13 million.
- Current and non-current portions of dividend receivables from related parties totaling of THB 364 million, decrease by 75 million, from dividend receivables from the joint venture during the year.

Dividend receivables from related parties (Unit: Million Baht)	Financial Position		Increase/(Decrease)	
	31-Dec-21	31-Dec-20	Amount	%
Current portion of dividend receivables from related parties	125	150	(25)	-
Dividend receivables from related parties	239	289	(50)	-
Total	364	439	(75)	-

- Investment in joint ventures and associates of THB 33,766 million, increased by THB 7,127 million or 27 %. This was from a recognition of profit sharing from joint ventures THB 2,974 million, new investment in Nakoso power plant, a joint venture in Japan of THB 2,445 million, and new investment in renewable and energy technology of THB 236 million to support investment in solar power plant business in Australia. This included gain on foreign exchange rate translation at the end of year THB 1,913 million, and the recognition share of other comprehensive income from joint ventures and associates of THB 427 million, including dividend declaration during the year of THB 862 million, and from sales of investment of THB 6 million.

- Net property plant and equipment of THB 23,811 million, increased by THB 15,810 million or 198% was from additions from investment in gas-fired power plant in USA of THB 15,207 million and additions of machinery and equipment of CHP plants THB 146 million, gain on foreign exchange rate translation at the end of year THB 1,010 million; net with disposals THB 11 million and depreciation charges THB 542 million.
- Right-of-used assets of THB 631 million, increased by THB 62 million or 11%, was a result from additions of THB 21 million, gain on foreign exchange rate translation at the end of year 76 million, net with amortization of THB 35 million.
- Other non-current assets of THB 6,537 million, decreased by THB 9 million was mainly from:
 1. A decrease in loan to related parties of THB 262 million from reclassification to current portion THB 341 million net with gain on foreign exchange rate translation at the end of year of THB 104 million and cash receives from loan settlement of THB 25 million.
 2. An increase from investment in gas-fired power plant in USA of THB 167 million.
 3. An increase in deferred tax assets of THB 58 million, caused by the effects from foreign exchange rate translation at the end of year due to a depreciation of THB currency against RMB currency.
 4. An increase in other assets of THB 28 million.

3.2 Total liabilities of THB 25,287 million, increased by THB 17,702 million or 233% compared to total liabilities as of 31 December 2020 with details mainly described as follows:

Financial Position (Unit: Million Baht)	Liabilities		Increase/(Decrease)	
	31-Dec-21	31-Dec-20	Amount	%
Short-term loans from financial institutions	6,551	1,454	5,097	351%
Trade accounts payable	331	170	161	95%
Current portion of long-term loans from financial institutions	1,439	951	488	51%
Current portion of lease liabilities	13	12	1	8%
Other current liabilities	2,634	1,480	1,153	78%
Total current liabilities	10,968	4,067	6,901	170%
Long-term loans from financial institutions, net	9,253	3,481	5,772	166%
Lease liabilities	18	8	10	135%
Other non current liabilities	5,048	29	5,019	17053%
Total non-current liabilities	14,319	3,518	10,801	307%
Total liabilities	25,287	7,585	17,702	233%

- Short-term loans from financial institutions of THB 6,551 million, increased by THB 5,097 million or 351 % was from a net result of additional loans THB 9,185 million and repayment THB 4,196 million. Also, there was the effects of foreign exchange rate translation at the end of year THB 108 million on loan in RMB currency due to a depreciation of THB currency against RMB currency. Average exchange rate of RMB/THB as of 31 December 2021 was THB 5.2507 (31 Dec 2020: THB 4.6187). Average exchange rate of USD/THB as of 31 December 2021 was THB 33.4199 (31 Dec 2020: THB 30.0371).
- Current portion of long-term loans from financial institutions of THB 1,439 million, increased by THB 488 million or 51%. This was a net result of reclassification from non-current portion THB 1,409 million (including net front end fee), repayment THB 971 million and from the effects of foreign exchange rate translation on RMB loan at the end of year was THB 50 million.
- Other current liabilities of THB 2,634 million, increase by THB 1,153 million or 78% was mainly from:
 1. An increase in investment in gas-fired gas power plant in USA of THB 729 million that was mainly from accrued expense others THB 445 million and property taxes payable THB 122 million.
 2. An increase in advance received from steam residential customers of CHP plants in China of THB 82 million.
 3. An increase from amount due to related party of THB 324 million, comprised of coal purchase payable THB 262 million, accrued interest expense THB 43 million, accrued management fee THB 4 million and advance receive THB 15 million.
 4. An increase from other current liabilities of THB 18 million.
- Long-term loans from financial institutions of THB 9,253 million, increase by THB 5,772 million or 166%, was from additional loan THB 7,127 million (including net front end fee), net with reclassification to current portion THB 1,409 million and the effect of foreign exchange rate translation at the end of year THB 54 million on RMB loan and USD loan from a depreciation of THB currency against RMB currency and USD currency.
- Other non-current liability total of THB 5,048 million, increased by THB 5,019 million was from investment in gas-fired power plant in USA of THB 4,994 million that was mainly from loan from related party, and an increase from other non-current assets of THB 25 million.

3.3 Shareholders' equity of THB 49,580 million, an increase of THB 7,602 million or 18% compared to shareholders' equity as of 31 December 2021 was due to:

Financial Position (Unit: Million Baht)	Equity		+/(-)	
	31-Dec-21	31-Dec-20	Amount	%
Owners of the parent	45,636	41,109	4,527	11%
Non-controlling interests	3,944	869	3,075	354%
Total equity	49,580	41,978	7,602	18%

- An increase of THB 3,127 million from net profits for 2021.
- An increase of THB 903 million from cashflows hedge reserves.
- An increase of THB 2,951 million from gain on foreign exchange translation of subsidiaries and joint ventures' financial statements.
- An increase of THB 3,075 million from non-controlling interests from investment in USA THB 2,907 million and profits THB 168 million.
- A decrease of THB 1,981 million from dividend paid.
- A decrease of THB 439 million from the change in fair value of hedged financial instruments.
- A decrease of THB 34 million from remeasurement of post-employment benefit.

Net debt to equity ratio as of 31 December 2021 from consolidated financial positions was 0.38 times (31 December 2020: 0.07 time)

4. Statements of Consolidated Cash Flows

Statement of consolidated cash flows for the year ended 31 December 2021 reported an increase of net cash flows from 31 December 2020 total of THB 466 million (included the effect from exchange rate translation gain of THB 112 million). The consolidated cash flows were as follows:

Cash flow (Unit : Million Baht)	Consolidated
Net cash used in operating activities	(368)
Net cash used in investing activities	(16,053)
Net cash receipts from financing activities	16,774
Net increase in cash and cash equivalents	354
Exchange differences on cash and cash equivalents	112
Cash and cash equivalents at beginning of the period	2,169
Cash and cash equivalents at end of the period	2,635

4.1 Net cash outflows from operating activities of THB 368 million comprised of:

- Collection from sales of power and steam THB 5,535 million.
- Payment to suppliers and contractors THB 5,649 million.
- Payment of interest expense THB 165 million.
- Payment of corporate income tax THB 89 million.

4.2 Net cash outflows from investing activities of THB 16,053 million comprised of:

- Receipts of dividends from joint ventures and others THB 937 million.
- Receipts from interest income THB 58 million.
- Receipts from financial assets THB 1,742 million.
- Receipts from restricted deposits at bank THB 138 million.
- Receipts from loan to related party THB 770 million.
- Payments for machine, equipment, and project in progress in China THB 216 million.
- Payments for investment in gas-fired power plant for business expansion in USA THB 14,790 million.
- Payments for investment in Nakoso power plant, a joint venture in Japan, and renewable and Energy technology business of 2,679 million.
- Payments for financial assets THB 1,874 million.
- Payment for restricted deposits at bank THB 139 million.

4.3 Net cash inflows from financing activities of THB 16,774 million comprised of:

- Receipts from short-term and long-term loans from financial institutions THB 16,307 million.
- Repayments of short-term and long-term loans from financial institutions THB 5,167 million.
- Receipts from long-term loans from related party THB 4,721 million.
- Receipts from invest in subsidiaries from non-controlling interests THB 2,907 million.
- Payment for lease liabilities THB 13 million.
- Dividend paid to shareholders THB 1,981 million.