Banpu Public Company Limited

and Subsidiaries

Management's

Discussion and Analysis

For The Year Ended 2020

Sustainability Award Gold Class 2019

Member of Dow Jones Sustainability Indices In Collaboration with RobecoSAM

Banpu has been recognized as a member of Dow Jones Sustainability Indices (DJSI) since 2014.

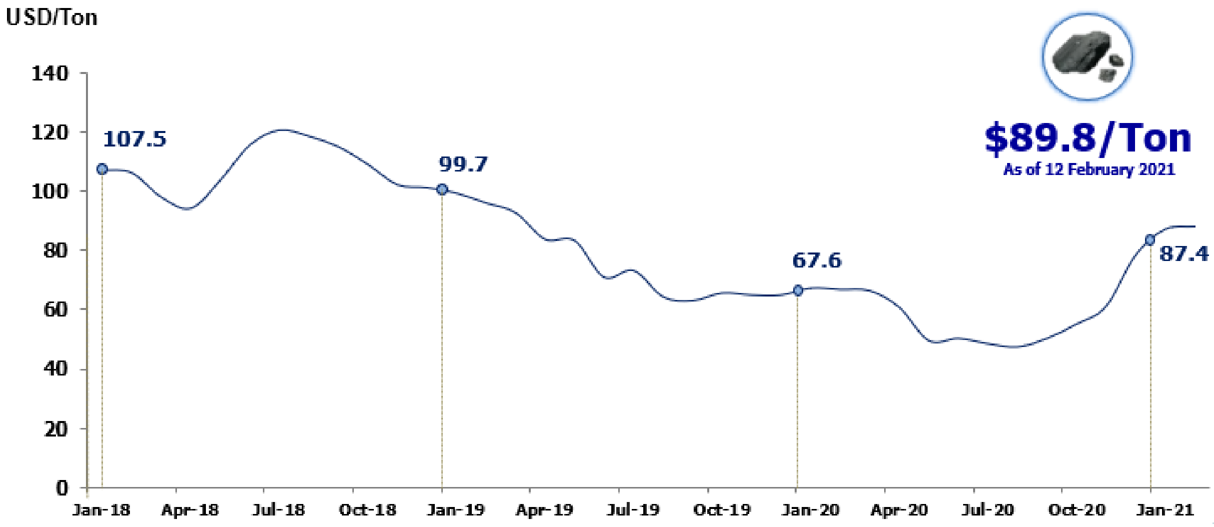
MSCI ESG RATINGS

In 2019, Banpu Public Company Limited received a rating of A (on a scale of AAA-CCC) in the MSCI ESG Ratings assessment.

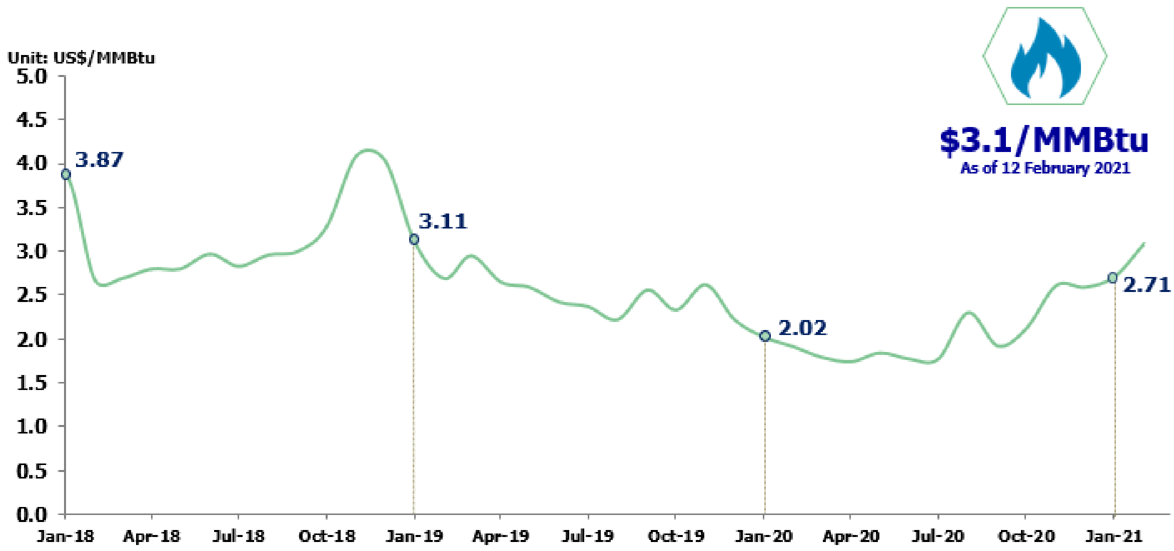
1. Energy Commodities Price Index

The market thermal coal and natural gas price since January 2018 as per below graphs that illustrate the coal and gas price indexes in the past periods.

Coal Price Index: The Newcastle Export Index (NEX) for January 2018 – January 2021



Average Henry Hub Natural Gas Price for January 2018 – January 2021



2. Management Discussion and Analysis

The performance in 2020 has proved Banpu's resilience portfolio reflecting the group capability in managing all operations without interruption and able to continue pursue the Greener & Smarter strategy. The successful completion of Barnett deal in the US become a key linkage during the transition of the group's portfolio and the amalgamation of renewable and energy technology business to create BANPU NEXT reflect Banpu's commitment in growing cleaner portfolio.

During the year, the group had implemented several proactive measures across all operations to ensure business continuity and lessen the impact from the slowdown of global economy which was heavily impacted from COVID-19 pandemic. As a result of that, Banpu achieved group EBITDA for 2020 of USD 563 million, 20% less than previous year mainly due to lower coal and gas prices. EBITDA from coal of USD 340 million (-30%), EBITDA from gas of USD 54 million (-21%) and Power business contributed EBITDA of USD 169 million (+16%). The reported consolidated net loss was USD 56 million, including the exchange rate translation gain of USD 81 million.

For 4Q20, the group EBITDA was USD 181 million contributed by EBITDA from coal of USD 94 million, EBITDA from gas of USD 39 million and EBITDA from power business of USD 48 million. This quarter Banpu's financial performance turnaround to the operating profit of USD 14 million, but with the appreciation of THB against USD has adversely impact Banpu earning, it results in exchange rate translation loss of USD 30 million, therefore the consolidated net loss was USD 15 million.

The operational results of 4Q20 starting from Energy Resources business including coal business in Indonesia reported sales volume of 5.8 million tonnes, 34% higher QoQ from the ramp up of Indominco production. The average selling price (ASP) was 53 USD/ton, an improvement of 8% QoQ reflect the higher demand for coal during winter season. The cost of sale was 36 USD/ton so it reflected in Gross Profit Margin (GPM) at 32%. Australia coal business reported coal sales volume of 3.1 million tonnes, slightly lower by 5% QoQ. The ASP remain firm at 78 USD/ton with cost of sale of 73 USD/ton. Therefore, it could still maintain positive margin at 6%. China coal reported a loss sharing of USD 9.6 million due to its lower production from the change in lithology and the complicated running conditions of longwall panels.

In this 4Q20, The Barnett shale production volume of 50.9 Billion Cubic Feet (Bcf). was included in the operational result of US shale gas business which result in total of group's Shale gas production volume reach 65.5 Bcf. The average selling price was 1.18 USD/Mcf, reflect the demand recovery as it is approaching winter.

For the Energy generation business, The Combined Heat and Power (CHP) plants in China contributed net profit of USD 8.7 million. HPC reported equity income of USD 35 million, significantly improve from the successful recovery plan that resulted in the FY 2020 Equivalent availability factor (EAF) reached its target of 82% and recognized of insurance claim from the natural disaster that happened in April 2020, while BLCP completed it annual maintenance as planned, and reported equity income of USD 2 million. Shanxi Lu Guang power plant in China also completed its construction and now under pre-commissioning activities to prepared for the commercial dispatch to serve the demand within the area.

Renewable business including solar power plants in China reported revenue of USD 6.5 million, lower by 8% QoQ, due to the lower irradiation in winter season. For Solar business in Japan, in 4Q20 project Yamagata and Yabuki achieved the COD as planned while wind project Vin Chau phase 1 in Soc Trang province, Vietnam reached 41% of construction progress.

For Energy Technology business, many new products and services were introduced to the market, including the 16 MW floating solar project to support the electricity demand from industrial estate, the launch of E-Ferry in Phuket which also led to the development of smart city project "Phuket Livable City, Smart and Safe" with Phuket municipalities.

Banpu group is in the significant step in transformation process to create sustainable growth as International Versatile Energy Provider will accelerate its implementation of Greener & Smarter strategy, focusing in expanding the greener portfolio in the strategic countries with supportive policy as the global economy started to signal the sign of recovery which will bring back the demand for energy within the growing area under ESG principles.

3. Group Performance Analysis

The analysis and explanation of Banpu Group performance for the year ended 31 December 2020 and 2019 as follows:

Consolidated Statement of Income for the year ended 31 December 2020 and 2019

Consolidated financial performance (Unit: Million USD)	**2020**	**2019**	**Change** Inc/(Dec)	%
		Restated		
Sales and service income	2,283	2,759	(476)	-17%
Cost of sales and services	(1,823)	(2,051)	(228)	-11%
Gross profit	460	708	(248)	-35%
Selling expenses	(142)	(195)	(53)	-27%
Administrative expenses	(224)	(245)	(21)	-8%
Investment restructuring expense	(31)	-	31	100%
Royalty fee	(183)	(241)	(58)	-24%
Share of profit from joint ventures and associates	135	206	(71)	-34%
Other income (expenses)	155	78	77	n.a.
Finance cost	(180)	(187)	(7)	-4%
Profit (Loss) before income taxes	(8)	124	(132)	n.a.
Income taxes	(9)	(78)	69	89%
Profit (Loss) for the year	(17)	46	(63)	n.a.
Owners of the parent	**(56)**	**(14)**	**(42)**	**n.a.**
Non-controlling interests	**39**	**61**	**(22)**	**-37%**
Earnings (Loss) per share (Unit : USD)	(0.011)	(0.003)	(0.008)	n.a.

The group performance for 2020 reported net loss at $56 million. This included a one- time recognition of investment restructuring expense of $31 million from the corporatization of BKV Corporation on 1 May 2020. The expense was non-cash transaction with no impact to cash flows, also not incorporate with business operation. When considering the operating performance excluding such expense, the performance for 2020 was quite stable compared to last year.

Although in 2020, the worldwide economics was impacted from COVID-19 pandemic and affected to the demand of energy consumption that caused a decrease of global energy commodities price, Banpu group was able to continue business operation similar to 2019 that no impact from COVID-19 pandemic situation as well. In order to manage risks caused by COVID-19 pandemic that significantly impacted on worldwide economic, the group has focused on cost management and production efficiency to cope with the uncertainty of the global economic and volatility of energy commodities price in the future.

Sales and cost of sales

(Unit: Million USD)	Revenue 2020	Revenue 2019	Revenue Inc.(Dec.)	Cost of Sales 2020	Cost of Sales 2019	Cost of Sales Inc.(Dec.)
Coal Business	1,878	2,381	-21%	1,491	1,753	-15%
Natural Gas Business	121	105	15%	107	73	47%
Power & Steam Business	197	178	10%	147	144	2%
Others	88	95	-8%	78	81	-4%
Total	**2,283**	**2,759**	**-17%**	**1,823**	**2,051**	**-11%**

Sales

Sales reported at $2,283 million (equivalent THB 71,332 million), decreased by $476 million compared to 2019. This was a decrease of $503 million from coal businesses, an increase of $16 million from natural gas business, and an increase of power and steam business and others of $10 million. Details of revenue were described as follows:

1. Sales from coal business of $1,878 million or 82% of total revenue separated by source of coal as below:
   - Indonesia coal mines of $1,140 million
   - Australia coal mines of $698 million
   - Others of $40 million
2. Sales from natural gas business in USA of $121 million or 5% of total revenue.
3. Sales from Power and steam of $197 million or 9% of total revenue derived from Combined Heat and Power (CHP) plants and solar power plants in China.
4. Others of $88 million represented 4% of total revenue. This was mainly from fuel trading business of a subsidiary in Indonesia.

1.Coal Business

Coal Business		2020	2019	Inc.(Dec.)
Sales Volume	Million Tonnes	34.67	36.18	-4%
Average selling price	$/Tonne	54.19	65.83	-18%
Average Cost of sales	$/Tonne	43.33	48.15	-10%

Coal sales of $1,878 million, decreased by $503 million or 21% was a decrease of sales volume by 1.51 million tonnes and average selling price by $11.64 per tonne compared to 2019 as following:

Indonesia Mines		2020	2019	Inc.(Dec.)
Sales Volume	Million Tonnes	21.19	25.37	-16%
Average selling price	$/Tonne	53.79	65.00	-17%
Average Cost of sales	$/Tonne	37.76	44.53	-15%

Coal Business in Indonesia

- **Sales volume**

  Coal sales volume was 21.19 million tonnes, decreased by 4.22 million tonnes compared to 2019. This was because the operation encountered with full year heavy rain and a decrease of demand caused by COVID-19 pandemic situation.

- **Average selling price**

  Average selling price per tonne was $53.79, decreased by $11.21 or 17% compared to 2019, in accordance with a decrease of global coal market price.

- **Average cost of sales**

  Average cost of sales per tonne was $37.76, decreased by $6.77 or 15% compared to 2019. This was a due to the better cost management to cope with a volatility in global coal market price, while still maintain coal quality, including quality development to meet customer demand and retain in the long run.

  A decrease in average cost of sales was mostly from a decrease in stripping ratios from 10.89 to 10.11, a decrease of oil price as global coal market price, also the more efficiency in fuel used for production that led to the decrease in fuel consumption rate for production, including a favor outcome from cost reduction program implemented across the group.

Australia Mines		2020	2019	Inc.(Dec.)
Sales Volume	Million Tonnes	12.50	10.50	19%
Average selling price	A$/Tonne	81.14	93.81	-14%
Average Cost of sales	A$/Tonne	76.53	80.71	-5%

Coal business in Australia

- **Sales volume**

Coal sales volume was 12.50 million tonnes, increased by 2 million tonnes or 19% compared to 2019. This was because in 2019 Mandalong mine encountered the difficulty in geology mining conditions that caused the delay of longwall relocation. Moreover, an increase in holding interest in Springvale mine from 50% to be 100% since 4Q19 led to higher sales in 2020.

- **Average selling price**

Average selling price per tonne was A$81.14, decreased by A$12.67 or 14% compared to 2019 as the following:

Australia Mines	Sales Volume (Unit: Million Tonnes)			Avg. Price/Tonne (A$/Tonne)		
	2020	2019	Inc.(Dec.)	2020	2019	Inc.(Dec.)
Domestic	9.10	5.98	52%	78.66	79.43	-1%
Export	3.40	4.52	-25%	87.79	114.90	-24%
Total	**12.50**	**10.50**	**19%**	**81.14**	**93.81**	**-14%**

- **Average selling price of domestic and export sales**

Average domestic selling price per tonne was A$ 78.66, decreased by A$0.77 as driven by a decrease in global coal market price. Also, there was a decrease in portion of sales from high valued contracts. Average export selling price per ton was A$87.79, decreased from 2019 as global market price.

- **Average cost of sales**

Average cost of sales per tonne was A$76.53, decreased by A$4.18. This was mainly from higher coal production volume that caused average lower cost per tonne, and the continuous implementation of cost reduction program. However, Myuna and Springvale mines that encountered the difficulty in geology mining conditions which affected to a higher of average cost of sales.

2. Natural Gas Business

Natural Gas Business		2020	2019	Inc.(Dec.)
Sales Volume	Bcf	113.25	69.14	64%
Average selling price	$/Mcf	1.06	1.38	-23%
Average Cost of Sales	$/Mcf	0.94	1.05	-10%

Natural gas business in USA

Sales from natural gas business in 2020 reported at $121 million, increased by $17 million or 16% as following details:

- **Sales Volume**

  Natural gas sale volume was 113.25 billion cubic feet, increased by 64% versus 2019. This was because during 4Q20, the group consolidated sales from Barnett shale with total of 50.93 Mcf.

- **Average Selling Price**

  Although Henry Hub price fell off by 17% compared to 2019, the group average selling price of $1.06 per Mcf decreased by 23%.

  This was from a decrease in Marcellus shale selling price that was temporary pressured because gas production continued to stay high, while the supply was increased smaller, and hence, stock level was remain with minor decrease. However, gas reserves in 1Q21 is gradually decreased, then higher sales price that favor to average price during the next quarter.

- **Average Cost of Sale**

  Average cost of sales was $0.94 per Mcf, or decreased by 10% compared to 2019, primarily from a lower of average depletion rate in 2020. This was because Barnett shale reported lower depletion rate compared to Marcellus shale.

3. Power Business

Power Business		Combined Heat & Power Plants (CHP)			Solar Power Plants		
		2020	2019	Inc.(Dec.)	2020	2019	Inc.(Dec.)
Sales Volume	GWh	1,563.20	1,495.75	5%	219.55	213.88	3%
Steam Volume	Million Tonnes	6.24	5.32	17%	-	-	N/A
Average PowerTariff	RMB/kWh	0.36	0.36	0%	0.83	0.83	0%
Average Steam Price	RMB/Tonne	98.26	105.76	-7%	-	-	N/A

Sales from Power and Steam of $197 million or 9% of total revenue was from sales from CHP plant and solar power plant in China. Details were described as follows:

Combined Heat and Power (CHP) plants in China

Sales from power, steam and others from 3 CHP plants in China of $170 million, increased by $16 million compared to 2019. This was mainly from increasing in sales volume of electricity and steam as detail below:

- **Sales Volume**

  Sales volume of 1,563 GWh, increased by 68 GWh from prior year, also from steam sales of 6.2 million tonnes, increased by 0.95 million tonnes compared to 2019. This was a result of higher customer demand from Zouping power plant and Luannan power plant.

- **Average Selling Price**

  Average power tariff was RMB 0.36 per kWh, same as 2019.

- **Cost of Sale**

  Average cost of sales $135 million, increased by $0.7 million was from higher production volume, particularly from Zouping power plant that increase production volume more than 20% compared to 2019.

  Also, from an increase in coal consumption for power production of 0.06 million tonnes net with a decrease of average coal cost, main fuel for power production, the average coal cost per tonne in 2020 was RMB 572 (2019: RMB 599) or decreased by RMB 27 per tonne or 5% compared to the prior year.

Solar power plants in China

Sales from solar power plants in China reported at $27 million. An increase of $2 million compared to 2019.

- **Sales Volume**

  An increase in solar power sales volume was from Jixin power plant that operate full year, while the plant started operation in July 2019.

- **Average Power Tariff**

  Average power tariff was RMB 0.83, similar to 2019.

- **Cost of Sales**

  An increase in cost of sales $1 million was derived from project development cost in accordance with government regulations and the group standards, also from Jixin power plant operate full year in 2020.

Administrative expense

Administrative expenses reported at $224 million, decreased by 21 million or 8%. This was because the group has focused on cost reduction program to cope with a slowdown of global economic. The mainly decrease was professional fees and other admins, including domestic and overseas traveling expense.

Royalty fees

Royalty fees reported at $183 million, decreased by $58 million or 24% was from a decrease of royalty fees from Indonesia mines $62 million caused by a decrease in coal sales price and volume. Whereas, royalty fee from Australia mines was increased $4 million aligned with an increase in coal sales volume compared to 2019.

Profit sharing (Unit : Million USD)	**2020**	**2019**	**Inc.(Dec.)**
BLCP	17	27	-37%
Hongsa & Phufai Mining	103	90	14%
Holding Company of Solar Power in Japan	(8)	(3)	n.a.
Coal business in China	23	92	-75%
Total	**135**	**206**	**-34%**

Share of profit from joint ventures and associates

Profit sharing from joint ventures and an associate reported $135 million, decreased by $71 million or 34% compared to 2019 with major details described as below:

1) Recognition of profit sharing from BLCP of $17 million, decreased by $10 million. This was mainly from deferred tax assets adjustments from lease receivable under power purchase agreement and foreign exchange conversion of assets from THB to USD for tax purpose.

2) Recognition of profit sharing from Hongsa power plant and PhuFai mining in Laos of $103 million, increased by $12 million. In this year, profit sharing was increase primary from compensation income derived from disaster insurance claim of $7 million, and from gain on foreign exchange rate translation of $6 million. Whereas, profit sharing from operations was decreased by $1 million, and temporary shut-down of Unit 3 for annual maintenance.

3) Recognition of shares of profit from coal business in China of $23 million, decreased by $63 million from a decrease of sales volume and price aligned with market price, also impact from COVID-19 pandemic situation.

Other income

Other income of $155 million comprised of:

1) Net gain on foreign exchange rate of $81 million, despite an appreciation of THB currency against USD currency compared to prior year. This was because the group has adopted a net investment hedge in foreign operations since 2Q20 in order to manage foreign exchange position of the group. Average exchange rate of USD/THB as of 31 December 2020 was THB 30.04 (31 December 2019: THB 30.15).

2) Net gain from financial derivatives of $23 million comprised of:
   - Realized gain from financial derivatives of $11 million derived from coal swap contracts of $26 million, foreign exchange rate forward contracts $6 million, cross currency swap contracts of $9 million, and natural gas swap contracts of $11 million. Whereas, realized loss on fuel swap contracts of $25 million and interest rate swap contracts of $16 million.
   - Unrealized gain on fair value of financial derivatives at the end of period of $12 million was mainly from foreign exchange rate forward contracts of $2 million and from natural gas swap contracts of $10 million.

3) Management fee income and others of $51 million was from:
   - Interest income of $10 million.
   - Dividend income of $2 million.
   - Gain from accounting adjustment of Springvale mine acquisition of $10 million.
   - Government subsidy and steam connection fee income of $10 million from residential steam production.
   - Sales of ashes, slag and scraps from mines, power plants and others of $19 million.

Corporate income tax

Corporate income tax of $9 million, decreased by $69 million was mainly from:

1) A decrease of $60 million was from a decrease of operating profits compared to 2019.
2) A decrease of withholding tax of $12 million from a decrease of withholding tax of dividend receives during the year.

3) An increase of $5 million was from a decrease of deferred tax asset of subsidiaries in Indonesia. This was a result of Indonesia government measures to support businesses from COVID-19 pandemic situation by reducing corporate income tax rate from 25% to be 22% in 2020 - 2021 and 20% in 2022.

4. Statements of Consolidated Financial Position

Statements of Consolidated Financial Position as of 31 December 2020 in comparison with the Statements of Consolidated Financial Position as of 31 December 2019.

Financial Position (Unit: Million USD)	31-Dec-20	31-Dec-19	Inc.(Dec.) Amount	%
		Restated		
Assets	9,377	8,069	1,308	16%
Liabilities	6,562	5,434	1,128	21%
Equity	2,815	2,635	180	7%

4.1 Total assets of $9,377 million, increased by $1,308 million compared to total assets as of 31 December 2019 with main details described as below:

Financial Position (Unit: Million USD)	Assets		Inc.(Dec.)	
	31-Dec-20	31-Dec-19	Amount	%
		Restated		
Cash and Cash equivalent	730	433	297	69%
Short-term investments	-	110	(110)	-100%
Financial assets measured at fair value through profit or loss	11	-	11	100%
Trade accounts receivable and note receivables, net	249	246	3	1%
Current portion of dividend receivables from related parties	26	-	26	100%
Other current assets	559	573	(14)	-3%
Total Current Assets	1,575	1,362	212	16%
Dividend receivables from related parties	10	21	(11)	-52%
Investments in an associate and joint ventures	1,690	1,485	205	14%
Other investments, net	-	144	(144)	-100%
Financial assets measured at fair value through other comprehensive income	153	-	153	100%
Property, plant and equipment, net	2,581	1,950	631	32%
Deferred exploration/stripping costs, net	1,016	920	96	10%
Mining property rights, net	1,359	1,318	41	3%
Goodwill	447	398	49	12%
Right of use assets	72	-	72	100%
Other non- current assets	474	471	3	1%
Total Non-Current Assets	7,802	6,707	1,095	16%
Total Assets	9,377	8,069	1,308	16%

- Cash and cash equivalents of $730 million, increased by $297 million. (As explanation in no.5 Consolidated Statement of Cash Flows).

- Short -term investment was decreased of $110 million from reclassification to financial assets measured at fair value through profit or loss of $3 million and a reclassification to financial assets measured at amortized cost at $107 million, due to the adoption of new Thai Financial Reporting Standard No.9 (TFRS 9) “Financial instruments” that was effective in 2020

- Financial assets measured at fair value through profit or loss of $11 million was from reclassification short term investment of $3 million due to the adoption of new Thai Financial Reporting Standard No.9 (TFRS 9) “Financial instruments”, addition of $35 million, redemption of $28 million, and the effects from unrealized loss on foreign exchange rate translation at the end of period of $0.6 million.

- Financial assets measured at amortised cost of $0.16 million was from a reclassification from short-term investment of $107 million due to the adoption of new Thai Financial Reporting Standard No.9 (TFRS 9) “Financial instruments” that was effective in 2020, also addition of $45 million and redemption of $147 million and from unrealized loss on exchange rate translation at the end of period of $5 million.

- Current portion and non-current portion of dividend receivable from related parties of $26 million and $10 million, respectively, were dividend receivable from joint ventures who operates power business in Thailand which total increased by $15 million. This was a net result during the year of:
    1. A decrease from received dividend during the period of $60 million.
    2. An increase from additional declared dividend during the period of $73 million.
    3. An increase from the effects of foreign exchange rate translation at the end of period of $2 million.

- Investment in joint ventures and associates of $1,690 million, increased by $205 million or 14% was from:
    1. An increase from addition of investment in associates of $86 million, mainly from a renewable business in Singapore.
    2. An increase from recognition of profit sharing from joint ventures and associates by $136 million.
    3. A decrease from dividend received during the year of $73 million.
    4. An increase from the effects of foreign exchange rate translation at end of period and others by $47 million.
    5. An increase from the adoption of new Thai Financial Reporting Standard No.9 (TFRS 9) “Financial instruments” that was effective in 2020 resulted in accounting entry adjustment of $9 million.

- Financial assets measured at fair value through other comprehensive income (FVOCI) or other investment (as presented in statement of financial position of 2019) $153 million, increased by $9 million. This was due to:
    1. An additional investment in solar power plant in Japan under form of TK (Tokumai Kumiai) agreement of $11 million.
    2. An increase from the impact of fair value adjustment of $30 million under new accounting standard no.9 (TFRS 9).
    3. A decrease from capital refunds that was reclassified to be other receivables of $20 million from Aizu Wakamatsu Project and Iwate Tono Project. This was because counter parties failed to follow conditions under agreements.
    4. A decrease from the effects of foreign exchange rate and others of $12 million.
- Property plant and equipment of $2,581 million, decreased by $631 million derived from:
    1. An increase from additions of machine and equipment of coal business, natural gas business and power business total of $132 million.
    2. An increase from new business acquisition of $639 million.
    3. A decrease from depreciation charges for the year of $220 million.
    4. An increase from the effects of foreign exchange rate translation at end of period and others of $86 million.
    5. A decrease from reclassification to be right-of-use asset of $6 million according to new Thai Financial Reporting Standard No. 16 (TFRS 16) “Leases” that was effective in 2020.
- Right of use assets of $72 was recognized from applying TFRS 16 “Leases” that was effective in 2020.
- Other non-current assets of $474 million, increased by $3 million. This was an increase in accrued subsidy income from solar power plants in China of $20 million and restricted deposit in Indonesia of 5 million. Whereas, there was a decrease from reclassification of land used right to be right of use assets of $10 million, warrants exercised that was reclassified to be an investment of $9 million, and others of $ 2 million.

4.2 Total liabilities of $6,562 million, increased by $1,128 million compared to total liabilities as of 31 December 2019 with movement details as described below:

Financial Position (Unit: Million USD)	Liabilities		Inc.(Dec.)	
	31-Dec-20	31-Dec-19	Amount	%
		Restated		
Short-term loans from financial institutions	828	455	373	82%
Trade accounts payable	67	60	7	12%
Current portion of long-term borrowings, net	675	363	312	86%
Current portion of debenture, net	133	176	(43)	-24%
Accrued overburden and coal transportation costs	60	74	(14)	-19%
Financial derivative liabilities due in one year	21	2	19	950%
Other current liabilities	427	430	(3)	-1%
Total current liabilities	2,211	1,560	651	42%
Long-term loans from other company	2,230	1,796	434	24%
Debentures, net	1,517	1,644	(127)	-8%
Financial derivative liabilities, net	26	21	5	24%
Other liabilities	578	413	165	40%
Total non-current liabilities	4,351	3,874	477	12%
Total liabilities	6,562	5,434	1,128	21%

- Short-term loans from financial institutions of $828 million, increased by $373 million was additional loans of $1,389 million, repayment of $1,032 million, and the effects of foreign exchange rate translation at the end of period of $16 million.
- Current portions of long- term loans of $675 million, increased by $312 million was from repayment of $301 million and the effects of foreign exchange rate translation at the end of period of $15 million, while an increase from reclassification from non-current portion of $598 million.
- Current portions of debenture of $133million, decreased by $43 million from redemption of $170 million, and the effects of foreign exchange rate translation at the end of period of $5 million; whereas, an increase from a reclassification from non-current portion of $122 million.
- Accrued overburden and coal transportation expenses of $60 million, decreased by $14 million or 19% was mainly from mining operations of subsidiaries in Indonesia.
- Long- term loans of $2,230 million, increased by $434 million or 24% was a net result of:
    1. An increase from additional loan of $1,020 million.
    2. A decrease from reclassification to current portion of $598 million.
    3. An increase from the effects of foreign exchange translation at the end of period of $12 million. Mainly was from AUD currency loan due to an appreciation of AUD currency against USD currency. Average exchange rate of AUD/USD as of 31 December 2020 was $0.7630 (31 Dec 2019: $0.6981).

- Debenture of $1,517 million, decreased by $127 million or 8% was from reclassification to be current portion of $122 million and from the effects of foreign exchange rate translation at the end of period of $5 million.
- Current portion and non-current portion of derivative liabilities reported at $21 million and $26 million, respectively, total of $47 million. This was changes in fair value of financial derivatives at the end of period, that consisted of cross currency swap contracts of $2 million, interest rate swap contracts of $28 million, foreign exchange rate forward contracts $2 million, natural gas swap contracts of $5million, and coal swap contracts of $10 million.

4.3 Shareholders' equity of $2,815 million, an increase of $180 million was mainly due to;

Financial Position (Unit: Million USD)	**Equity**		**Inc.(Dec.)**	
	31-Dec-20	**31-Dec-19**	**Amount**	**%**
		Restated		
Equity attributable to owners of the parent	2,076	2,029	47	2%
Non-controlling interests	739	606	133	22%
Total equity	2,815	2,635	180	7%

- A decrease of $56 million from net loss for the year 2020.
- A decrease from dividend payment of $97 million.
- A decrease of $90 million from fair value reserves for financial assets and cash flows hedge reserves.
- A net increase of $96 million from a new preference share issuance of a subsidiary for non-controlling interests.
- An increase of $ 232 million from the effects of foreign exchange rate translation of subsidiaries' financial statements and others.
- An increase of $43 million from impact of new Thai Financial Reporting Standard No. 9 "Financial instrument" that was effective in 2020.
- An increase of $52 million from non-controlling interest.

4.4 Net debt-to-equity ratio as of 31 December 2020 reported at 1.47 times (31 December 2019: 1.23 times).

5. Statement of Consolidated Cash Flow

Statement of consolidated cash flows for the year ended 31 December 2020 presented an increase of net cash flow by $297 million (included the effect from unrealized loss on exchange rate translation of $8 million). The consolidated cash flows were divided into:

Statement of Cash Flows (Unit: Million USD)	**Amount**
Cash flows from operating activities	211
Cash flows used in investing activities	(694)
Cash flows from financing activities	772
Net increase in cash and cash equivalents	**289**
Exchange loss on cash and cash equivalents	8
Cash and cash equivalents at the beginning of the year	433
Cash and cash equivalents at end of the year	**730**

5.1 Net cash inflow from operating activities of $211 million; with major operating items as follows;

- Collections from coal sales of $2,136 million.
- Payments to contractors and suppliers of $1,415 million.
- Interest payments of $215 million.
- Payments of corporate income tax of $78 million.
- Receives from income tax refunds of $11 million.
- Royalty fee payments of $172 million.
- Others received of $56 million.

5.2 Net cash outflow from investing activities of $694 million; with major items as follows;

- Payments for machines, equipment and project in progress of $632 million.
- Payments for investment in renewable energy business and solar power business in Japan $97 million.
- Payments for deferred charge of mine exploration, mine development and overburden of $183 million.
- Payment for restructuring of investment of $ 8 million.
- Payment for short-term loan to a related party of $48 million.
- Payment for financial assets measured at fair value through profit or loss of $35 million.
- Receipts for financial assets measured at fair value through profit or loss of $28 million.
- Receipts from financial assets measured at amortized cost of $102 million.

- Receipts from financial assets measured at fair value through profit or loss of $19 million, mainly was investment in business in Japan.
- Dividend receipts from associates and other investment of $62 million.
- Interest income and others of $98 million.

5.3 Net cash inflow from financing activities of $772 million; comprised of

- Receipts from short term and long - term loans from financial institutions and others of $2,412 million.
- Repayments of short term and long - term loans from financial institutions and others of $1,542 million.
- Dividend payment of $97 million.
- Payments for treasury shares of a subsidiary of $1 million.

6. Coal Reserves

The quantity of sales and remaining of coal reserves for the year ended 31 December 2020:

Source (Unit: Million Tons)	Quantity of Coal Sales and Reserves		
	Reserves as of 31-Dec-19	Sales FY2020	Reserves as of 31-Dec-20
1. Indonesia			
1.1 Jorong	10.20	1.21	8.99
1.2 Indominco	46.90	9.12	37.78
1.3 Kitadin	3.00	1.23	1.77
1.4 Trubaindo	43.90	4.71	39.19
1.5 Bharinto	149.30	3.35	145.95
1.6 NPR Project	77.40	0.00	77.40
2. Australia	282.50	12.50	270.00
3. China			-
3.1 Gaohe	125.50	8.07	117.43
3.2 Hebi Zhongtai	15.70	1.22	14.48
Total	**754.40**	**41.42**	**712.98**

7. Natural Gas Reserves

The quantity of sales and remaining of natural gas reserves for the year ended 31 December 2020:

Quantity of Natural Gas Sales and Reserves	**Natural Gas**
	(Unit: Million Cubic Feet)
Reserves as at 31 December 2019	1,185,029
1) Adjustment on reserve estimation	(236,138)
2) Barnett shale acquisition	2,720,930
3) Sales	(113,255)
Reserves as at 31 December 2020	**3,556,566**

*** Natural Gas Reserves from Marcellus and Barnett shales refer to Reserve Report 's Ryder Scott