



**ANNUAL REPORT 2023**  
(56-1 ONE REPORT)  
**BANPU PUBLIC COMPANY LIMITED**



**DRIVING FORWARD  
SUSTAINABLE GROWTH  
AND BETTER LIVING FOR ALL**

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In case this Annual Report (Form 56-1 One Report) reference information disclosed on the Company's website, the disclosed information shall be deemed to be part of Form 56-1 One Report. The Board of Directors certifies the correctness and completeness of disclosed information and annual information disclosure in Form 56-1 One Report.

# DRIVING FORWARD SUSTAINABLE GROWTH AND BETTER LIVING FOR ALL



Banpu Public Company Limited is embarking on the fifth decade of business operation as **an international versatile energy provider**. We are accelerating our endeavors toward energy sustainability under the Greener & Smarter strategy according to our brand promise, **“Our Way in Energy.”**

We are moving forward to develop and align our businesses with future energy trends by leveraging the Banpu’s Business Ecosystem in all countries of operations and expanding investments in high-growth S-curve businesses that utilize advanced technology and demonstrate long-term competitiveness with an emphasis on creating synergistic value within our existing business portfolio.

We always adhere to the ESG principles, prioritizing environmental, social and governance aspects. These principles are the pillars of our business operations, supporting

Banpu to achieve robust and sustainable growth while generating long-term positive returns to shareholders and investors and creating sustainable benefits for all groups of stakeholders.

We continue to pursue our goal of creating sustainable energy by developing energy solutions that address the current and future needs of society and delivering energy that is affordable, reliable, and eco-friendly to ensure equitable access for all. Our aspiration is to power every life in creating innovations that foster better living for people, society, and the environment.

## FINANCIAL HIGHLIGHTS

Sales Revenues

**5,159**

Million USD



EBITDA

**1,562**

Million USD



Net Profit

**160**

Million USD



Total Assets

**13,000**

Million USD



Total Liabilities

**8,172**

Million USD



Total Equity

**4,828**

Million USD





## Energy Resources

### Mining Business

Sales Volume

**34.5** Mt

### Gas Business

Net Production

**892** MMcfed



## Energy Generation

### Power Business

Total Committed Capacity

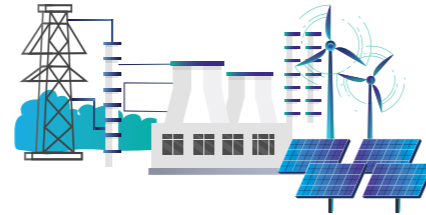
**4,653** MW

Committed Thermal Equity-based Capacity

**4,008** MW

Committed Renewables Equity-based Capacity

**645** MW



## Energy Technology

### Solar Rooftop & Floating Solutions Business

Equity-based Capacity

**225** MW

### Energy Storage Systems Business

Total Production Capacity

**1.0** GWh

### Energy Trading Business

Electricity Sales

**760** GWh

### Smart City & Energy Management Business

Smart City: operating & under development

**27** Projects

### E-Mobility Business

EV Market Expansion Car Sharing Service

**271** Units

EV Tuk Tuk Service Provided

**16,888** Passengers/Day

E-Bike Rental

**50** units

Chargers

**711** units



For the Year Ended

31-Dec-23 31-Dec-22 31-Dec-21

### Financial Position

Total Assets	(Million USD)	13,000	12,638	10,946
Total Liabilities	(Million USD)	8,172	8,229	7,843
Total Shareholders' Equity	(Million USD)	4,828	4,409	3,103
Issued and Paid-up Share Capital	(Million USD)	285	243	199

### Operational Results

Sale Revenues	(Million USD)	5,159	7,693	4,124
Cost of Sales	(Million USD)	(3,666)	(3,616)	(2,393)
<b>Gross Profit</b>	<b>(Million USD)</b>	<b>1,493</b>	<b>4,077</b>	<b>1,731</b>
Selling and Administration Expenses	(Million USD)	(556)	(674)	(475)
Royalty Fee	(Million USD)	(379)	(592)	(294)
Other Revenues	(Million USD)	219	441	130
Other Expenses	(Million USD)	(171)	(1,182)	(445)
<b>Profit from Operation</b>	<b>(Million USD)</b>	<b>606</b>	<b>2,070</b>	<b>647</b>
Share of Profit from Joint Ventures	(Million USD)	268	339	227
Interest Expenses	(Million USD)	(374)	(257)	(174)
Financial Expenses	(Million USD)	(10)	(8)	(10)
Corporate Income Tax	(Million USD)	(119)	(521)	(198)
Non-controlling Interests	(Million USD)	(212)	(461)	(189)
<b>Net (Loss) Profit</b>	<b>(Million USD)</b>	<b>160</b>	<b>1,162</b>	<b>304</b>
<b>EBITDA</b>	<b>(Million USD)</b>	<b>1,562</b>	<b>3,916</b>	<b>1,778</b>

### Financial Ratios

Gross Profit Margin	(%)	28.9	53.0	42.0
Net (Loss) Profits to Total Revenues	(%)	2.8	13.7	6.8
Returns on Assets	(%)	1.2	9.9	3.0
Returns on Equity	(%)	3.5	30.9	10.3
Interest Coverage Ratio	(Times)	2.5	9.4	5.8
Net Debt to Equity	(Times)	0.90	0.74	1.31

### Data per Share

Earnings per Share	(USD)	0.018	0.162	0.049
Book Value per Share	(USD)	0.48	0.52	0.46
Dividend per Share	(THB)	0.45*	1.20	0.45

\* The Company announced a total dividend of THB 0.45 per share arising from its performance during the period from 1 January 2023 to 31 December 2023, of which THB 0.25 was paid on 29 September 2023. The remaining dividend of THB 0.20 per share for 2023 performance will be paid on 30 April 2024.

Remark: Financial figures are based on the consolidated financial statement.

## OPERATIONAL RESULTS

	For the Year Ended		
	2023	2022	2021
<b>Coal Sales Volume (Million Tonnes)</b>			
Sources - Indonesia (ITMG)	17.0	16.3	18.2
Other Sources	4.0	2.7	1.9
<b>Total Sources - Indonesia</b>	<b>21.0</b>	<b>18.9</b>	<b>20.1</b>
Sources - Australia	7.0	8.5	9.8
Sources - China (Traded Coal)	1.9	2.8	1.8
Sources - Others	0.0	0.7	0.2
<b>Total Coal Sales Volume</b>	<b>29.9</b>	<b>31.0</b>	<b>32.0</b>
<b>Natural Gas Sales Volume (Billion Cubic Feet Equivalent)</b>			
Natural gas sales volume - Marcellus	51.4	50.7	56.1
Natural gas sales volume - Barnett	262.3	229.3	190.1
<b>Total Natural Gas Sales Volume</b>	<b>313.7</b>	<b>280.0</b>	<b>246.2</b>
<b>Revenue (Million USD)</b>			
Revenue from Indonesia (ITMG)	2,108	3,325	1,939
Other Sources	278	325	151
Total Revenue from Indonesia	2,386	3,650	2,090
Revenue from Australia	805	1,253	728
Revenue from China (Traded Coal) and Other Sources	118	287	91
<b>Revenue from Coal Business</b>	<b>3,310</b>	<b>5,190</b>	<b>2,909</b>
<b>Revenue from Gas Business*</b>	<b>735</b>	<b>1,658</b>	<b>890</b>
<b>Revenue from Power Business</b>	<b>932</b>	<b>746</b>	<b>244</b>
<b>Revenue from Energy Technology Business</b>	<b>92</b>	<b>6</b>	<b>-</b>
<b>Revenue from Other Businesses</b>	<b>90</b>	<b>93</b>	<b>80</b>
<b>Total Revenues</b>	<b>5,159</b>	<b>7,693</b>	<b>4,124</b>
<b>Gross Profit Margin (%)</b>			
Gross Profit Margin - Indonesia (ITMG)	53	72	62
Gross Profit Margin - Other Sources	-13	4	-5
Gross Profit Margin - Indonesia	46	66	57
Gross Profit Margin - Australia	1	38	7
Gross Profit Margin - China (Traded Coal)	1	16	12
<b>Gross Profit Margin - Coal Business</b>	<b>34</b>	<b>57</b>	<b>43</b>
<b>Gross Profit Margin - Gas Business</b>	<b>3</b>	<b>61</b>	<b>54</b>
<b>Gross Profit Margin - Power Business</b>	<b>38</b>	<b>12</b>	<b>6</b>
<b>Gross Profit Margin - Energy Technology Business</b>	<b>25</b>	<b>12</b>	<b>-</b>
<b>Gross Profit Margin - Other Businesses</b>	<b>-16</b>	<b>24</b>	<b>-18</b>
<b>Total Gross Profit Margin (%)</b>	<b>29</b>	<b>53</b>	<b>42</b>

\* Included revenue from the new natural gas field located in North Texas in The U.S. invested on 30 June 2022.

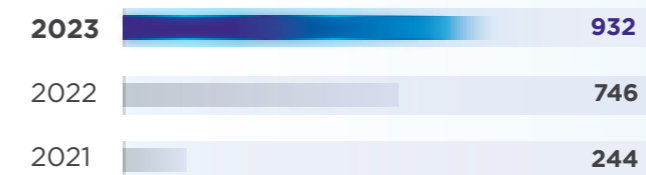
### Revenue from Coal Business (Unit : Million USD)



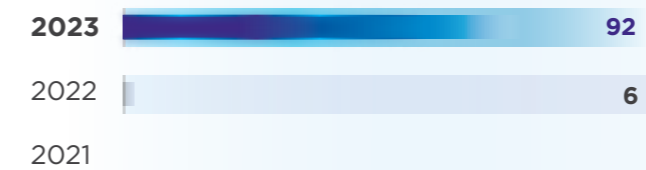
### Revenue from Gas Business\* (Unit : Million USD)



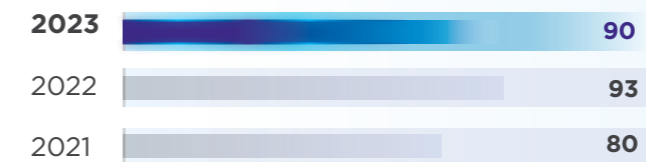
### Revenue from Power Business (Unit : Million USD)



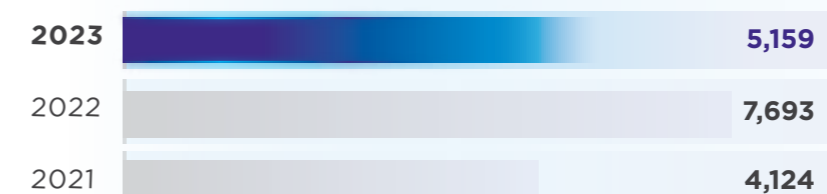
### Revenue from Energy Technology Business (Unit : Million USD)



### Revenue from Other Businesses (Unit : Million USD)



### Total Revenues (Unit : Million USD)



## THE BOARD OF DIRECTORS' REVIEW

**“Entering our 5<sup>th</sup> decade, we aim to sustain continuous growth, enhance operational efficiency, maintain stable and steady profitability. We are moving forward to deliver Smarter Energy for Sustainability to create a Better Living for All.”**



**Mr. Chanin Vongkusolkit**  
Chairman of the Board of Directors



In 2023, the world faced volatility and uncertainty, driven by geopolitical conflicts, rising interest rates, cyber risks, and climate change. In response, the Board of Directors placed great importance on business continuity management and business adaptability to address and capitalize on these challenges. This focus is on enhancing operational efficiency, prudent cost management, and agile adaptation to align with changing circumstances. This is coupled with embracing ESG principles in our business operations for sustainable growth and long-term value creation for all stakeholders.

Regarding the corporate strategic plan, in the past year, the Board of Directors oversaw the execution of the 5-year strategic plan (2021-2025) and supported the management in enhancing the Greener & Smarter strategy. This included the acquisition of the Temple II gas-fired power plant in the United States, investment expansions in the battery business covering the entire industry value chain which included the notable ventures such as the investment in SVOLT Thailand to establish a battery production plant, the Final Investment Decision (FID) and commencement of the Carbon Capture, Utilization, and Storage (CCUS) project which Banpu is Thailand's first pioneering CCUS project in the U.S.

In terms of risk management, in 2023, amid global conflicts, energy businesses encountered additional challenges such as energy supply and demand imbalances, regulatory shifts, and disruptive technological development and advancement trends. To address these risks, Banpu has continuously reviewed our business direction and strategy to adapt to changing circumstances. Prioritizing sustainability, we have formulated strategies based on ESG principles and ensure flexibility and agility in our business planning. Additionally, maintaining financial liquidity is integral to our risk management approach. We emphasize investments in projects with immediate cash flow generation and implement effective cash flow management to sustain stability for sustainable growth.

Banpu has consistently adhered to Environmental, Social and Governance (ESG) principles. In 2023, our Environmental, Social and Governance Committee (ESG Committee) conducted a review of two key ESG-related policies and practices: the Environmental Policy and Biodiversity Policy. This review aimed to ensure their alignment with our business growth and evolving business landscape. Our unwavering commitment to corporate governance and operating in accordance with ESG principles led to significant recognition. In 2023, Banpu was honored to be selected as a member of the Dow Jones Sustainability Indices (DJSI) for the 10th consecutive year. Moreover, we received the “AAA” rating in the SET ESG Ratings and Sustainability Award of Honor for the 6th consecutive year from the Stock Exchange of Thailand.

In 2023, the Board considered the succession plans, outlining the succession plan for critical positions including Chief Executive Officer, Head of Mining Business, Head of Power Business, and Head of Energy Technology Business. Emphasis was placed on transitioning to a new generation of visionary executives, ready to drive business growth amidst the current global challenges.

The Board of Directors would like to extend our sincere appreciation to our esteemed shareholders, investors, supporters, business partners, and all stakeholders in Thailand and abroad for your unwavering support. As we enter our 5<sup>th</sup> decade of operation, we pledge to keep advancing our business and upholding our position as a leading international versatile energy provider. Embracing ESG principles in every decision, we will continue to drive sustainability for our organization and the world.



## CHIEF EXECUTIVE OFFICER'S REVIEW

**“Driving Forward Sustainable Growth and Better Living for All”**



**Mrs. Somruedee Chaimongkol**  
Chief Executive Officer



2023 was Banpu PLC's 40<sup>th</sup> Anniversary year, marking four decades of innovation in the energy sector. Today we stand tall as one of the leading international versatile energy providers, developing innovative solutions for the modern era.

The secret to Banpu's great longevity is our 'Antifragile' approach, continuously harnessing disruption and leveraging uncertainty to guide our strategic evolution. Turning adversity into momentum has become one of our greatest and most valuable strengths.

Every year brings a unique set of challenges and opportunities. Last year was no exception, with global market volatility and geo-political tensions leading to difficult growth conditions. We saw coal and gas prices decline from their previous highs and elevated inflation rates, notably in the United States. Despite such challenging conditions, Banpu remained strong, navigating with renewed agility and foresight, always ready to adapt to the ever-changing market landscape.

In 2023, we harnessed robust cash flows to accelerate our Greener & Smarter development strategy. In July we closed the important acquisition of Temple II, a CCGT power plant in Texas, which has strengthened Banpu's integrated power portfolio and leverages synergies with our existing asset, Temple I. Our Energy Technology business made significant progress with a new focus on the battery value chain: the strategic investment into Iwate Tono, a large-scale battery farm project, and in SVOLT Energy Technology (Thailand) a lithium-ion battery manufacturing and distribution business. Another exciting development in 2023 was the launch of our first ever Carbon Capture and Storage project to reduce carbon emissions generated by BKV's gas operation in the Barnett. In November, Barnett Zero's first CO<sub>2</sub> injection commenced, establishing it as one of the first commercial carbon sequestration wells in the USA.

I am proud to say that we remain on track to achieve our 2025 targets. Our Thermal power capacity is expected to reach 4.5 GW; our total Renewable power capacity is set to reach 1.6 GW and our Energy Technology business is expected to reach 6 GWh of Battery Production capacity, 60 smart city and energy management projects, and 2,400 GWh of electricity sales.

### 1) Financial Performance

The convergence of rising global long-term borrowing costs, persistent fragility in the global macroeconomy, and escalating geopolitical tensions has intensified the pressure on global markets, including the commodities sector.

Despite this, in 2023, Banpu generated a consolidated group EBITDA of USD 1,562 million, down by 60% from the previous year. The group's consolidated EBITDA was comprised of USD 914 million from the group's coal business, USD 162 million from our gas business, USD 482 million from our power business, and USD 4 million from our energy technology business.

Banpu's consolidated net profit after tax was USD 160 million after a foreign exchange translation gain of USD 2 million and a derivative loss of USD 164 million. The TRIS rating agency affirmed Banpu's credit status at "A+" with a stable outlook on its senior unsecured debentures, reflecting confidence in our business efficiency and robust cash flows.

### Energy Resources

#### Gas Sales and Market Analysis

In 2023, the gas business in the US reported a sales volume of 313.73 billion cubic feet, a 12% increase from the previous year. However, the average local price was USD 2.41 per Mcf, decreasing by 58% compared to the previous year. The decline in gas prices resulted from lower-than-expected domestic utilization due to a shut down for maintenance of



the Freeport LNG terminal located in Texas, leading to high natural gas reserves. Banpu has recalibrated its operational plan with a focus on production plan flexibility and tightly managing costs to ensure strong cash flow from our operations.

#### Coal Sales and Market Analysis

Banpu seeks to ensure the stable delivery of high-quality coal, remaining a responsible and reliable supplier to its customers and stakeholders. Banpu Group coal sales in 2023 totalled 34.5 million tonnes (Mt) versus 35.2 Mt the previous year. Total coal sales from Banpu's Indonesian mines were 21.0 Mt, with 7.0 Mt from our Australian mines and 6.5 Mt from our China operations.

Sales to our ASEAN customers this year amounted to 8.5 Mt, and sales to customers in China decreased by 7% in 2023 to 13.5 Mt. In South Asia, sales in India reached 0.8 Mt while sales in Bangladesh were 1 Mt. Sales to customers in Japan decreased to 3.6 Mt while sales to domestic customers in Australia totalled 4.9 Mt. The benchmark NEX Index representing thermal benchmark prices at Newcastle in Australia for high-grade export coal, decreased to an average of USD 176 per tonne compared to USD 367 per tonne in 2022 due to weakened global demand.

In order to accelerate our transition towards Greener, Smarter energy generation, we are no longer investing into new coal mining assets and will be integrating clean energy, such as solar and battery powered solutions to improve energy efficiency across our mining operations.

#### Indonesian Mining Business

PT Indo Tambangraya Megah Tbk (ITM) is listed on the Indonesian stock exchange and is approximately 65.14% owned by Banpu. ITM recorded an EBITDA of USD 687 million in 2023, decreasing by 63% from USD 1,846 Million.

ITM's coal output in 2023 was 16.8 Mt: 6.5 Mt from Indominco, 2.7 Mt from Trubaindo, 7.1 Mt from Bharinto, and 0.5 Mt from Jorong. ITM's average unit cost decreased to USD 61.97 per tonne from USD 94 per tonne due to a decrease in royalty costs, declining trend in fuel prices, and the implementation of cost-efficiency programs.

#### Australian Mining Business

Centennial's EBITDA in 2023 decreased by 87% to an equivalent of USD 73 million. Centennial's total output was down by 18% to 6.8 Mt in 2023 compared to 8.7 Mt in 2022. Clarence saw a lower production to 1 from 1.3 Mt, while Airly decreased to 0.6 Mt from 1.2 Mt. For the Northern operations, Mandalong production decreased to 1.8 Mt from 2.8 Mt, Myuna and Springvale remain stable at 1 Mt and 2.3 Mt respectively.

#### China and Mongolia Mining Business

In 2023, our mining operations in China accounted for USD 154 million in EBITDA, a decrease from 2022. Gaohe's output increased to 10.1 Mt. At Hebi Zhong Tai, in Henan province, output increased from 0.8 Mt to 1.0 Mt. In Mongolia, we continued to develop pilot projects and feasibility studies.

#### Energy Generation

Banpu Power PLC (BPP), 78% owned by Banpu PLC, registered an EBITDA of USD 482 million, compared to USD 231 million in 2022. Currently, BPP operates thermal power and renewable power assets in the U.S, North Asia, and the Greater Mekong region. The total operating capacity of BPP's energy generation assets on an equity basis amounted to approximately 3,642 equity megawatts (MWe), a 514 MWe increase from 2022.

#### Thermal Power Business – Greater Mekong Region

BPP has two major thermal power operations in the Greater Mekong region: a 50% stake in BLCP, a coal-fired power plant in Thailand with a 1,434 MW capacity, and a 40% stake in HPC, a coal-fired mine-mouth power plant in Laos with an 1,878 MW capacity. This year, BLCP's EBITDA reached USD 104 million, with an Equivalent Availability Factor (EAF) of 88%. HPC's EBITDA reached USD 344 million, with an EAF of 85%.

#### Thermal Power Business – China

BPP holds three legacy combined heat-and-power (CHP) operations in China: Luannan, Zouping, and Zhengding – with a total capacity of 548 MWe. This year the combined EBITDA of the CHP operations increased to USD 22 million.

BPP has a 30% stake in the Shanxi Lu Guang power plant, a coal-fired power plant that uses advanced clean coal ultra-supercritical technology with a total capacity of 1,320 MW, and an equity capacity of 396 MW.

#### Thermal Power Business – Japan

BPP has a 33.5% stake in Nakoso IGCC, the world's largest Integrated Gasification Combined Cycle plant. The plant was under temporary closure this year to ensure long-term operational reliability and sustainability, contributing to a share of loss of USD 3 million. All maintenance works are on schedule with testing and commissioning expected to be completed by March 2024.

#### Thermal Power Business – U.S.

In July, Banpu acquired Temple II CCGT power plant in Texas, further expanding our gas-fired power capacity. Temple II was acquired for USD 460 million, with an installed capacity of 755 MW, and has contributed immediate cash flow thanks to its consistent and stable performance.

The acquisition of Temple II CCGT will optimize synergies across Banpu's US and especially Texas based assets where we already have our upstream gas asset Barnett shale, with a net production of 728 MMcfed; our midstream pipeline of 778 miles; and our downstream gas asset, Temple I with a total capacity of 768 MW.

In 2023, Temple I and II CCGT reached net generation of 5,415 GWh and reported an EAF of 83%. The Temple II acquisition, supported by a higher spark spread, resulted in successful operational results.

In 2023, Temple I and II CCGT recorded USD 637 million in revenue, a 27% increase compared to USD 502 million in 2022.

### Renewable Energy Business

Banpu's utility-scale renewable business grew to 646 MW of operating capacity in 2023: 177 MW in China, 146 MW in Japan, 167 MW in Australia, 153 MW in Vietnam, and 2.5 MW in the USA.

In China, Banpu's solar business recorded an EBITDA of USD 21 million in 2023. The average capacity factor was 15%. Power sold was 230 GWh, a 1% increase from 2022.

In Japan, Banpu's solar business generated a cash distribution of USD 13 million, up by 47%. The power sold was 222 GWh, a 5% increase from 2022. The average capacity factor increased by 1% at 13%.

In Australia, Beryl and Manildra solar farms sold 223 GWh, 15% more than 2022, with an average capacity factor of 21%.

In Vietnam, Banpu's solar and wind energy business has generated USD 11 million in EBITDA in 2023, a 9% increase. The average capacity factor for wind at 30% and for solar at 17% while the power sold was at 149 GWh, a 41% increase from 106 GWh in 2022.

### Energy Technology

#### Solar Rooftop and Floating Solar Business

Last year Banpu's solar rooftop and floating solar business reached 225 MW of committed capacity.

#### Battery Business

Under Banpu NEXT, Banpu has partnered with Durapower to develop lithium-ion (Li-ion) battery assembly plants for electrical buses in Thailand, which will become operational in 2024 with 1 GWh.

Moreover, with a view to scaling-up our battery business and enhancing our Energy Storage Solutions value chain, Banpu NEXT has made some key acquisitions. At the beginning of the year Banpu NEXT acquired more shares in Durapower, increasing its stake in the company from 47.68% to 65.1%. Banpu NEXT currently has a 1.0 GWh Li-ion capacity with plans to expand to 6.0 GWh by 2025. Furthermore, Banpu NEXT invested THB 750 million to invest in a 40% shareholding in SVOLT Energy Technology (Thailand), manufacturing and distributing lithium-ion batteries for electric vehicles and THB 271.3 million in Green Li-on Pte. Ltd., a Singapore-based provider of lithium-ion battery recycling technology.

### E-Mobility Business

Banpu NEXT is making progress with its Mobility-as-a-service (Maas) for e-mobility which encompasses ride sharing service - MuvMi, EV charger management - Evolt, and after-sales service by Beyond Green. To expand our e-mobility business, we increased our stake in Evolt from 20% to 23.8%; and our stake in Beyond Green from 30% to 39.2%.

MuvMi is now servicing in 12 locations across Bangkok, with over 9 million passengers so far. There are 600 e-tuktuks in operation with 154 chargers deployed across the city. Furthermore, Evolt is making great progress with its charging network expansion, notably winning the bid for the Tesla Supercharger installation of 14 units at Central Pattaya, and the Shell DC charger station installation project. Furthermore, in the fourth quarter of 2023, we increased our stake in Oyika, the Singapore-based start-up offering battery swapping solutions, from 14.2% to 15.9%.

### Smart Cities and Energy Management Business

Banpu NEXT is currently engaged in 27 smart city and energy management projects. Banpu NEXT EcoServe, a subsidiary of Banpu NEXT, provides energy management solutions such as district cooling system and smart infrastructure solutions to enhance business efficiency and optimize building and city energy management.

BNSP Smart Tech, a joint venture between Banpu NEXT and SP Group has won the tender to design, build, own and operate an innovative district cooling system in Zone C of the Government Complex Commemorating His Majesty The King's 80<sup>th</sup> Birthday Anniversary, 5<sup>th</sup> December 2007.

### Energy Trading

Banpu reached a 760 GWh energy trading capacity, currently trading in Japan with an outlook to expand to liberalized markets where there is a Banpu group presence.

Banpu has engaged with over 680 clients, from public and private sectors, in eight utility grid areas, through the implementation of advanced marketing and sales strategies, integrating market-driven pricing structures, and securing supply agreements through a competitive tendering process.

### Corporate Venture Capital

Banpu Corporate Venture Capital aims to decarbonize and streamline Banpu's portfolio by investing in targeted early, growth and late-stage companies and funds. Banpu CVC is prioritizing investments in energy software optimized by Artificial Intelligence and other carbon related technologies, and exploring opportunities in strategic minerals, green data centers, hydrogen value chain and other S-Curve sectors. Banpu CVC's current portfolio includes 8 venture capital and private equity fund investments, connecting us to over 1,100 companies.

Most recently, we have made direct investments into AirCarbon Exchange (ACX) and Fiutur. ACX is a blockchain-enabled exchange platform for carbon credit trading. It tokenizes carbon credits for more streamlined trade and investment and was recently chosen by the Indonesia Stock Exchange to power Indonesia's Carbon Exchange platform. Fiutur is a pioneer in ESG commodities market solutions that was spun off from Xpansiv, the largest global marketplace for carbon credits, renewable energy credits, and digital fuels. Fiutur's technology focuses on standardizing tracking system for ESG commodities to provide data visibility to all market participants and to allow them to track their assets throughout the entire lifecycle, from primary object data to credit retirement.

Additionally, Banpu has reaffirmed its "A" rating from the ESG Ratings by MSCI. For our credit rating, we retained our "A+" score from TRIS Rating with a stable outlook on the company and senior unsecured debentures, reflecting the company's stable business growth.

## 2) Corporate Social Responsibility Highlights

In June, Banpu held its 12<sup>th</sup> annual "Banpu Champions for Change" project, in collaboration with ChangeFusion. The incubation program helps social enterprises build greater resilience and sustainability to benefit local communities and help younger generations fulfil their potential.

In October we collaborated with the Faculty of Environment and Resource Studies at Mahidol University to raise awareness about environmental issues with the "Power Green Camp 18". This year's theme was "Waste Warriors, Green Cloud – Green Tech – Green Influencer". Through science classes, field trips and media training, the students gained a deeper understanding of systematic waste management and product life cycle, explored solutions, and learnt how to advocate for more sustainable practices.

Furthermore, in December Banpu distributed 2,000 sweaters valued at THB 500,000 to residents of Tha Song Yang District in Tak Province, as well as Fang and Mae Chaem Districts in Chiang Mai Province. These regions, known for their harsh winter weather and remote locations, often face challenges in accessing donations.

### 3) Environmental, Social and Governance Performance

Our transition is driven by three critical pillars. We are supporting climate change mitigation, through investing in low-carbon clean energy sources, energy efficiency and e-mobility solutions. We are securing energy access and affordability, by delivering a continued supply of reliable thermal energy to support the rising share of intermittent renewable energy. We are protecting social equity, by ensuring that the energy transition does not compromise on the well-being of our stakeholders including our communities, customers and workers.

Since the establishment of our ESG Committee in 2021, Banpu has been dedicated to optimizing sustainable development practices and supporting the Board of Directors' ongoing commitment to ESG. This strategic move underscores our commitment to delivering affordable, reliable, and eco-friendly energy in alignment with the United Nations' Sustainable Development Goals (SDGs).

As part of a wider effort to improve the environmental and social impact of our mining operations, Indominco is developing a series of conservation programs: establishing the Indominco Arboretum to minimize damage to biodiversity and launching the Good Mining Practice Tour for students and the public to learn about post-mining reclamation efforts. Furthermore, 2023 saw the launch of Banpu's first Carbon Capture and Sequestration project at BKV's natural gas operations in Texas, with a yearly estimated average injection rate of up to 210,000 tons of CO<sub>2</sub>e.

We have taken proactive steps to enhance transparency and accountability. We released our inaugural TCFD report in May 2023, demonstrating our commitment to climate-related financial disclosure.

As a result of these efforts Banpu has been selected as a member of the Dow Jones Sustainability Indices (DJSI) for the 10th consecutive year. Since 2018, Banpu has also continued to receive the Sustainability Awards of Honor under the Sustainability Excellence, with recent recognition at the SET Awards 2023. Lastly, Banpu was awarded as the 'Best Public Company of the Year 2023 in the SET' and the 'Best Company of the Year 2023 in the Resources Industry' demonstrating the company's steadfast commitment to ESG principles and delivering "Smarter Energy for Sustainability."

### 4) Strategic Review and Outlook

In 2015, we launched our Greener, Smarter growth strategy to harness disruptive mega-trends for the long-term benefit of our shareholders and stakeholders. Since then, we have been steadily diversifying our portfolio, shifting to a more sustainable, future-proof business model so we can continue to honor our commitment to delivering affordable, reliable and environmentally-friendly energy across the Pacific Rim.

To maintain progress, we have set ourselves some critical sustainable development goals, including the reduction of greenhouse gas emissions across all our core businesses. As part of our wider decarbonization efforts, we aim to significantly increase EBITDA contribution from our Greener, Smarter businesses over the next few years.

For our Gas business, the Company aims to reach Scope 1 and Scope 2 Net Zero emissions targets by 2025 through Carbon Capture and Storage (CCS). For our Mining business, we will no longer be investing in the expansion of our coal operations, and any cashflow generated by our conventional energy businesses will be reinvested into our lower carbon ventures, including our renewable assets.

Banpu NEXT, our energy technology subsidiary, is harnessing the '3D' global megatrends of Digitalization, Decentralization and Decarbonization to develop cutting-edge solutions enabling the sector's sustainable transition.

Our long-term growth vision goes beyond energy, towards a fully integrated smart solutions platform. Banpu's Corporate Venture Capital (CVC) is driving this vision forward, harnessing strong cashflow from our conventional Energy Resources and Generation businesses to boost growth in our smarter businesses and expand our asset-light, high-growth portfolio.

In 2024, we can expect inflation levels to ease gradually, though ongoing geo-political tensions will likely continue to cause global market disruptions. Banpu's increasingly diversified portfolio will allow us to capture opportunities that emerge from this constantly shifting global landscape.

As we enter our fifth decade, our commitment to delivering sustainable energy solutions far and wide, is stronger than ever before. I have full faith in Banpu's next generation of leadership, and I look forward to watching Banpu's future grow ever brighter.

It has been an honor and a privilege to serve Banpu's great mission. I would like to extend my heartfelt gratitude to Banpu's Board of Directors, stakeholders and shareholders for their continued trust and support.

Section  
**1**

**BUSINESS AND  
OPERATIONAL RESULTS**





## POLICY AND BUSINESS OVERVIEW

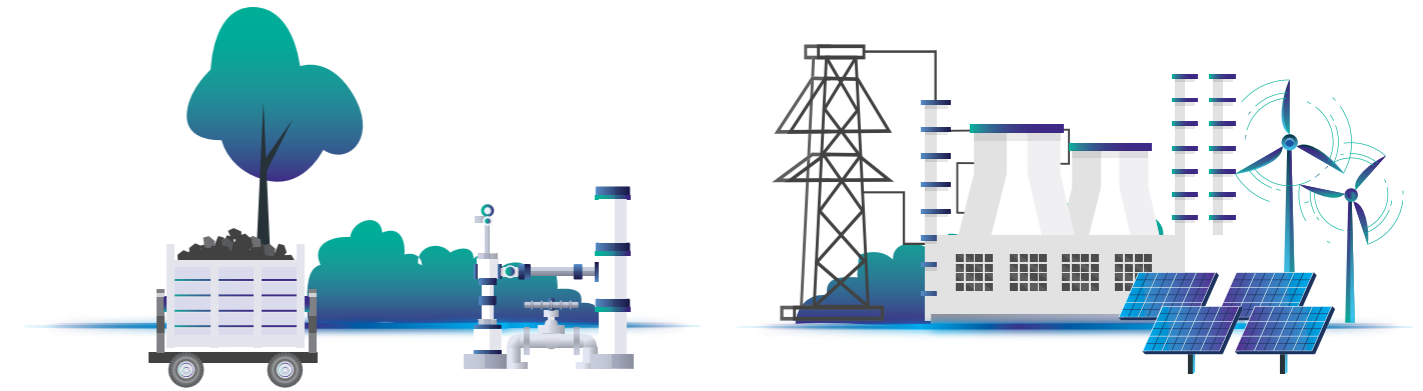
**Banpu Public Company Limited** was established on 16 May 1983 as “Ban Pu Coal Company Limited” with a THB 25 million registered capital. Banpu was founded by members of the Vongkusolkrit and Auapinyakul families in order to subcontract a coal mining operation at Banpu Mine (BP-1 Mine) located in Li District, Lamphun Province from the Department of Alternative Energy Development and Efficiency.

On 4 May 1989, Banpu was listed on the Stock Exchange of Thailand (SET). The Company later changed its name on 29 July 1993 to “**Banpu Public Company Limited**”.

Embarking on the fifth decade of business operations, Banpu has become an International Versatile Energy Provider offering the best-in-class energy solutions with our extensive expertise in integrated energy solutions to many countries across Asia-Pacific, namely Thailand, Indonesia, China, Australia, Lao PDR, Mongolia, Japan, the United States of America, and Vietnam. We are committed to driving the growth and robustness of the Banpu ecosystem through **the Greener & Smarter strategy** by reinforcing eco-friendly businesses and leveraging smart technologies and innovations. Steered by the strategy, Banpu is able to fully deliver “**Smarter Energy for Sustainability**” to all stakeholders through 3 core business groups of integrated energy solutions as follows:

- **Energy Resources:** Mining and gas including related operations such as marketing, trading, logistics, fuel procurement, and transmission
- **Energy Generation:** Thermal and renewable power plants
- **Energy Technology:** Solar rooftop and solar floating, Energy Storage Systems (ESS), energy trading, e-Mobility, and smart city & energy management

Banpu strives to create energy sustainability for the world through the delivery of affordable, reliable, and eco-friendly energy. We also embrace the **ESG principles** in our business conduct with adherence to the environmental, social, and governance. Moreover, our employees are connected with “**Banpu Heart**” corporate culture, which comprises 3 core values: Passionate, Innovative, and Committed. Adherence to the corporate culture has significantly empowered Banpu to cope with any changes in the Never Normal era, thereby building stakeholder confidence in line with our brand promise “**Our Way in Energy**”.



### Energy Resources

**Mining and gas including related operations such as marketing, trading, logistics, fuel procurement, and transmission**

### Energy Generation

**Thermal and renewable power plants**



### Energy Technology

**Solar rooftop and solar floating, Energy Storage Systems (ESS), energy trading, e-Mobility, and smart city & energy management**

# BANPU GROUP'S MAP OF OPERATIONS



Banpu continues to accelerate exponential growth, pursuing to deliver **“Smarter Energy for Sustainability”** in order to power a better living for all.



### Thailand

**1** Thermal Power Plant



### Lao PDR

**1** Thermal Power Plant



### Mongolia

**2** Coal Projects



### Indonesia

**5** Coal Mines  
**2** Coal Projects  
**5** Ports



### Japan

**1** IGCC Power Plant  
**19** Solar Power Plants



### China

**2** Coal Mines  
**4** Thermal Power Plants  
**7** Solar Power Plants



### The United States of America

**2** Shale Gas Sites  
**2** Gas-fired Power Plants  
**1** Solar Power Project



### Vietnam

**1** Solar Power Plant  
**1** Wind Power Plant  
**1** Wind Power Project



### Australia

**6** Coal Mines  
**3** Coal Projects  
**2** Solar Power Plants  
**2** Ports

**Note:** The map excludes operations of solar rooftop and solar floating, Energy Storage Systems (ESS), Energy Trading, e-Mobility, and Smart City & Energy Management.

## VISION & MISSION

### VISION

The Asian energy company at the heart of innovation, technology and sustainability



### MISSION

Build sustainable value for all our stakeholders as a trusted partner, with emphasis on care for the earth and society



Promote innovation, synergy, sustainability, and integration across the energy supply chain, between thermal and new energy technologies



Foster our corporate values, operational excellence, and uphold Banpu's reputation for integrity, professionalism and best practices

## SUMMARY OF MAJOR CHANGES AND DEVELOPMENT IN 2023 AND CURRENT EVENTS

### 22 February 2023

The Board of Directors Meeting approved the Company's dividend payment at a rate of THB 1.20 per share for the operating results from 1 January to 31 December 2022. Previously, an interim dividend from the operating results from 1 January – 30 June 2022 had been paid out to shareholders at a dividend rate of THB 0.45 per share on 30 September 2022. The remaining dividend for the operating results from 1 July – 31 December 2022 was proposed to be paid to shareholders at THB 0.75 per share. The dividend payment was appropriated from the corporate income tax-exempt profit, on which shareholders are not entitled to tax credits. The 2<sup>nd</sup> half of 2022 dividend was paid on 28 April 2023.

### 23 February 2023

BPIN Investment Co., Ltd. (BPINI), a wholly owned subsidiary of Banpu NEXT Co., Ltd. (Banpu NEXT<sup>1</sup>), has increased its shareholding in Durapower Holdings Pte. Ltd. (Durapower). Originally classified as a joint venture, BPINI held a 47.68% equity interest. Following the capital infusion, its ownership interest has risen to 65.10%. Later, Durapower became a subsidiary of Banpu with the transaction value of USD 70 million (approximately THB 2,373.70 million) as part of BANPU's strategy to scale up its Energy Storage System (ESS) business.



### 8 March 2023

Banpu issued 4 tranches of unsubordinated and unsecured debentures with a debenture holders' representative in the name-registered certificate with a total value of THB 8,200 million. The 5-year, the 7-year, the 10-year and the 15-year debentures were offered to general and institutional investors at the interest rates of 3.26%, 3.76%, 4.04%, and 4.46% per annum, respectively. The principal is to be repaid at the maturity date.

<sup>1</sup> THE SUBSIDIARY OF BANPU AND BANPU POWER PUBLIC COMPANY LIMITED BY EQUALLY HOLD 50 PERCENT.



13 March 2023

BPINI, invested 4.55% shares in Green Li-on Pte. Ltd., a Singapore-based lithium-ion battery recycling technology company with total investment value of USD 8.0 million (approximately THB 271.28 million)

28 April 2023

Banpu Japan K.K. (BJP), a wholly owned subsidiary of Banpu NEXT invested in Energy Storage System (ESS) business by developing a large-scale battery farm Iwate Tono project in Japan, with the total capacity of 58 MWh, the project will be developed on approximately 3,000 square meters of land area, which expected for Commercial Operation Date (COD) in 2025. The project being supported by the government's subsidy program aims to provide partial or full financial support to accelerate its cleaner energy transitions supporting Carbon Neutrality goals.



10 July 2023

Temple Generation Intermediate Holdings II, LLC<sup>2</sup>, a subsidiary of Banpu Group has entered into a Purchase and Sale Agreement to acquire 100% interest in CXA Temple 2, LLC which owns Temple II Gas-fired power



plant (Temple II) that is situated adjacent to Temple I Gas-fired power plant (Temple I) in Texas, USA. The total investment amount is USD 460 million, or equivalent to THB 16,060 million. The transaction was successfully completed on 10 July 2023. Temple II is a natural gas-fueled, combined cycle facility with a generating capacity of 755 MW. The power plant has been in Commercial Operation Date (COD) since August 2015.

18 April 2023

Banpu NEXT invested 14.20% shares in Oyika Pte. Ltd. (Oyika), a Singapore start-up that offers battery swap solutions and Battery-as-a-Service (BaaS) to expand its services and network of battery swapping stations in Southeast Asia with total investment value of USD 8.75 million (approximately THB 311.41 million).



29 June 2023

Banpu NEXT increased its shareholding in Evolt Technology Co., Ltd. (EVOLT) that provides smart EV charging management solutions. The shareholder increased from 20% to 23.81% with total investment value of THB 30.0 million.



17 August 2023

BKV announced final investment decision (FID) for its development in Carbon Capture, Utilization and Storage (CCUS) project in the U.S. The 2 projects consist of Barnett Zero Project with an average sequestration rate of up to approximately 210,000 metric tons of Carbon dioxide (CO<sub>2</sub>) per year, expected total investment of around USD 29-34 million and Cotton Cove Project with an average sequestration rate of up to approximately 80,000 metric tons of CO<sub>2</sub> per year, expected total investment of around USD 14-24 million.

30 August 2023

The Board of Directors Meeting approved the interim dividend payment from operating results during 1 January – 30 June 2023, at a rate of THB 0.25 per share. The dividend payment was appropriated from the corporate income tax-exempt profit, on which shareholders are not entitled to tax credits. The interim dividend was paid out on 29 September 2023.

<sup>2</sup> Temple Generation Intermediate Holdings II, LLC is 100% held by BKV-BPP Power, LLC (BKV-BPP), which is a joint venture established by BKV Corporation (BKV) 96.1% subsidiary of Banpu and Banpu Power US Corporation (BPPUS), 100% subsidiary of BPP, in which BKV and BPPUS equally hold 50% ownership in BKV-BPP.



25 September 2023

BNSP Smart Tech Co., Ltd. (BNSP), a joint venture between Banpu NEXT and SP Group, had won the tender to design, build, own and operate an innovative district cooling system in Zone C of the Government Complex Commemorating His Majesty the King's 80th Birthday Anniversary, 5th December 2007 (Government Complex Center Zone C). When completed in 2024, the district cooling system will operate a total cooling capacity of up to 14,000 Refrigeration Tons (RT), providing sustainable cooling covering total gross floor area of 660,000 square meters to provide reliable and energy-efficient chilled water to the network of buildings within the complex. In addition, there are plans to install an EV charging station at the facility.



4 October 2023

Banpu reported the registration of the increase in paid-up capital of the company, regarding the issue of warrants representing the right to purchase new ordinary shares of Banpu Public Company Limited (BANPU-W5) in which a total of 1,691,527,171 units of warrant were issued on 1 October 2021 with the last exercise date on 29 September 2023. The number of warrants exercised was 1,564,741,337 units, the number of common shares allocated for this exercise 1,564,741,337 shares. The Company has accordingly allocated 1,564,741,337 new common shares (par value of THB 1 per share) and registered as paid-in capital with the Ministry of Commerce, resulting in an increase in the Company's paid-up capital from THB 8,454,161,388 to THB 10,018,902,725.

11 October 2023

Banpu NEXT has entered into Share Subscription Agreement (SSA) for the investment of 40% shares of SVOLT Energy Technology (Thailand) Co., Ltd. (SVOLT Thailand) with the investment amount of THB 750 million from SVOLT Energy Technology (Hongkong) which shall retain a majority 60% ownership interest. SVOLT Thailand established



on 5 April 2023, in Sriracha Chonburi, Thailand. SVOLT Thailand is mainly positioned as a module pack factory, with business scope including research, processing, and sales of lithium-ion battery technology; import and export of goods; import and export agency; technical services, development, consultation, exchange, and transfer; information consulting services (excluding licensing information consulting services). The factory has capacity of 60,000 set and is expected to deliver within the first quarter of 2024, serving key clients including GWM and Hozon are being served. The transaction was successfully completed on 30 October 2023.

27 October 2023

Banpu NEXT increased its shareholding in Beyond Green Co., Ltd., an associated company from 30% to 39.18 % with total investment value of THB 80 million .



13 November 2023

Banpu updated the progress of Barnett Zero Project, a Carbon Capture, Utilization and Storage (CCUS) project in the U.S., has safely commenced the initial CO2 injection for permanent underground sequestration which makes it one of the first commercial CCUS projects in the U.S.



22 December 2023

TRIS Rating affirms the company rating on Banpu PLC (BANPU) and the ratings on BANPU's senior unsecured debentures at "A+" with a "stable" outlook. The ratings reflect the company's leading position in the Asia-Pacific coal industry, predictable cash flows from the power business, and its transition investments toward a "greener" energy portfolio, energy technology businesses including battery value chain and decarbonization businesses. The ratings factor in the volatilities of coal and natural gas prices and declining demand for coal over the long-term.



1 January 2024

Banpu announced the appointment of Mr. Smittipon Srethapramote as the Chief Executive Officer of Banpu NEXT.

21 February 2024

- The Board of Directors Meeting approved the Company's dividend payment at a rate of THB 0.45 per share for the operating results from 1 January to 31 December 2023. Previously, an interim dividend had been paid out to shareholders at a dividend rate of THB 0.25 per share on 29 September 2023 for the operating results from 1 January to 30 June 2023. The remaining dividend for the operating results from 1 July to 31 December 2023 was proposed to be paid to shareholders at THB 0.20 per share. The dividend payment was appropriated from the corporate income tax-exempt profit, on which shareholders are not entitled to tax credits. The dividend is scheduled to be paid on 30 April 2024.
- The Board of Directors Meeting approved to appoint Mr. Sinon Vongkusolkit to be Chief Executive Officer replacing Mrs. Somruedee Chaimongkol. This appointment will be effective from April 2, 2024, onwards (The day after Annual General Meeting of 2024).

## BANPU INFORMATION

### Name and Location of Banpu Public Company Limited

<b>Name (Thai)</b>	บริษัท บ้านปู จำกัด (มหาชน)
<b>Name (English)</b>	Banpu Public Company Limited
<b>Major Business</b>	Energy
<b>Registration Number</b>	BorMorJor. 152
<b>Authorized Capital</b>	THB 10,149,163,028
<b>Paid-up Capital</b>	THB 10,018,902,725*
<b>No. of Shares</b>	10,018,902,725 shares
<b>Par Value</b>	THB 1
<b>Headquarters</b>	27 <sup>th</sup> Floor, Thanapoom Tower, 1550, New Petchburi Road, Makkasan, Ratchathewi, Bangkok 10400, Thailand
<b>Telephone</b>	+66 2 694 6600
<b>Website</b>	www.banpu.com
<b>Company Secretary</b>	Telephone: +66 2 694 6859 e-mail: bodsec@banpu.co.th
<b>Investor Relations</b>	Telephone: +66 2 694 6684 e-mail: investor_relations@banpu.co.th
<b>Corporate Communications</b>	Telephone: +66 2 694 6680 e-mail: cc@banpu.co.th

Notes:

\* The Company has accordingly allocated 1,564,741,337 new common shares (par value of THB 1 per share) from exercise BANPU-W5 and successfully registered as paid-in capital with the Ministry of Commerce on 4 October 2023, resulting in an increase in the Company's paid-in capital from THB 8,454,161,388 to THB 10,018,902,725.

## REVENUE STRUCTURE

For the previous 3 years ended 31 December 2023

### Banpu Public Company Limited

Products/Services	Conduct by	% of Shareholding	2023		2022		2021	
			Revenue (USD Million)	%	Revenue (USD Million)	%	Revenue (USD Million)	%
<b>Sales Revenues:</b>								
1. Imported Coal	Banpu	-	60.72	97.59	57.47	97.49	39.85	99.48
2. Other Revenues	Banpu	-	1.50	2.41	1.48	2.51	0.21	0.52
<b>Total Sales Revenues</b>			<b>62.22</b>	<b>100.00</b>	<b>58.95</b>	<b>100.00</b>	<b>40.06</b>	<b>100.00</b>

### Banpu Public Company Limited and its Subsidiaries

Products/Services	Conduct by	% of Shareholding	2023		2022		2021	
			Revenue (USD Million)	%	Revenue (USD Million)	%	Revenue (USD Million)	%
<b>Sales Revenues - Domestic:</b>								
1. Domestic Coal in Thailand	Banpu	-	60.72	1.18	57.47	0.75	39.85	0.97
	BMC	100.00	80.17	1.55	96.70	1.25	31.73	0.77
	BPI	100.00	-	-	-	-	3.16	0.08
2. Domestic Coal in Indonesia*	Indominco	65.14	105.83	2.05	106.99	1.39	93.11	2.26
	Bharinto	65.14	189.06	3.66	310.15	4.03	171.29	4.15
	Trubaindo	65.14	122.75	2.38	229.66	2.98	198.05	4.80
	Jorong	65.14	9.62	0.19	16.59	0.22	22.96	0.56
3. Domestic Coal in Australia	CEY	100.00	404.65	7.84	332.19	4.32	365.59	8.87
4. Coal Trading in China	BBET	100.00	84.45	1.64	200.52	2.61	55.33	1.34
5. Power in China	BIC	78.57	186.23	3.61	200.13	2.60	190.88	4.63
	BPPRIC	100.00	26.28	0.51	27.50	0.36	28.76	0.70
6. Power in Japan	BPPTGK	100.00	98.35	1.91	65.12	0.85	64.24	1.56
7. Power in the U.S.	BKV-BPP	100.00	680.24	13.19	501.92	6.52	20.19	0.49
8. Power in Australia	BEN	100.00	12.43	0.24	10.27	0.13	5.79	0.14
9. Power in Vietnam	ELMD	100.00	8.39	0.16	6.55	0.09	3.65	0.09
10. Gas	BNAC	100.00	734.84	14.24	1,657.73	21.55	890.73	21.60
11. Battery	DPH	65.10	81.23	1.57	-	-	-	-
12. Other Revenues			25.99	0.50	12.75	0.16	9.74	0.24
<b>Total Sales Revenues - Domestic</b>			<b>2,911.23</b>	<b>56.43</b>	<b>3,832.24</b>	<b>49.81</b>	<b>2,195.05</b>	<b>53.23</b>

Products/Services	Conduct by	% of Shareholding	2023		2022		2021	
			Revenue (USD Million)	%	Revenue (USD Million)	%	Revenue (USD Million)	%
<b>Sales Revenues - Overseas:</b>								
1. Coal - International Trade**	Indominco	65.14	530.02	10.27	834.96	10.85	578.73	14.03
	Kitadin	65.14	-	-	-	-	9.59	0.23
	Bharinto	65.14	741.84	14.38	1,153.74	15.00	590.64	14.32
	Trubaindo	65.14	486.43	9.43	843.46	10.96	345.70	8.38
	Jorong	65.14	-	-	-	-	3.81	0.09
	Energi	65.14	86.41	1.68	48.4	0.63	21.65	0.53
	CEY	100.00	400.60	11.98	921.08	11.98	362.07	8.78
BMS	100.00	2.22	0.77	59.34	0.77	16.35	0.40	
<b>Total Sales Revenues - Overseas</b>			<b>2,247.52</b>	<b>43.57</b>	<b>3,860.98</b>	<b>50.19</b>	<b>1,928.54</b>	<b>46.77</b>
<b>Total Sales Revenues</b>			<b>5,158.75</b>	<b>100.00</b>	<b>7,693.22</b>	<b>100.00</b>	<b>4,123.59</b>	<b>100.00</b>
<b>Participating Profit (Loss) from Investment in Associated Companies (Equity Method)</b>			<b>268.29</b>	<b>-</b>	<b>339.36</b>	<b>-</b>	<b>227.14</b>	<b>-</b>
<b>Total Revenues</b>			<b>5,427.04</b>	<b>-</b>	<b>8,032.58</b>	<b>-</b>	<b>4,350.73</b>	<b>-</b>

**Notes:**

- Other revenues consist of other services.
- The Company did not realize sales revenue from its power business in Thailand as its shareholding is not more than 50%
- BBET means Banpu (Beijing) Energy Trading Co., Ltd.
- BEN means Banpu Energy Australia Pty Ltd.
- ELMD means El Wind Mui Dinh Ltd.
- DPH means Durapower Holdings Pte. Ltd.
- The preparation of the information presented above is based on the generally accepted accounting principles which eliminate intercompany transactions. The amounts shown should not be reconciled with the statutory accounts of each territory.

\*Sales revenues from domestic coal in Indonesia operated by Indominco, Bharinto, Trubaindo, and Jorong in 2021 are calculated from the Company's 67.13% shareholding.

\*\* Sales revenues from coal - international trade operated by Indominco, Kitadin, Bharinto, Trubaindo, Jorong, and Energi in 2021 are calculated from the Company's 67.13% shareholding



## PRODUCTS AND SERVICES



### Energy Resources Group

#### Mining Business

Coal is a solid fuel, varying in color from dark brown to jet-black. The coal mining process starts with an exploration of a potentially economic coal seam, production (excavation and transportation), coal selection, coal pulverization to attain the size and quality as required by the customers, and stockpiling to be delivered to the customers.

### Coal Mines in the Republic of Indonesia

The total coal production in 2023 was 16.82 million tonnes from the following mines:



#### 2. Trubaindo Mine

The mine is operated by PT. Trubaindo Coal Mining, a wholly-owned subsidiary of ITM. Located in West Kutai, East Kalimantan Province, this open-pit mine has 29.72 million tonnes of coal reserves. Its production capacity in 2023 was 2.70 million tonnes.

#### 1. Indominco Mine

The mine is operated by PT. Indominco Mandiri, a wholly-owned subsidiary of PT. Indo Tambangraya Megah Tbk (ITM). Located in Bontang, East Kalimantan Province, this open-pit mine has 16.80 million tonnes of coal reserves. The production capacity in 2023 was 6.46 million tonnes. The Bontang Coal Terminal is utilized for loading its coal to be exported from Indonesia.

#### 3. Bharinto Mine

The mine is operated by PT. Bharinto Ekatama, a wholly-owned subsidiary of ITM. The mine is located in North Barito, Central Kalimantan Province, and West Kutai, East Kalimantan Province, adjacent to the Trubaindo mine. This open-pit mine has coal reserves of 128.86 million tonnes, and its production capacity in 2023 was 7.10 million tonnes.



#### 4. Jorong Mine

The mine is operated by PT. Jorong Barutama Greston, a wholly-owned subsidiary of ITM. Located in Tanah Laut, South Kalimantan Province, this open-pit mine has 6.70 million tonnes of coal reserves. Its production capacity in 2023 was 0.56 million tonnes.



#### 5. Graha Panca Karsa Mine (GPK)

The mine is operated by PT. Graha Panca Karsa, a 70% owned subsidiary of ITM. Located in East Kalimantan Province, this open-pit mine has 21.52 million tonnes of coal reserves.

#### 6. NPR Mine Project

The mine is operated by PT. Nusa Persada Resources, a wholly-owned subsidiary of ITM. Located in Central Kalimantan Province, this open-pit mine has 77.40 million tonnes of coal reserves.

#### 7. TIS Mine Project

The mine is operated by PT. Tepian Indah Sukses, a wholly-owned subsidiary of ITM. Located in East Kalimantan Province, this open-pit mine is under the coal reserves evaluation.

### Coal Mines in Australia

Centennial Coal Co. Pty Ltd. (Centennial), a subsidiary of Banpu, is one of the underground coal producers in New South Wales. Centennial supplies coal fuels for coal-fired power plants in New South Wales. Its main assets consist of the possessions to operate coal mining business in Northern and Western parts of New South Wales. The total production capacity in 2023 was 6.77 million tonnes with the share of production from the following mines:



#### 1. Airly Mine

The mine is wholly owned and operated by Centennial. Located near Lithgow in the Western Coalfields of New South Wales, Airly is an underground mine using a continuous mining method. It has 21.39 million tonnes of coal reserves, with a production capacity of 0.65 million tonnes in 2023.



## 2. Angus Place Mine

The mine is wholly owned and operated by Centennial. Located in the Western Coalfields of New South Wales, Angus Place has 53.00 million tonnes of coal reserves. Since the end of February 2015, the production has been suspended under care and maintenance. Its staff and machinery were relocated to the Springvale mine to expand production and will return when Angus Place resumes its operation.



## 3. Springvale Mine

The mine is wholly owned and operated by Centennial. Located in the Western Coalfields of New South Wales, Springvale deploys the longwall mining technology. It has 13.20 million tonnes of coal reserves, with a production capacity of 2.27 million tonnes in 2023.



Angus Place and Springvale mines produce and supply thermal coal for domestic and international markets. They also have conveyor belts to transport coal to the power plants that are their domestic customers. The Lidsdale Sliding Coal Loader has been expanded to support the transportation of increasing volumes of coal exports.



## 4. Clarence Mine

The mine is a wholly owned and operated by Centennial. Located near Lithgow, in the Western Coalfields of New South Wales, it is an underground mine using a highly efficient continuous mining method. Clarence has 28.34 million tonnes of coal reserves, with a production capacity of 0.93 million tonnes in 2023. The mine exports its coal mainly through Port Kembla.

## 5. Mandalong Mine

The mine is wholly owned and operated by Centennial. Located near Morisset, New South Wales, Mandalong is an underground longwall mine. Its production capacity is high as it can excavate coal seams with a thickness of over 5 meters. The mine has 48.65 million tonnes of coal reserves, with a production capacity of 1.83 million tonnes in 2023. Its coal is distributed in domestic markets and exported through the Port of Newcastle.



## 6. Myuna Mine

The mine is wholly owned and operated by Centennial. Located near Lake Macquarie, in the Newcastle Coalfields, New South Wales, Myuna is an underground mine using a continuous mining method. The mine has 31.38 million tonnes of coal reserves, with a production capacity of 1.10 million tonnes in 2023. Coal from Myuna is transported to major customers nearby using a conveyor system.



## 7. Northern Coal Services (NCS)

It is a coal-washing plant located in the Newcastle Coalfield, New South Wales. Since it is in the Port of Newcastle, NCS processes thermal and semi-soft coking coal excavated from various mines and prepares them for delivery to domestic and international markets. The connection with double-track railways enables effective and fast coal uploading to the Port of Newcastle. Northern Coal Services' capacity is approximately 4 million tonnes per year, and it has specific routes for exporting and transporting coal to domestic customers.

## Future Projects

### 1. Newstan Extension Mine Project

The project explores and studies the feasibility of utilizing existing mining infrastructure to expand the coal reserves and production capacity.

### 2. Mandalong Southern Extension Mine Project

The project is an extension of the Mandalong mine. Currently, it is effectively designed to connect with the Mandalong mine.

### 3. Neubecks Mine Project

The project is located in the Western Coalfields of New South Wales near its domestic power plants, which are its customers. Neubecks produces quality coal to supply domestic markets and export to international markets through Port Kembla.

## Coal Mines in the People's Republic of China

The total coal production in 2023 was 11.06 million tonnes from the following mines:



### 1. Gaohe Mine

The mine is operated by BP Overseas Development Co., Ltd., a subsidiary of Banpu, which wholly owns Asia American Coal Inc. (AACI). AACI was established to develop and conduct business as well as invest in a joint venture in the coal business in China with Shanxi Lu'an Mining Industry (Group) Co., Ltd., a major coal producer in China. Each holds 45% and 55% shares, respectively, of Shanxi Gaohe Energy Co., Ltd. Gaohe mine is an underground longwall mine in Shanxi Province, with 90.79 million tonnes of coal reserves and a production capacity of 10.03 million tonnes in 2023.





## 2. Hebi Mine

The mine is operated by Banpu Minerals Co., Ltd., a subsidiary of Banpu, which entered a joint venture with Hebi Coal and Electricity Co., Ltd to establish Hebi Zhong Tai Mining Co., Ltd. (HZTM) with each holding 40% and 60% of shares, respectively. HZTM was established to produce and distribute coal from the Hebi mine in Henan Province. This underground longwall mine has 12.04 million tonnes of coal reserves, and its production capacity in 2023 was 1.03 million tonnes.

## Coal Mines in Mongolia

Banpu's coal reserves in Mongolia are located in the South Gobi and the Middle Gobi regions. The projects under development are as follows:

### 1. Tsant Uul Mine Project

The project is located in South Gobi Province in the southern region of Mongolia, bordering to China. It is currently under development and in the feasibility study phase to increase the value of existing coal to respond to domestic market demand and China. A pilot plant has been operated to conduct an experiment on the Coal to Coal Tar production, which indicating that tar can be separated from coal at Tsant Uul. Banpu is currently assessing the feasibility of increasing the value of tar, charcoal, and gas from the production process and preparing for further commercial operation. The Company has also conducted an production engineering and technology feasibility study, including an in-depth study of tar and charcoal's chemical and physical properties, which could be developed into valuable chemical products to meet market demands.

### 2. Unst Khudag Mine

The mine is located in Central Gobi Province in Central Mongolia and has thermal coal reserves. The Company was granted approval for the feasibility study of the mining project from relevant government agencies, including the study of raw water reserve for the project. It also conducted a preliminary study on production engineering and appropriate technology, as well as the production costs in converting coal into chemical products and energy for power generation. This involves market research for chemical products in Mongolia and China. Furthermore, the Company initiated a study on technologies that can add product value by using coal as a fuel in production processes and aiming to export the products to China.

## Gas Business

Banpu is committed to seeking new eco-friendly energy sources in alignment with its Greener & Smarter strategy. It has diversified into a natural gas business through its subsidiary, BKV Corporation (BKV). BKV is currently engaged in the investment, development, and production of natural gas and natural gas liquid (NGL) primarily from the Marcellus Shale in the Northeastern Pennsylvania (NEPA), the most abundant natural gas reserve in the U.S., and the Barnett Shale in the Fort Worth Basin of Texas.

With efficient work standards and international professionalism, BKV has become one of the top 20 natural gas business leaders in the U.S. Its total acreage position is approximately 497,000 net acres, and its net average daily production is 892 MMcfed in 2023. As of 31 December 2023, BKV had 5.15 Tcfe of proved reserves.



### Marcellus Shale in Pennsylvania

In 2016, the Company began investing in U.S. natural gas, focusing on assets with low-risk that generate good-returns in the future. The first investment was in shale gas located in Northeastern of Marcellus Shale in Pennsylvania, which has low production costs and the largest natural gas reserves in the U.S. A total acreage position is approximately 37,000 net acres, including Chaffee Corners and NEPA Corners-1 to NEPA Corners-5 gas reserves.



### Barnette Shale in Texas

On 17 December 2019, Banpu North America Corporation (BNAC), a subsidiary of Banpu, entered into a Purchase and Sales Agreement to acquire a stake in the Barnett Shale, Texas and become the production operator, with an investment value of USD 770 million. Then, on 15 April 2020, BNAC amended the term of the Purchase and Sales Agreement to acquire a stake in the Barnett Shale.

The acquisition price was changed to USD 570 million, with contingent payments of up to USD 260 million over a period of 4 years starting from 1 January 2021 to 31 December 2024. The value of contingent payments will be based on the annual average Henry Hub natural gas price beginning at 2.75 USD/MMBtu or the annual average price of West Texas Intermediate crude oil beginning at 50 USD/BBL. The acquisition of a stake in the Barnett Shale was completed on 1 October 2020.

Barnett Shale is ideal for natural gas production, with its existing infrastructure and transportation system. It is also a significant natural gas production source that has fulfilled the demands of the Maxico Gulf Coast states of the U.S. for more than 20 years, with a total acreage position of approximately 289,000 net acres and 3,850 production wells.

On 18 May 2022, BKV expanded its investment in the Barnett Shale by acquiring stakes in natural gas upstream to midstream assets with the transaction of USD 750 million and contingent payments of up to USD 50 million. The acquired assets recognized income from their operations from 1 July 2022 onward. The Barnett Shale is a large natural gas reservoir with low production

risk owing to its existing infrastructure and transportation system. Its acreage position is approximately 165,000 net acres at the heart of the Barnett Shale, with over 2,100 production wells. BKV is the operator of Barnett, managing natural gas compression, 778 miles of gas gathering pipeline system, and 65 gas compressor stations. This natural gas field has access to high-demand markets supported by existing infrastructure. Since the Barnett Shale is already operating, it can generate cash flow instantly from its various products, including natural gas and natural gas liquids (NGLs). Moreover, BKV's familiarity with the region enables the creation of synergy and facilitates the transfer of knowledge and technology from its operations at existing production sites, leading to new investment opportunities for long-term growth.



### Carbon Capture, Utilization, and Sequestration (CCUS) Project

Aiming to achieve a net-zero target for its natural gas business by 2030, BKV has established dCarbon Ventures to study investment opportunities and develop commercialized carbon capture, utilization, and sequestration (CCUS) technology. The Barnett Zero project in Texas began commercial operations on 13 November 2023 to capture carbon dioxide and permanently sequester it underground for the first time. The project will have an average sequestration rate of up to 210,000 tonnes of carbon dioxide (CO<sub>2</sub>)-equivalent annually. The Cotton Cove project, BKV's second CCUS project, will have an average sequestration rate of up to 45,000 tonnes of carbon dioxide (CO<sub>2</sub>)-equivalent annually. The project aims to achieve commercial operations by the end of 2024. In addition, ongoing feasibility studies of investment and development are being conducted for additional projects aimed at reducing greenhouse gas emissions in business operations and their environmental impact. This also presents a potential opportunity to generate income through the sale of carbon credits in the future.



## Energy Generation Group

### Thermal Power Business

#### Combined Heat and Power Plants (CHP)

Banpu Power Public Company Limited (BPP), a 78.66% owned subsidiary of Banpu, holds 100% of the paid-up capital in Banpu Power Investment Co., Ltd. (BPIC), which was registered in Singapore through Banpu Power International Ltd. (BPPI). BPIC invested in three CHPs in northern China with a total installed capacity of 618 MWe (equity-based capacity of 548 MWe), comprising a power capacity of 348 MW and a steam production capacity of 1,508 tonnes per hour. Details are as follows:



#### 1. Luannan Combined Heat and Power Plant

The power plant is located in Luannan County, Tangshan City, Hebei Province. The coal-fired power plant generates power and steam with a combined installed capacity of 246 MWe, comprising a power capacity of 150 MW and a steam production capacity of 538 tonnes per hour.



#### 2. Zhengding Combined Heat and Power Plant

The power plant is located in Zhengding County, Shijiazhuang City, Hebei Province. The coal-fired power plant generates power and steam with a total installed capacity of 139 MWe, comprising a power capacity of 73 MW and a steam production capacity of 370 tonnes per hour.





### 3. Zouping Combined Heat and Power Plant

The power plant is located in Zouping County, Binzhou City, Shandong Province. The coal-fired power plant generates power and steam with a total installed capacity of 233 MWe, comprising a power capacity of 125 MW and a steam production capacity of 600 tonnes per hour. However, as BPIC holds 70% shares of this power plant, its equity-based capacity is 163 MWe.



### BLCP Power Plant

BPP holds 50% shares of BLCP Power Ltd. (BLCP), an independent power producer (IPP) with a 1,434 MW thermal power capacity. BLCP consists of two production units with an installed capacity of 717 MW each. Both units are fueled by high-quality bituminous coal. Located in Map Ta Phut Industrial Estate, Rayong Province, BLCP has secured a Power Purchase Agreement (PPA) with the Electricity Generating Authority of Thailand for 25 years, starting from the Commercial Operation Date (COD) of the second production unit. The construction of the BLCP began in August 2003. Its first unit and second unit achieved COD in October 2006 and February 2007, respectively. Both units have been fully operational for 17 years.



### HPC Power Plant

BPP entered into a joint venture with a subsidiary of Ratch Group Pcl. (RATCH) and Lao Holding State Enterprise (LHSE), a state enterprise of the Government of Lao PDR, to establish Hongsa Power Co., Ltd. (HPC) and Phu Fai Mining Co., Ltd. (PFMC). The headquarters of the two companies are in Vientiane, Lao PDR, and they have an objective to operate the HPC power plant in Lao PDR under the following joint venture's terms and conditions:

- HPC was granted a concession from the Lao PDR government to develop, construct, and operate the HPC power plant. The concession is valid from November 2009 until its expiration or 25 years from the COD of the third production unit in March 2016. The shareholding percentage of each company is BPP 40%, RATCH 40%, and LHSE 20%.
- PFMC was granted a concession to operate a lignite coal mine. The shareholding percentage of each company is BPP 37.5%, RATCH 37.5%, and LHSE 25%.

HPC is a mine-mouth power plant fueled by lignite coal with a total installed capacity of 1,878 MW from three power production units, whose capacity is 626 MW each. The first, second, and third production units achieved their COD on 2 June 2015, 2 November 2015, and 2 March 2016, respectively.

### Shanxi Lu Guang Power Plant

BPIC, a wholly-owned subsidiary of BPP, entered into a joint venture agreement to develop the Shanxi Lu Guang power plant, a 1,320 MW coal-fired power plant that deploys the Ultra-Supercritical (USC) technology. It is located in Changzhi City, Shanxi Province, China, three kilometers away from the Gaohe mine. BPIC holds 30% shares of the power plant, while Gemeng International Energy Co., Ltd. (Gemeng) and Anhui Province Wenergy Co., Ltd. each holds 35% of its shares. The first and second production units achieved their COD in June 2021 and October 2021, respectively.



### Nakoso IGCC Power Plant

BPIC, a wholly-owned subsidiary of BPP, acquired 33.5% stakes in Nakoso IGCC Management Co., Ltd. (NIMCO), which holds 40% shares of Nakoso IGCC power plant. Therefore, BPP holds 13.4% shares in the 543-MW Nakoso IGCC power plant in Fukushima Prefecture, Japan. This power plant integrates the coal gasification technology with the Gas-Fired Combined Cycle Plant. The IGCC technology resulted from 30 years of research and development of Mitsubishi Corporation Power Limited (Japan), one of the power plant's five shareholders. The Nakoso power plant is a commercial-scale IGCC power plant using



High Efficiency, Low Emissions (HELE) technology. It achieved COD on 16 April 2021 and entered into a long-term Power Purchase Agreement (PPA) to supply electricity to Japan's power grid. Nakoso IGCC also has a long-term fuel supply agreement.



## Temple I and Temple II CCGT Power Plants



BKV, a 96.38% owned subsidiary of Banpu, and Banpu Power US Corporation (BPPUS) - a wholly-owned subsidiary of BPP, jointly established BKV-BPP Power, LLC (BKV-BPP) in which BKV and BPPUS equally hold 50% ownership.

On 10 August 2021, BKV-BPP acquired 100% shares in Temple Generation Intermediate Holdings II, LLC, which wholly owns the Temple I CCGT power plant in Texas in the U.S. The 768-MW gas-fired power plant achieved its commercial operation date in July 2014. Later, on 10 July 2023, The Temple Generation Intermediate Holdings II, LLC acquired 100% shares in the Temple Generation II, LLC (formerly CXA Temple 2, LLC), which operates the Temple II CCGT power

plant located adjacent to Temple I CCGT power plant. The 755 MW Temple II power plant achieved COD in August 2015. In addition, BKV-BPP founded BKV-BPP Retail, LLC to operate an electricity retail business in Texas, one of the U.S. states with a fast-growing economy and population.

Both Temple I and Temple II are natural gas-fired power plants that deploy Combined Cycle Gas Turbines (CCGT) technology – an advanced High Efficiency, Low Emissions (HELE) technology. Their flexibility in priority dispatch according to its merit order to serve the dynamic demand pattern in the merchant power market enables them to compete in the Electric Reliability Council of Texas (ERCOT) market.

## Renewable Power Business

### Solar Power Plants in the People's Republic of China

Banpu NEXT Co., Ltd. (Banpu NEXT), a subsidiary in which Banpu and BPP equally hold 50% ownership, holds 100% shares of BPP Renewable Investment (China) Co., Ltd. (BPPRIC). BPPRIC invested in seven solar farms in China that are eligible for a Feed-in Tariff (FiT) of a 20-year term. As of 31 December 2023, BPPRIC's total generation capacity was 177.32 MW, as detailed below.

Solar Power Plants	Shareholding (%)	Capacity (MW)	Location (Province)	Commercial Operation Date
1. Huineng	100.00	21.51	Shandong	July 2016
2. Jinshan	100.00	28.95	Shandong	September 2016
3. Haoyuan	100.00	20.00	Shandong	October 2016
4. Hui'en	100.00	19.70	Shandong	January 2017
5. Deyuan	100.00	51.64	Zhejiang	February 2017
6. Xingyu	100.00	10.30	Shandong	October 2017
7. Jixin	100.00	25.22	Jiangsu	June 2016
<b>Total Capacity</b>		<b>177.32</b>		



### Solar Power Plants and Projects in Japan

Banpu NEXT has invested in several solar power plants and projects in Japan through subsidiaries. As of 31 December 2023, the Company's total equity-based capacity was 145.88 MW, as detailed below.



Solar Power Plants/ Projects	Shareholding (%)	Capacity (MW)		Location (Prefecture)	Commercial Operation Date
		100%	Equity- Based		
1. Olympia - Hitachi Omiya No.1	40.00	2.00	0.80	Ibaraki	July 2013
2. Olympia - Hitachi Omiya No.2	40.00	2.00	0.80	Ibaraki	January 2015
3. Olympia - Ozenosato Kateshina	40.00	2.00	0.80	Gunma	January 2015
4. Olympia - Sakura No. 1	40.00	2.00	0.80	Tochigi	December 2015
5. Olympia - Sakura No. 2	40.00	2.00	0.80	Tochigi	October 2015
6. Hino*	100.00	3.50	3.50	Shiga	May 2016
7. Awaji*	100.00	7.90	7.90	Hyogo	May 2017
8. Mukawa	93.00	17.00	15.81	Hokkaido	August 2018
9. Nari Aizu	100.00	20.46	20.46	Fukushima	December 2018
10. Kurokawa	100.00	18.90	18.90	Miyagi	December 2019
11. Tenzan	100.00	1.96	1.96	Saga	October 2017
12. Muroran 1	100.00	1.73	1.73	Hokkaido	August 2018
13. Muroran 2	100.00	1.63	1.63	Hokkaido	January 2018
14. Takeo 2	100.00	1.00	1.00	Saga	October 2018
15. Yamagata	100.00	20.00	20.00	Yamagata	November 2020
16. Yabuki*	100.00	7.00	7.00	Fukushima	December 2020
17. Kesenuma	100.00	20.00	20.00	Miyagi	November 2021
18. Nihonmatsu	100.00	12.00	12.00	Fukushima	November 2021

Solar Power Plants/ Projects	Shareholding (%)	Capacity (MW)		Location (Prefecture)	Commercial Operation Date
		100%	Equity- Based		
19. Shirakawa	100.00	10.00	10.00	Fukushima	January 2022
<b>Total Generation Capacity</b>		<b>145.89</b>			

Note: \*Banpu NEXT has increased a 100% stake in Hino, Awaji, and Yabuki power plants since 8 September 2023.

### Solar Farms in Australia

Banpu acquired two operating solar farms in New South Wales, Australia, through Banpu Energy Hold Trust, jointly established by Banpu Energy Australia Pty Ltd. (BEN), a subsidiary of Banpu, and Banpu Renewable Australia Pty Ltd. (BREA), a subsidiary of Banpu NEXT. BEN's and BREA's shareholding percentage in Banpu Energy Hold Trust is 80% and 20%, respectively. Banpu Energy Hold Trust acquired 100% shares of both Beryl Solar Farm (BSF) and Manildra Solar Farm (MSF), which are Banpu's first two utility-scale solar farms in Australia, as detailed below:



#### 1. Beryl Solar Farm

Beryl is a 110.9 MW solar farm located in New South Wales. It achieved COD in June 2019.



#### 2. Manildra Solar Farm

Manildra is a 55.9 MW solar farm located in New South Wales. It achieved COD in December 2018.

These two solar farms are supported by growing demand and electricity consumption as well as the government policy to promote electricity generation from renewable energy. They supply electricity through the National Electricity Market (NEM) under the long-term Power Purchase Agreement (PPA). This acquisition paved the way for investment in a renewable business in Australia under the Wholesale Electricity Market with an advanced trading system.



## Solar and Wind Power Plants and Projects in the Socialist Republic of Vietnam

Banpu NEXT has expanded its investment and development of solar and wind power plants and projects in Vietnam. Currently, it owns three solar and wind power plants and projects, one of which is during submission of documents for COD approval and feasibility study phase, while the other two projects have already achieved commercial operation. These operating plants have secured long-term power purchase agreements with Vietnam Electricity (EVN) under the Feed-in Tariff (FiT) scheme for a 20-year period to supply electricity through the national grid system. As of 31 December 2023, the Company's total capacity was 152.60 MW, as detailed below:



Power Plants/Projects	Shareholding (%)	Capacity (MW)		Location (Province)	Commercial Operation Date
		100%	Equity-Based		
<b>Wind Power Plants/Projects</b>					
1. El Wind Mui Dinh	100.00	37.60	37.60	Ninh Thuan	June 2019
2. Vinh Chau - Phase 1	100.00	30.00	30.00	Soc Trang	During submission of documents for COD approval
Vinh Chau - Phase 2 & 3	100.00	50.00	50.00	Soc Trang	During the feasibility study phase
<b>Solar Power Plants</b>					
3. Nhon Hai	100.00	35.00	35.00	Ninh Thuan	July 2020
<b>Total Capacity</b>			<b>152.60</b>		

### Solar Power Plants in the USA

BKV-BPP has invested in and is currently developing a solar power plant project with production capacity of 2.5 MW in the U.S. The project is expected to commence commercial operations in mid-2024.



## Energy Technology Group

Banpu integrates various forms of technology into its Greener & Smarter approaches and is moving forward to becoming a leading international versatile energy provider with a commitment toward sustainable energy. To achieve its goal, the Company leverages its experience of over four decades in the energy business, both in Thailand and abroad. Banpu builds on its expertise in solar power generation business management in China, Australia, and Japan, including the energy trading platform and virtual power plant technologies in offering clean energy technology business suitable for the future energy of Thailand through its subsidiary, Banpu NEXT Co., Ltd.

Banpu NEXT, a leading smart energy solutions provider in Asia-Pacific, operates its businesses in alignment with Banpu Group's Greener & Smarter strategy and supports a low-carbon society. The Company strives to become the "Net-Zero Solutions Provider" offering total smart energy solutions for enterprises across Asia-Pacific. Banpu NEXT is positioned as the long-term partner prioritizing customer needs by analyzing customers' pain points. It harnesses technology and leverages its energy expertise to design and develop the best tailor-made solutions, from design and planning to installation, with expert assistance provided at every stage of project development, along with professional

after-sales service and 24/7 customer care. The Company provides a digital platform and applications which facilitate easy and real-time energy management for customers, enabling enterprises to adopt clean energy solutions without limitations. This supports the transformation of enterprises into smart business, enabling them to achieve their sustainability goals in line with the Environmental, Social, and Governance (ESG) principles and Sustainable Development Goals (SDGs). Moreover, the Company creates opportunities for sustainable growth while improving the quality of life for both its customers and the general public. Banpu NEXT has engaged in five businesses as follows:



## Solar Rooftop and Floating Business

Operating a power generation and distribution business, including solar rooftop and floating solar, Banpu NEXT aims to expand its portfolios into strategic markets in Asia-Pacific, namely Thailand, China, Japan, Vietnam, and Indonesia. As of 31 December 2023, the total installed capacity in all these countries amounted to 225 MW.

Banpu NEXT is continually expanding its solar rooftop and floating business. In Thailand, it serves leading enterprises across various industries. For example, it has completed phase IV of solar rooftop power generation system installation at Betagen plant and phase III at Summer Lasalle, a mixed-use project. Furthermore, it has installed the system for automobile manufacturing plants, product manufacturing plants, and 16 MW large-scale floating solar project at Lak Chai Mueang Yang Industrial Estate, Rayong Province, which has already achieved COD. As of 31 December 2023, Banpu NEXT's total capacity of solar power and floating solar business in Thailand was at 98.30 MW.

In China, the Company developed a solar rooftop project in Zhengding, with a total capacity of 66.10 MW as of 31 December 2023.

Solar ESCO, a leading renewable company in Vietnam in which Banpu has invested, has installed an additional 14.7 MW solar rooftop power generation system for VinFast, a Vietnam-based automotive company in Vingroup. As of 31 December 2023, Solar ESCO's total equity-based capacity amounted to 40.20 MW (a 49% stake).



The solar rooftop power generation project in Indonesia operated by PT. ITM Bhinneka Power (IBP), a Banpu subsidiary, provides solar rooftop installation services for commercial and industrial customers, such as latex glove factories and water bottle factories. The total capacity as of 31 December 2023 was reported at 17.40 MW (in accordance with the proportion of its shareholding).

## Energy Storage Systems Business

Banpu NEXT develops energy storage systems for all electric vehicles and stationary applications. For example, an integration into solar power systems and renewable power plants to enhance energy efficiency and ensure stability in all situations. The energy storage systems business is operated by its subsidiary, Durapower Holdings Pte. Ltd., a world-leading provider of lithium-ion battery systems.



Its lithium-ion battery plant in China has a current production capacity of 1 GWh with a plan to increase to 3 GWh by 2025. Banpu NEXT and Durapower jointly established a battery assembly plant at Amata City, Chonburi Province, which will commence commercial operations in 2024 and will achieve a production capacity of 1 GWh by 2027.



In addition, Banpu NEXT has acquired a 40% stake in SVOLT Energy Technology (Thailand) or SVOLT Thailand, a manufacturer and distributor of lithium-ion batteries for electric vehicles. The battery manufacturing plant located in Sri Racha, Chonburi Province, is expected to begin delivering the first batch of products in the first quarter of 2024 to key customers in the EV industry, such as GWM and Hozon.

To generate value in the entire value chain of the battery business, from manufacturing and distribution to reusing and recycling, Banpu NEXT has invested in Green Li-ion Pte. Ltd., a Singapore-based lithium-ion battery recycling technology company. Moreover, Banpu NEXT has developed a battery farm project in Japan with a capacity of 58 MWh, which is expected to achieve COD in 2025.

## Energy Trading

Banpu NEXT has engaged in overseas energy trading, earning profit from the price difference in buying and selling. The Company is ready to expand into free electricity trading markets with an operation in Japan. Its primary customers are electricity grid operators, educational institutions, government agencies, and hospitals. The Company plans to expand its energy trading business to other countries with high-growth potential, such as the United States of America and China. The energy trading capacity as of 31 December 2022 amounted to 760 GWh.

## E-Mobility Business

Banpu NEXT is Thailand's first fully integrated alternative mobility service provider in the form of Mobility as a Service (MaaS) to facilitate customers' logistics and transportation businesses. Its e-mobility business includes an EV fleet management system linked to a digital platform and an EV charger with after-sales services. The Company's MaaS consists of three key services:

1. **Vehicle-as-a-Service (VaaS)** offers customized EV fleet and charging station management to meet the specific requirements of the customer's business.
2. **Energy-as-a-Service (EaaS)** offers an EV energy service, including batteries, EV charger stations, and battery swap stations. In 2023, the Company invested in Oyika Co., Ltd., a Singapore-based startup specializing in battery swap solutions for electric motorcycles.





3. **Platform-as-a-Service (PaaS)** offers a user-friendly digital platform to enhance fleet management productivity, track carbon credit optimization, and save costs, for instance, the platform for mobility sharing, ride sharing, fleet management, fleet maintenance, and battery management systems. As of 31 December 2023, the Company's Mobility-as-a-Service (MaaS) encompassed:



- Ride-sharing service with Muvmi electric tuk-tuks covering 12 main areas in downtown Bangkok, with 16,888 passengers a day
- EV charger management by Evolt Technology Co., Ltd. with 711 EV chargers
- After-sales service by Beyond Green Co., Ltd., with 22 branches across Thailand

### Smart Cities & Energy Management Business

Banpu NEXT offers total energy solutions, energy management systems, district cooling systems, waste management, and smart utility systems that improve efficiency in business operations and optimize energy utilization and saving. It also assists its customers in transforming their enterprises into smart businesses, aiming for a carbon-free society. In 2023, BNSP Smart Tech Co., Ltd., a joint venture between 'Banpu NEXT' and 'SP Group' from Singapore, secured a contract for the installation of a district cooling system at the Chaloen Phra Kiat Government Complex Extension Project, Zone C, Chaengwattana, Bangkok, which is expected to be completely installed in 2024, with a 20-year contract duration. As of 31 December 2023, Banpu NEXT operated 27 smart city development and energy management projects.

Banpu NEXT has been seeking out technological partners and supporting talented Thai startups to strengthen business operations and create a robust business ecosystem. Apart from Durapower Holdings Pte Ltd, a Banpu NEXT subsidiary in Singapore, which is currently operating an energy storage system business, the company also has a network of business alliances that have invested in leading companies in various industries. The company continues to explore new investment opportunities with partners specializing in clean energy technology to co-develop the best clean energy solutions that address the specific business requirements of each customer to drive a substantial shift toward a carbon-free society.



## MARKET AND COMPETITION

### Energy Resources

### Mining Business



### Market and Competition

#### Market

##### 1. Global Thermal Coal Market

The year 2023 is anticipated to witness the largest seaborne thermal coal import growth in history, despite a slowdown in the global economic recovery. The exceptionally high trade volume was propelled by peak hoarding demand stemming from energy security concerns, while sanctions and bans on Russian exports persisted. Trade volume growth was further fueled by the increasing coal-fired capacity in China, India, and Southeast Asia. However, a mild winter and sluggish economic growth have dampened spot demand in Europe and North Asia. Domestic coal production challenges in China, along with the competitiveness of imported coal, were the primary factors contributing to import demand growth. Despite the robust growth in seaborne demand, supply outpaced demand growth, leading to a significant price correction in 2023.

Many end-users in Europe and North Asia commenced the year with high inventories, having secured significant volumes for the winter. However, they burned less coal than anticipated due to a warm winter, while supplies remained relatively smooth. The combination of high stocks and low coal burn reduced spot demand in the market, particularly in the high calorific value category.

At the beginning of 2023, China lifted the ban on Australian coal imports and began receiving Australian coal in February 2023. This move exerted downward pressure on Asian coal prices, especially in the mid- to low-calorific value grades.

China's domestic coal production faced challenges due to a series of mine accidents, prompting authorities to enhance coal mine safety inspections, leading to production suspensions in certain mines and tightening domestic supplies. Despite these accidents, coal production in China remained robust as the Chinese government continued urging miners to increase output

to avert coal shortages. The country's overall coal production reached 4.66 billion tonnes in 2023, up by 2.9% from the previous year.

In addition to safety measures, declining coal prices have contributed to the challenges faced by China's coal industry. The market has witnessed falling prices due to factors such as high import volumes, mounting inventories, and sluggish industrial demand.

Imported thermal coal became competitive against domestic coal at the coastal area, encouraging end-users to use more imported coal. The Chinese government has extended the waiver of the 6% coal import tariffs to the end of 2023, aiming to increase coal supply and stabilize coal prices in the country.

Although China's economic recovery was slower than anticipated, coal demand in power sector remained strong, supported by low hydro generation.



In India, insufficient rainfall because of El Niño not only contributed to an increase in temperature and humidity levels but also led to draught in many parts of the country in 2023. Cooling and pumping needs increased substantially, further elevating the already high electricity demand. Continued growth in economic activities also supported the power demand growth. While lower rainfall led to low hydro generation which resulted in a significant increase in coal-fired generation.

Indian domestic coal production and supplies also increased strongly following government efforts to enhance local coal availability to meet a rise in power generation, especially ahead of the summer season when electricity consumption typically surges. However, domestic supply growth still lagged behind demand growth, supporting thermal coal imports.

Hence, India's Ministry of Power has issued directive to domestic coal-based utilities to use 6% of imported coal in their blends. Another order to import coal fired power plants to raise generation helped to increase overall stocks at power plants, aiming to boost power generation to meet an anticipated increase in electricity consumption. The Ministry has asked fifteen imported coal-based power plants, with a combined generation capacity of 17.5 GW, to operate at full capacity to meet an expected surge in the country's electricity demand during summer. This kept Indian thermal coal imports strong in 2023, although some of thermal coal import volume for cement industry has been replaced by competitive petroleum coke.

Japan continued to sanction Russian coal imports in 2023; however, small buyers still purchased Russian coal due to high discounts, while key utilities switched to buying coal from other sources. Japan's thermal coal consumption was relatively weak in 2023 due to slow economy, milder weather conditions and high nuclear availability. A warm winter at the beginning of the year resulted in lower coal burn, amid steady coal supply, elevating coal inventories at almost all power plants.

High coal prices forced Japanese utilities to find alternative supply sources to lower costs. With ample coal stocks and moderate power demand, some utilities have secured lower-quality coal for blending, as power plants can operate at a lower load factor.

Although coal was competitive against gas in power generation in most of 2023, Japan's thermal coal imports dropped significantly due to weak electricity demand, improved nuclear output, and higher solar output.

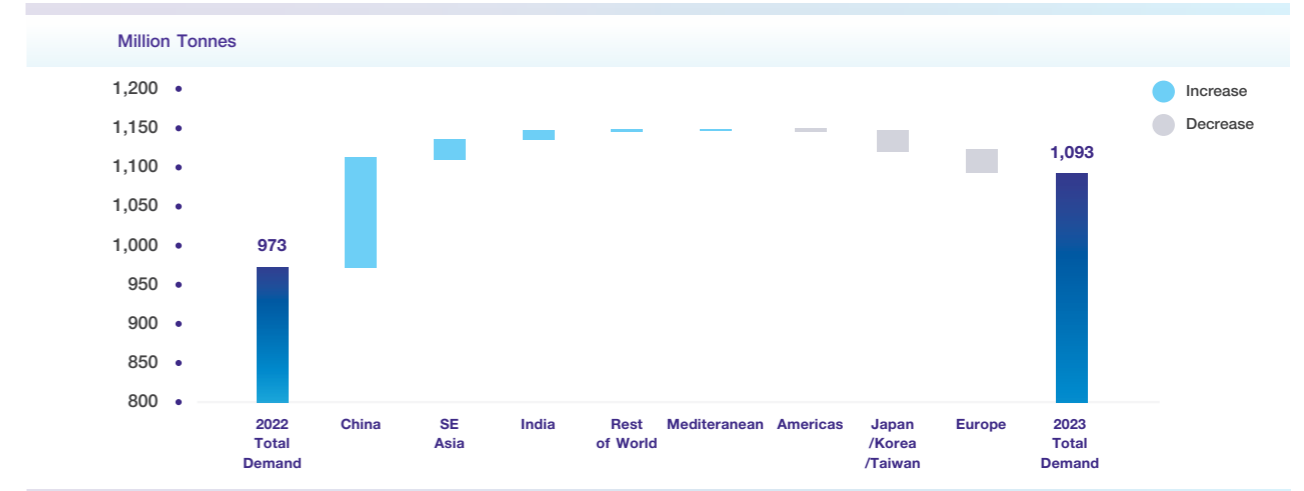
South Korea's thermal coal imports dropped in 2023 due to milder weather conditions and slow economic recovery. The presence of strong nuclear and renewable power generation allowed coal-fired units in South Korea to run at a lower load factor, despite firm power demand. This means that coal-fired power operators do not need to rely heavily on high-calorific value (HCV) coal, as burning mid-grade material could meet the country's electricity production needs.

In late August 2023, the South Korean Ministry of Trade, Industry and Energy (Motie) asked five state-controlled utilities to reduce their Russian coal imports for the remainder of 2023. Russia became the main source of HCV coal for South Korea's power sector in 2023 because of its competitive pricing against other origins. However, the South Korean government promised to reduce its dependency on Russian hydrocarbons at a summit with the U.S. and Japan in August, prompting the ministry to increase pressure on state-controlled utilities to cut down the share of Russian coal in their portfolios.

The South Korean government has placed a quota of 13 million tonnes on Russian thermal coal for delivery to the country's five state-owned generators in September-December 2023. This move means the generators have to push 1 million tonnes of booked Russian tonnage into 2024, as the generators had already inked deals for 14 million tonnes for arrival through the remainder of the year. However, independent power providers and industrial buyers were free to continue transacting with Russia.

In late November 2023, the South Korean government announced its seasonal fine dust management plan, which includes restrictions on coal-fired plants during the winter months (December 2023 to February 2024). This measure aims to limit coal burning in the country and consequently reduce thermal coal imports during that period.

### 2022/2023 Thermal Coal Import Demand Changes



Source: Marketing, Sales and Logistics analyst, Banpu Plc.

In 2023, Taiwan's thermal coal imports witnessed a decline, driven by the combination of lower power demand and higher renewables output. These factors collectively weighed on Taiwan's thermal power generation. The decrease in power demand was influenced by typhoons and slow economic growth. Taiwanese utilities curtailed coal-fired output from October to March to mitigate air pollution, thereby limiting import demand growth.

Although Taiwan's state-controlled utilities have banned Russian coal imports, the private sector continued to import Russian coal due to substantial price discounts.

In Southeast Asia, thermal coal import experienced robust growth in 2023. This was propelled by strong economic growth in Vietnam, recovered power demand in the Philippines and Malaysia, and the addition of new coal-fired power plant in Cambodia.

In Europe, thermal coal imports significantly dropped in 2023 due to sluggish power demand, low gas prices, strong renewable generation, and high coal and gas inventories. Low power demand was attributed to a slow economy and mild weather conditions. While the supply

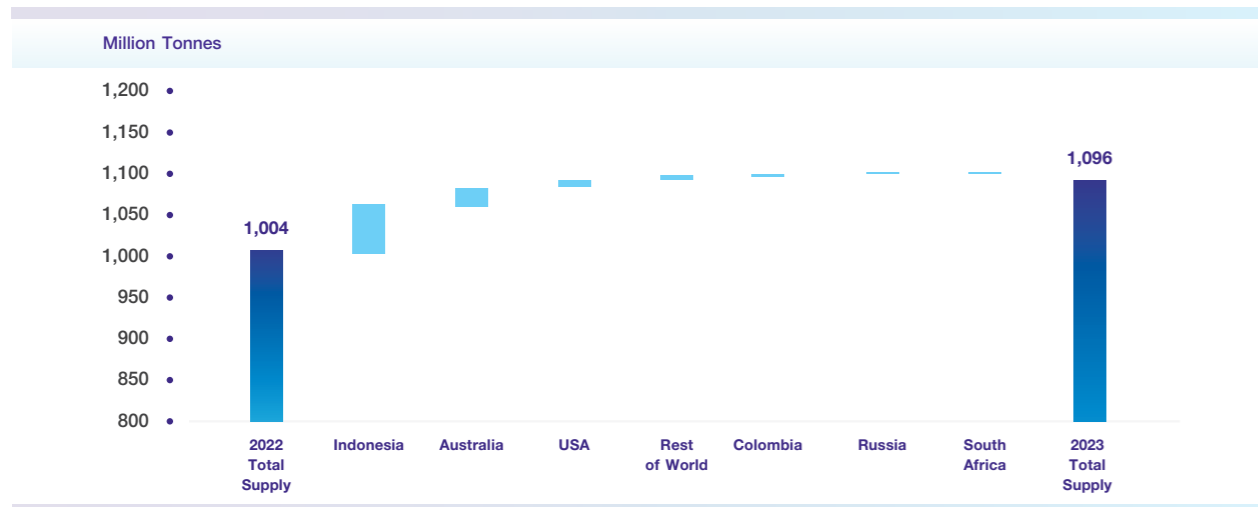
of coal and gas into the region remained relatively steady, most power plants shifted to coal-to-gas conversion due to unfavorable coal-fired generation economics resulting from low gas prices and intensifying pressure on coal burning.

The European Union (EU) and the United Kingdom (UK) completely banned Russian coal imports in 2023, causing a shift in coal trade flows in the global market. European buyers had to source coal from other origins such as Colombia, South Africa, the U.S., or even Australia and Indonesia, requiring longer distance for delivery.

The European generators began reassessing their coal capacity needs in late 2023 as pressure mounted on governments to adhere to their coal phase-out agendas. The UK closed nearly half of its coal-fired fleet at the end of March 2023. While some countries still maintain coal-fired power plants on standby for energy security reasons.

On the supply side, adjustments in thermal coal trade flows continued following the sanction against Russian fuels. Supply improved in 2023 after geopolitics, weather, and infrastructure-related disruptions in the prior years. Thermal coal export growth was primarily driven by Indonesia and Australia, turning the global market into oversupply.

### 2022/2023 Thermal Coal Export Supply Changes



Source: Marketing, Sales and Logistics analyst, Banpu Plc.

Indonesia's thermal coal exports experienced a strong increase as producers intensified production and exports to capitalize on high coal prices. Dry weather associated with El Niño supported robust production in Indonesia.

Australia's thermal coal export rebounded from the previous year due to increased production, thanks to improved weather conditions. Coal exports to China resumed following the end of import ban, helping to offset weak demand in north Asia.

In 2023, the New South Wales (NSW) state government mandated that coal producers reserve up to 10% of their output for domestic use, impacting exporters and temporarily removing coal from the seaborne market. However, the supply shortfall for NSW power generators, around 4 million tonnes per year, is not expected to significantly impact the seaborne market.

Thermal coal export from South Africa continued to be constrained by ongoing logistical issues on railway routes from mines to ports. Train derailments in 2023 reduced coal transport volume to the key export port, Richards Bay Coal Terminal (RBCT). Several producers resorted to transporting coal to non-RBCT ports by trucks, causing traffic jams and violating environmental regulation. The port authority limited truck-transported coal into

the Richards Bay Multipurpose (MPT) and Dry Bulk Terminals (DBT), decreasing coal transport volume for export in the second half of 2023 and limiting export growth, while these two ports manage around 20% of South African thermal coal exports.

In Colombia, several rail and road blockades disrupted coal transport and mine operations, resulting in slow coal transport to the export ports. Although most blockades were short-lived, producers aimed to maintain high stocks at ports to mitigate the impact, limiting export growth.

Drought and less rainfall in Panama led to low water levels at the Panama Canal, causing prolonged delays for Colombian coal shipments to Asian market. Some shippers had to reroute cargoes, incurring expensive demurrage payments, contributing to limited export growth.

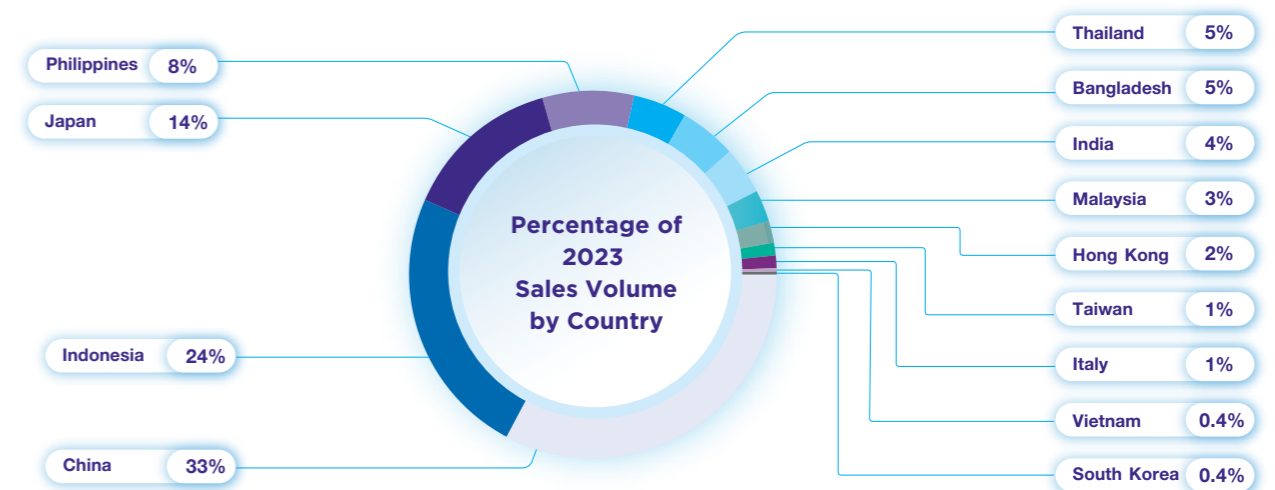
Russia diverted coal to Asia due to the EU and the UK banning Russian coal in response to Russia-Ukraine conflict. In 2023, Russian exporters had to use northwestern ports coal to Asia due to limited rail capacity to far east ports. High global coal prices allowed Russian producers to offer substantial discounts to buyers and to ship more coal to China, India, and South Korea, maintaining Russian thermal coal exports at the 2022 level.

U.S. thermal coal exports increased in 2023 due to higher demand from Europe to replace Russian coal. The high global coal price and soft domestic demand also encouraged producers to export more. But limited rail capacity constrained export growth.

The Company sold 21.0 million tonnes of Indonesian coal in 2023, a 7.3% year-on-year increase, including coal purchased from third party coal suppliers. The Company shipped 16.9 million tonnes of own produced coal, up by 3.9% year-on-year, and 4.1 million tonnes of third-party coal, up by 23.9% year-on-year. The majority of third-party coal was used for blending with Banpu's owned coal to improve quality.

China accounted for the largest market with 33% of Banpu's total sales volume from Indonesia in 2023, 5.8% year-on-year. Indonesia was the second-largest market, accounting for 24% of the total sales volume, growing by 21.5% year-on-year due to the government assignment as per Domestic Market Obligation (DMO) rule. Japan is the third largest market, with sales volumes accounted for 14% of the total sales volume, but the coal sales to Japan dropped by 1.4% from a year earlier due to change in product quality.

Banpu diverted more coal to the Philippines, Thailand and Hong Kong to gain better value, with the sales volume increases of 7.5%, 15.5% and 512.7% year-on-year, respectively. The Company also resumed selling to Europe in 2023 due to tight European supply resulting from sanction on Russian coal.



## 2. Coal Market in the Republic of Indonesia

Indonesian producers ramped up coal production in 2023 to capitalize on high coal prices. The Indonesian Ministry of Energy and Mineral Resources (ESDM) reported a preliminary coal production of 770 million tonnes, marking a 12.4% increase from the previous year. Dry weather associated with the El Nino effect also supported coal production in Indonesia, with the majority of growth occurring in the lower calorific value category.

In 2023, Indonesia's coal exports reached 514 million tonnes, reflecting a 12% year-on-year increase. The growth was fueled by strong demand from China, India and Southeast Asia.

Domestic coal consumption in 2023 was approximately 174 million tonnes, a 3.9% increase from the previous year. In terms of sector-wise coal consumption, 60% was attributed to power generation, 23% to the metal smelting industry, 7% to the cement industry, and the remaining 10% to other industries.

In March 2023, the Indonesian government adjusted the formula for the thermal coal reference price (the country's benchmark coal prices, called Harga Batubara Acuan or HBA), addressing concerns among supplier about price lags. Some Indonesian coal producers were reluctant to offer cargoes as the struggle to cover royalty payments based on HBA prices.

The ESDM announced the new coal HBA formula and scrapped the previous formula based on the average in the previous month of four coal prices indexes – the Indonesian Coal Index, Newcastle Export Index, globalCoal Newcastle Index and Platts 5900 Index.

The new HBA formula was composed of 70% of the average coal sales price in the previous month and 30% of the average coal selling price in the past two months. It was primarily used for calculating royalties and is categorized into HBA, HBA 1 and HBA 2, based on coal calorific values at 6,322 kcal/kg GAR, 5,200 kcal/kg GAR and 4,200 kcal/kg GAR, respectively.

However, in August 2023, the ESDM modified the HBA formula again, introducing four grades to better align royalty payments with the quality of coal produced. Apart from the traditional 6,322 kcal/kg GAR grade, the reference prices for 5,300 kcal/kg GAR, 4,100 kcal/kg GAR and 3,400 kcal/kg GAR grades were published. This aimed to help producers to pay royalties based on the quality of coal they produced.

In July 2023, President Joko Widodo signed off on Indonesian Government Regulation No. 36 of 2023 concerning export proceeds from business, management, and/or natural resource processing activities. The regulation affected various business sectors, including coal, requiring at least 30% of export revenue to be stored in a special escrow account in Indonesian financial institutions for a minimum of three months, effective from 1 August 2023. This was aimed at retaining income in Indonesian banks versus foreign bank, impacting producers' cash flow and leading some to prioritize sales over exports.

In September 2023, Indonesian government launched a new online system, the E-PNBP, integrating production tracking and royalty payment systems. However, technical glitches during data migration in late September led to a suspension of transshipment activity for almost a week. Technical glitches in the newly integrated monitoring systems also disrupted barging and vessel loading operations in the second half of September.

In Indonesia, all miners require approval on their work plan and budget plan (RKAB) from ESDM as a production quota that government allows them to mine each year. They have a chance to revise RKAB at mid-year if they want to produce more than the production quota they received. However, this year the government wanted to simplify the standard operating procedures by using electronic platforms, aiming to improve efficiency and transparency.

The ESDM has initiated the E-RKAB work plan system, a digital platform designed to simplify standard operating procedures and business processes within the mineral and coal mining sectors.

The move came after the ESDM's evaluation in August 2023, focusing on optimizing business processes to tackle delays in processing requests from mining companies, a concern voiced by industry stakeholders.

The E-RKAB was launched in early October 2023. Only producers that have submitted manual requests before 31 July 2023 to resubmit their proposals digitally.

The E-RKAB system represented an expansion of the ESDM's ongoing digitalization efforts, integrating various oversight and monitoring programs such as the E-PNBP, Mineral One Monitoring System, and the Marketing Verification Module. Transformation of the approval processes for revising RKAB output plans, attributed to the ESDM's digitalization initiatives, resulting to a delay of revised RKAB approval and temporary market exits for some producers as they ran out of production quota. In September 2023, certain producers informed customers of their inability

to fulfill previously agreed sales due to running out of production quota, prompting buyers to seek alternative sources in an already tightly supplied market.

In 2023, the revision RKAB was approved in November 2023 which delay from normal approval process. However, this has not significantly impacted the seaborne coal market due to weak demand.

The Indonesian government implemented a new tariff scheme at the Muara Berau port in East Kalimantan for ship-to-ship (STS) services from 1 October 2023. The new tariff collection system required shipping companies, stevedoring, floating crane rental and loading facility companies, to register on the Orbit digital STS activity platform.

Muara Berau is one of the main transshipment ports in Indonesia, with the largest users being coal-carrying ships. Pelabuhan Tiga Bersaudara (PTB) is the manager of the Muara Berau port and will be responsible for collection of the tariffs.

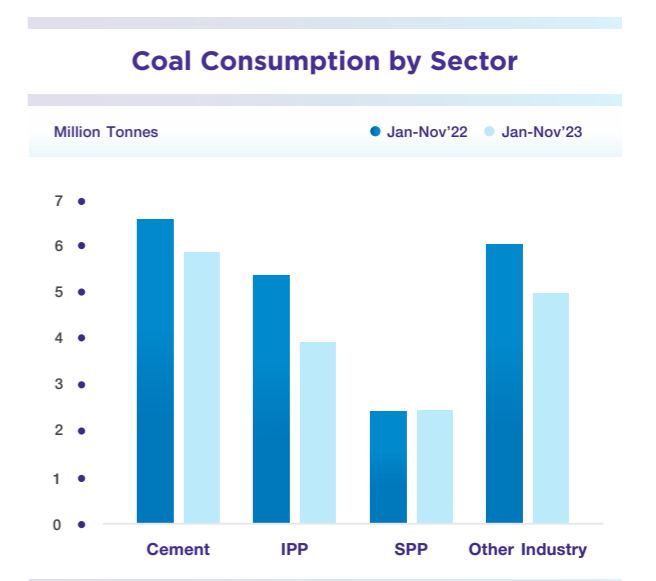
PTB implemented the new tariff scheme on 1 October 2023 following the signing of a ministerial decree issued by the transportation ministry approving the STS tariffs. There will be two sets of tariffs — domestic and international. The rate will be Rupiah 17,507 per tonne (USD1.13 per tonne) for domestic ships that use their own cranes, while a rate of Rupiah 28,270 per tonne will apply to ships that use additional floating cranes. Tariffs for international ships are set at USD1.22 per tonne and USD1.97 per tonne respectively. This tariff increase has led some shippers to consider changing loading points to avoid additional costs.

In 2023, Banpu sold 5.1 million tonnes of coal in Indonesia, constituting 24% of the Company's total Indonesian coal sales and about 2.9% of Indonesian coal consumption. Major customers are coal-fired power plants (60% of total coal sales volume), the metal smelting industry (34%), the cement industry (5%), and other industries (1%).

### 3. Coal Market in Thailand

During the first eleven months of 2023, total coal consumption of the private sector in Thailand was approximately 17.3 million tonnes, marking a significant drop of 3.0 million tonnes or 14.8% year-on-year. The largest decline in coal consumption occurred in the independent power producers (IPP) sector, where some IPPs had to halt operations by the order of the Electricity Generating Authority of Thailand (EGAT) due to the extremely high coal prices. IPPs' coal consumption plummeted to 3.9 million tonnes, a decrease of 26.7% from the same period last year. The cement industry also experienced a notable decrease in coal consumption, amounting to about 5.9 million tonnes, down by 9.3% year-on-year. This decline was attributed to a weak economy and reduced demand for cement. In contrast, the small power producers (SPP) group saw a slight increase in coal consumption, reaching 2.5 million tonnes, up by 2.7% year-on-year.

Coal consumption in the other industries, including paper, petrochemicals, textiles, and food, amounted to approximately 5.0 million tonnes, reflecting a significant drop of 17.0% year-on-year. Weak demand resulting from the sluggish economy compelled these industries their productions.



Source: Marketing, Sales and Logistics analyst, Banpu Plc.



## Competitions

### 1. Competition in the Coal Industry

In 2023, the adjustment in supply chain persisted amid sustained sanctions on Russian coal imports by European Union, the UK and Japan. The ban on Russian coal reshaped the global flow of coal trade and altered the competitive landscape among suppliers. Australia and Indonesia were able to redirect coal shipment to Europe, replacing Russian coal, while Russia increased its focus on Asian market.

The overall thermal coal imports in 2023 reached approximately 1,093 million tonnes, marking an increase around 120 million tonnes year-on-year or 12.3%. Despite the global economic recovery slowing down, 2023 is anticipated to witness the largest growth in seaborne thermal coal imports in history.

China's thermal coal imports hit a historical record in 2023 at 355 million tonnes, representing a substantial increase of 137 million tonnes year-on-year or 62.5%, despite sluggish economic growth. The growth in demand was propelled by domestic coal supply constraints, competitive prices of imported coal, and low hydro power generation due to dry weather associated with El Niño phenomenon. Mining accidents prompted government authorities to strengthen mine safety inspections, leading to production suspensions in certain mines and tightening domestic coal supplies. Despite these incidents, the Chinese government continued to encourage miners to boost coal production to stabilize prices. Russian coal suppliers sold their coal to China at a substantial discount compared to market prices, aiming to increase sales due to the import ban by European countries and Japan. This heightened competition in the Chinese market, causing a downward trend in Chinese domestic coal prices and global thermal coal prices.

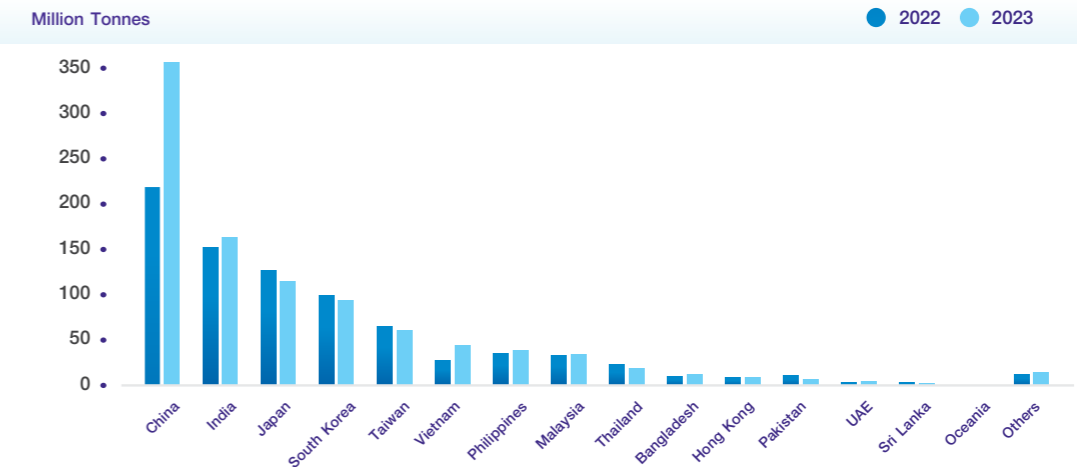
India imported about 163 million tonnes of coal in 2023, marking a 7.6% increase over the previous year. Strong economic performance and low hydro generation compelled the Indian government to issue a directive, requiring power plants to blend 6% of imported coal in their total burn to address an expected shortfall in domestic coal availability. Although domestic coal production showed robust growth, it could not meet the demand growth. As domestic coal supply improved and high coal availability from Indonesia, South Africa,

and Russia emerged, Indian buyers did not rush to buy coal, leading to increased competition in the market.

North Asian countries, including Japan, South Korea, and Taiwan, collectively imported approximately 264 million tonnes of thermal coal in 2023, marking an 8.2% year-on-year decrease. Mild weather, slow economic performance, and recovered nuclear generation were the main factors contributing to lower coal consumption in this region. Over-purchasing and low coal consumption resulted in extremely high stocks in almost all end-users, limiting spot demand, especially for the high-calorific value coal. Competition remained intense as supply from key suppliers remained smooth. Although Japan banned Russian coal imports, the volume in the existing contracts was allowed to be delivered until the end of the agreements. South Korea has partial ban on Russian coal as state-controlled utilities are not allowed to purchase Russian coal, but the existing contracts also allowed to be delivered until the end of the agreements. However, private sector coal consumers were still able to purchase Russian coal due to high discounts. In Taiwan, state-controlled utilities volunteered to ban Russian coal imports, but private sector coal consumers continued to purchase Russian coal.

The thermal coal imports of Southeast Asian countries in 2023 increased by 19.5% from the previous year, totaling 140 million tonnes, driven by strong demand from Vietnam, the Philippines, and Malaysia. Falling coal prices incentivized buyers in this region to use more coal. The competition remained intense as the market transitioned into oversupply.

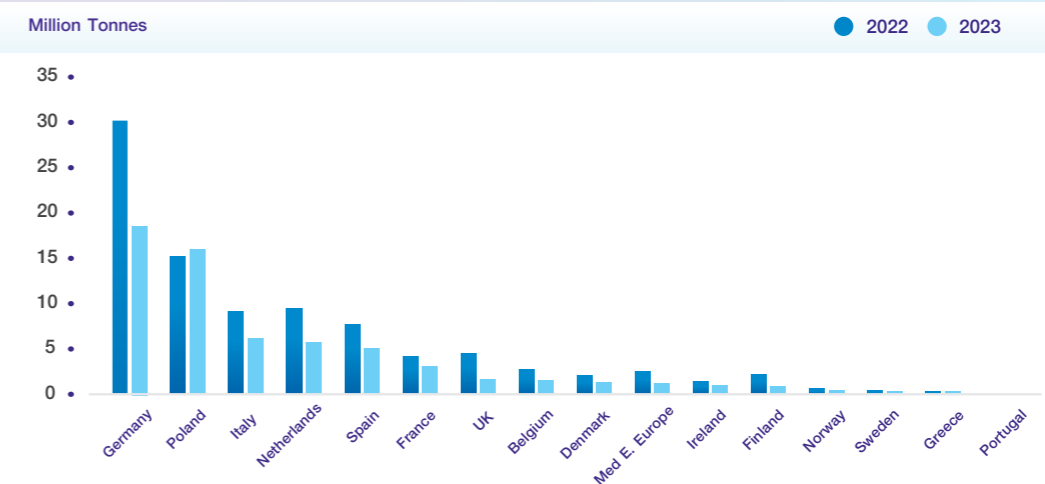
### Asian Thermal Coal Import by Country



Source: Marketing, Sales and Logistics analyst, Banpu Plc.

In Europe, the demand for thermal coal experienced a significant decline in 2023 due to a weak economy, mild weather conditions, and low gas prices. The coal burn rate in the region remained moderate as most power plants adopted a coal-to-gas switching strategy. The volume of thermal coal imports into Europe in 2023 was approximately 63 million tonnes, reflecting a sharp decrease of 31.5% compared to the previous year. Despite European countries ceasing to purchase Russian coal since late 2022, robust coal supply from alternative sources proved sufficient to meet demand. The region witnessed high coal and gas inventories, contributing to intense competition. With the coal burn lower than anticipated, some utility buyers, well-contracted and with high stocks, were exploring opportunities to resell cargoes back to the market.

### European Thermal Coal Import by Country



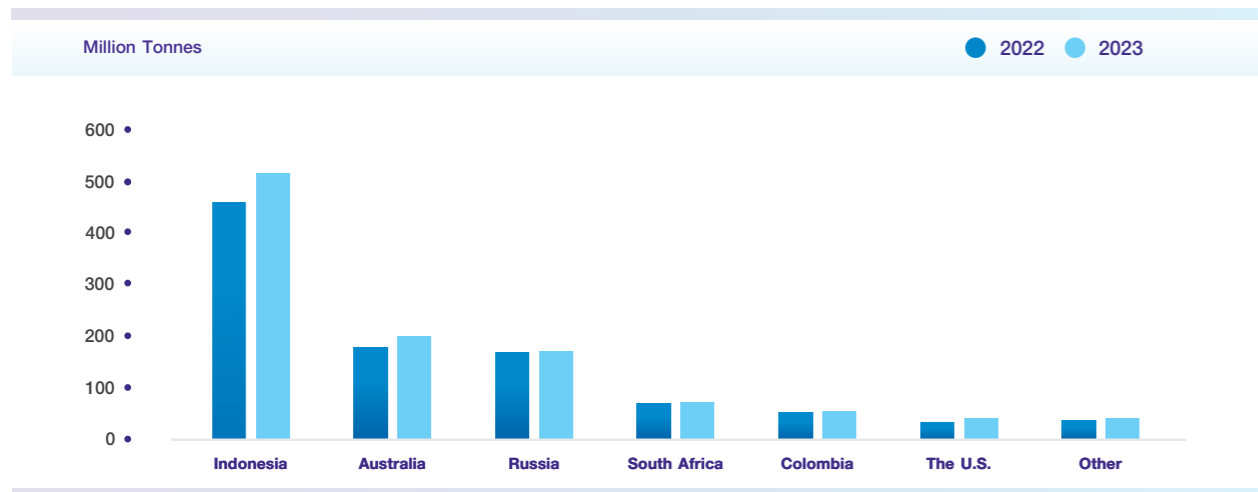
Source: Marketing, Sales and Logistics analyst, Banpu Plc.

Global thermal coal exports in 2023 reached approximately 1,097 million tonnes, marking a 9.2% increase from the previous year. The growth was primarily fueled by Indonesia and Australia, with these two countries contributing significantly to the expansion. About 96% of the global seaborne thermal coal trade originated from six major coal exporting nations: Indonesia, Australia, Russia, South Africa, Colombia, and the U.S.

Indonesia maintained its position as the world's largest thermal coal exporter, shipping around 514 million tonnes in 2023, reflecting a 12% increase from the previous year. Producers in Indonesia ramped up coal production to capitalize on high coal prices and dry weather conditions further supported their efforts. Despite significant production growth amid weak demand, competition intensified among producers, particularly in the lower calorific value market, as the majority of the production increase was in the lower calorific value category.

Australia remained its status as the world's second-largest thermal coal exporter, exporting approximately 200 million tonnes in 2023, a surge of 11.9% compared to the previous year. Production rebounded from the low output experienced in 2022, which had been influenced by heavy rainfall associated with the La Niña effect. Competition among Australian producers remained moderate, aided by China lifting a ban on Australian coal imports, enabling Australian coal producers to resume exports to China and offsetting weak demand in North Asia.

### Global Thermal Coal Export by Country



Source: Marketing, Sales and Logistics analyst, Banpu Plc.

In 2023, Russian thermal coal exports reached approximately 170 million tonnes, marking a modest increase of 0.7% compared to the previous year, despite facing European sanctions. Russian producers achieved success by redirecting coal to Asia, maintaining relatively low prices compared to other origins. The limited capacity of Russian railway to transport coal to far eastern ports heightened competition among Russian

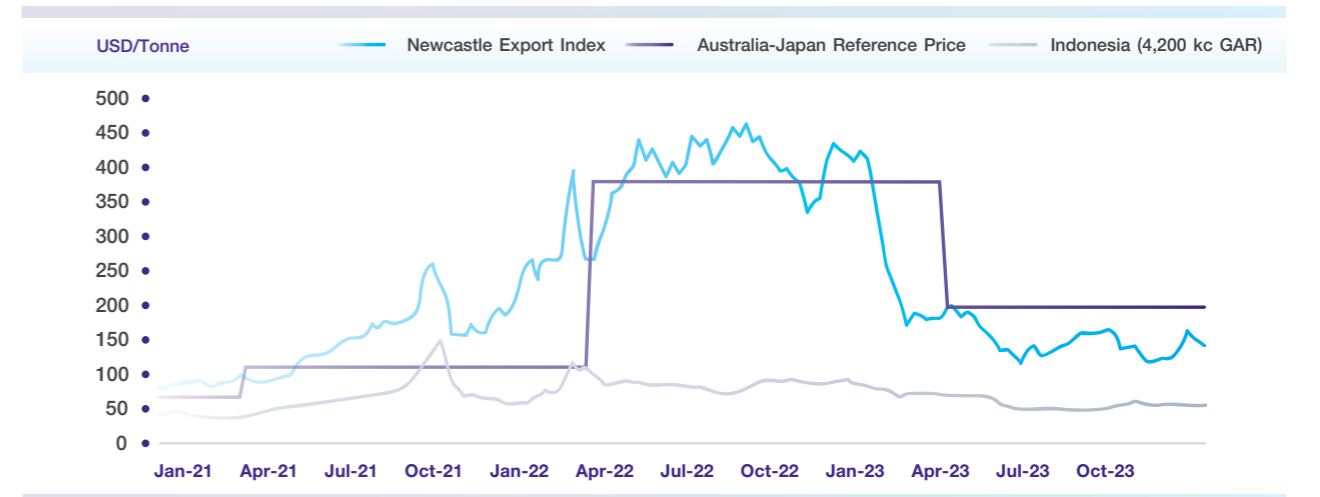
producers. Despite this, the high international coal prices kept Russian coal competitive in several Asian markets, even when shipped from northwestern ports. However, the continued decline in coal prices and fluctuations in the exchange rate posed risks to some Russian producers, potentially leading to negative margins.

South Africa's thermal coal exports in 2023 total approximately 71.5 million tonnes, marking a 1.6% increase from the previous year. South African coal faced fierce competition from inexpensive Russian coal in the Indian market. However, strong European demand in the first half of 2023 helped alleviate this competition. In the second half of the year, with weakened European demand, South African producers had to redirect coal back to Asia, encountering stiff competition from other Asian suppliers.

Colombian thermal coal exports in 2023 reached approximately 56 million tonnes, representing a 4.7% increase from the previous year. Colombian coal producers faced intense competition as they had to redirect coal to the Asian market due to weak European demand. High freight rates and falling coal prices added to the difficulty of expanding their market share.

In 2023, the U.S. exported 43 million tonnes of thermal coal, a notable increase of 21.8% from previous year. Despite facing stiff competition in the European market due to oversupply, the high coal prices and proximity to the European market allowed U.S. coal to remain competitive. However, logistic constraints within the country restricted the export volume.

### Thermal Coal Export Price, FOB



Source: McCloskey

Thermal coal prices in 2023 will be corrected from the recorded highs in 2022, despite the ongoing supply chain adjustment. This correction persisted even with the ban on Russian coal imports by the EU and its allies. The prices for high-quality coal witnessed a significant drop in early 2023 due to low electricity demand caused by a warm winter and sluggish economic performance in key importing countries. Steady coal supply into these nations resulted in high stocks, limiting spot demand, and

keeping coal prices depressed throughout the year. In contrast, the price of low-quality coal remained relatively stable due to robust demand from China, coupled with a strong supply from Indonesia.

Mild weather throughout the year, attributed to El Niño effect, led to decreased coal burn in several key importing countries, particularly for high-quality coal. Alongside slow economic growth, low gas prices, and stable supply, this contributed to the prolonged



depression of high-quality coal prices in the latter part of the year. Russian coal producers diverted more coal to Asia, leveraging lower coal prices, which added further downward pressure to high-quality coal price in the Asia market.

High-quality coal prices exhibited high volatility in 2023 due to various supply risks, including geopolitical tensions, weather conditions, and government policies. In September 2023, strike actions at Chevron's two Australian LNG plants supported spot LNG prices, with some spill-over impact on high-quality coal prices. However, gains were limited due to weak overall demand. In October 2023, concerns over the Israel-Hamas conflict, which had the potential to affect the energy supply chain, briefly lifted prices in the wider energy complex. Nevertheless, the impact was short-term, as global demand remained weak.

Australian coal producers reported ongoing pressure on costs, as expenses related to equipment and supply materials significantly increased in 2023 due to high inflation. This factor helped prevent a significant drop in high-quality coal prices.

In 2023, major Japanese buyers and leading Australian coal producers settled on a Japanese Reference Price (JRP) at USD199.95 per tonne, FOB Newcastle, based on 6,322 kcal/kg GAR, for supplying Australian coal under annual contracts over April 2023 to March 2024. The agreed contract price, serving as an industry benchmark for seaborne thermal coal supplies in Asia, was lower than the previous settlement at USD395 per tonne in October 2022. However, it remained higher than the USD109.97 per tonne FOB mark in June 2021. Notably, this price maintains a considerable premium, especially dealing with a top-tier supplier, irrespective of the prevailing market conditions at that time.

Looking ahead to 2024, the demand for imported thermal coal demand is expected to remain robust, driven by China, India, and Southeast Asia. However,

global coal trade volumes are anticipated to start declining due to lower hoarding demand, increased inventories, and stronger global efforts towards decarbonization. China's eased requirements for medium- and long-term domestic coal supply contracts may support imports, but potential import upside remains uncertain. Meanwhile, Europe's coal phase-out and declining imports are expected to continue.

On the supply side, the global thermal coal market is projected to remain oversupplied as coal competes for market share. Export capacity growth is expected to persist in 2024, creating growing spare capacity in the market. Major exporters are likely to introduce new and cheaper capacities to maintain or expand their export quantities and shares. Although Russian exports continue to face sanctions, strong demand from Asian is anticipated to mitigate the impact. Logistic constraints are expected to limit export growth from South Africa and Colombia.

In conclusion, oversupply will continue to exert pressure on coal prices in 2024. High-quality coal prices are expected to be more volatile than low-quality coal prices due to inherent supply risks.

## 2. Competition in Thailand

Competition in Thailand remained intense throughout 2023, primarily because almost all coal consumed by private sector is imported, with a plentiful supply from abroad. Domestic coal consumption in the first eleven months of 2023 was a mere 0.05 million tonnes, marking an 86.3% year-on-year decrease due to reserve depletion. The share of domestic coal dwindled to just 0.3% of the total coal consumption in the private sector, in contrast to the 1.8% reported during the same period last year.

During the initial eleven months of 2023, imported coal consumption reached 17.2 million tonnes, indicating a 13.4% year-on-year decrease, influenced by a weakened economy and elevated coal prices. Coal supplies

to the independent power producers (IPP) typically adhered to long-term contracts, excluding them from participating in spot business. Conversely, other sectors opened their doors to spot transactions, engaging with over 20 coal suppliers from both local and international markets.

Buyers in the small power producers (SPP) and general industrial sectors often make small quantity purchases from stock and sales, limiting their suppliers' options to local players with available coal stocks. Despite this limitation, competition in this market remains robust due to the abundant overseas supply accessible to local traders.

Reflecting the slowdown in coal burn, thermal coal imports in the first eleven months of 2023 aligned with consumption, experiencing a 16.8% year-on-year decline to 16.5 million tonnes. The downward trend in coal prices contributed to a delay in coal purchases by buyers, as they sought to secure more favorable prices.

Expectations for Thailand's market competition in 2024 indicate continued fierceness, fueled by increasing output from Indonesian coal producers. While a recovery in Thailand's thermal coal demand is anticipated due to the resumption of IPP power plants, the coal supply to these plants operates under long-term contracts, unlikely to significantly impact the spot market. Any demand resurgence in other industries is also expected to be modest.

## Competitive Strategies

The global thermal coal supply chain has been adjusting to the new normal, resulting in an oversupplied global coal market. In response to this evolving market environment, Banpu has adapted its strategies with the following key initiatives:

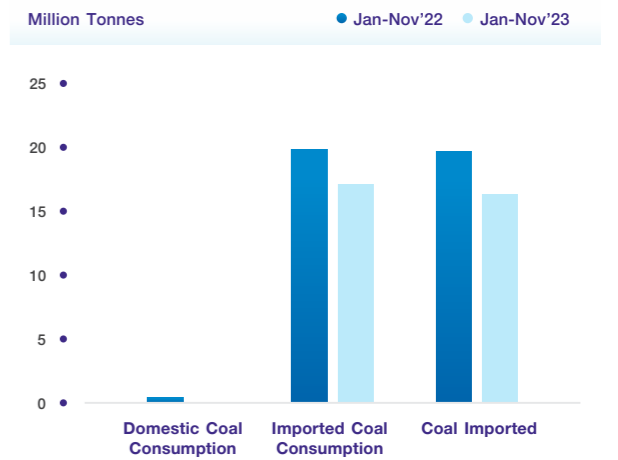
- **Shift to Premium Markets**

The high-quality products are prioritized for premium markets to attain higher prices. While the lower quality coal is blended to enhance overall quality for suitability in premium markets, utilizing a coal optimization model and acquiring coal from reliable suppliers to contribute to quality improvement. The Company positions itself as a trustworthy coal supplier, leveraging ownership of coal sources and export port for competitive advantage in premium markets.

- **Customer Focus**

The Company concentrate on customer requirements by fostering collaboration between marketing, sales, logistics, operations, and coal supply chain and sourcing teams, while implementing customer segmentation to better understand the diverse needs, preferences, and buying patterns of different customer groups. Banpu works collaboratively with customers to ensure the delivery of the right quality, engaging in regular communication, visits, and gaining a deeper understanding of customer needs and issues.

## Thailand Coal Consumption and Imports



Source: Energy Policy and Planning Office

• **Maintaining Customer Relations**

Banpu emphasizes the importance of long-term relationships with customers and trade partners through regular visits by sales representatives, while strengthening relationships and address customer issues through continuous communication and quarterly performance updates by emails to ensure the Company's commitments delivered.

• **Coal Trading Business**

The Company strengthens the coal trading business through alliances with other coal suppliers to expand the Company's portfolio and increase sales volume, while utilizing the supply chain management system for efficient transportation, quality control, and stability of supply.

**Major Competitors**

Major competitors in the global market include coal producers and exporters like Glencore, Peabody and Yancoal, and Indonesian producers such as Bumi Resources, PT. Bukit Asam, PT. Adaro Energy, PT. Kideco Jaya Agung, PT. Bayan Resources, and PT. Golden Energy Mines. More Russian coal producers entered Asian markets due to the European ban on Russian coal imports, intensifying competition in key market such as China, India, and South Korea. Additionally, there are other players in the form of coal traders, including Noble Energy, Trafigura, and numerous small producers. Given coal's nature as a commodity, traders from other sectors can readily venture into the coal business. However, becoming coal producers poses a higher barrier to entry, leading large coal producers to remain relatively unchanged.

In Thailand, major competitors predominantly consist of coal import traders, with the market being accessible for new entrants due to its open nature. Banpu faces competition from entities such as SCG Trading Co., Ltd., Lanna Resources Plc., Asia Green Energy Plc., and small coal traders importing coal to cater to smaller users within the country.

**Pricing Policy**

Banpu focuses on coal sales based on index-linked pricing to align with market prices. Spot sales prices are agreed upon shortly before delivery, reflecting the global price at the time of sales. The Indonesian government caps prices for power plants at USD 70 per tonne for coal with a calorific value of 6,322 kcal/kg GAR, while pricing for other industries is determined by market conditions. The coal price was set at USD 90 per tonne with the same quality for other industries except metal smelting, while the metal smelting industry, coal is sold at the market price.

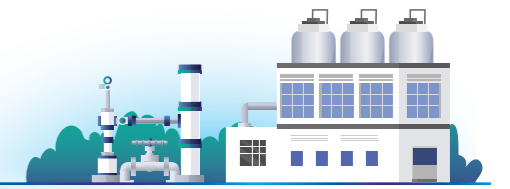
**Customer Characteristics**

Major customers for Banpu are large-scale coal-fired power plants, characterized by high stability, reliability, and substantial coal purchase volumes. Transparent bidding processes are used for both short-term and long-term contracts. Banpu also sells coal to other users who need less coal for their operations than large-scale power plants such as cement, pulp and paper, metal smelting, and brick-making industries under short-term contracts and sometimes from the spot market.

**Trading and Trading Channels**

Banpu manages coal marketing and trading activities for coal produced in Indonesia and Australia, as well as coal procured from other sources. Direct sales to coal users facilitate a better understanding of customer needs and the establishment of long-term customer relationships. The Company engages in identifying market opportunities, making sales offers, bidding and negotiating contracts, and coordinating with customers for coal delivery, ensuring comprehensive after-sales services.

**Natural Gas Business**



**Market and Competition**

**Market**

**1. Global Natural Gas Market**

As we journeyed through 2023, the global natural gas market found itself at a crossroads, navigating the aftermath of the 2020 financial crisis. The year unfolded against the back drop of an uneven global economic recovery, with regions diverging in their paths to stabilization and growth. This recovery was propelled by a mix of robust government spending, the resurgence of global trade, a return of consumer confidence, and increased business investments. These positive trends, however, were tempered by tighter monetary policies aimed at curbing the inflation observed throughout the year.

Central to understanding the dynamics of the natural gas market in 2023 are the U.S. and China – the titans of energy consumption. Their economic resurgence, reflected in robust GDP growth rates, has been a beacon for the energy sector, particularly for natural gas. This interplay between economic growth and energy demand underpins much of the global market's behavior.

The year saw a decline in natural gas prices, marking a significant departure from the peaks of 2022, driven by the Russia-Ukraine conflict. The decline can be attributed to the sustained growth in supply, mainly originating from North America and the Middle East. Furthermore, the unusually mild winter in the northern

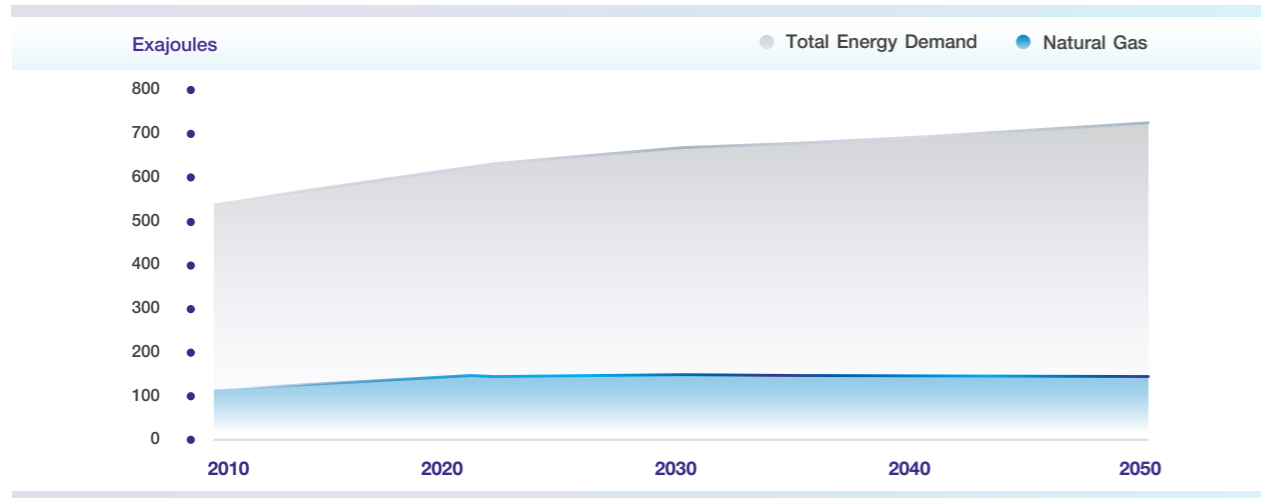
hemisphere during 2022 and 2023 and the significantly elevated inventory levels, surpassing the 5-year average across major gas-consuming countries, have also shaped this trend. The market dynamics underwent a transformative shift, with Europe adopting LNG as a baseload and China playing a crucial role in market equilibrium.

Major price indices, such as the European-based Title Transfer Facility (TTF) and Japan-Korea Marker (JKM™) recorded declines of over 50 percent in 2023, while still maintaining levels significantly above 100 percent of their average levels from 2018 to 2020.

Looking ahead, the International Energy Agency (IEA) projected that overall global energy demand would grow at a rate of close to 1 percent per year from 2010 to 2050 under their Stated Policies Scenario. Natural gas, in particular, was expected to experience an average annual growth rate of about 1 percent during this period. This growth is primarily attributed to the LNG-driven Asian market, with natural gas expected to maintain its contribution of around 20 percent to the total energy demand till 2050. Prices of natural gas were anticipated to stay elevated above pre-Russia-Ukraine conflict levels for the medium term, pending the introduction of new LNG production capacities and assuming modest growth in the global economy.



### Global Total Energy Demand 2010-2050



Data Source: IEA World Energy Outlook 2023

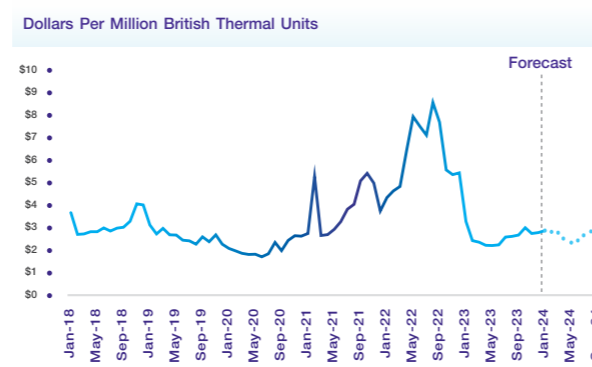
Policy shifts in key economies also played a defining role in 2023. Aggressive incentive programs for renewable energy sources began to alter the energy mix, potentially positioning renewables to supersede fossil fuels as the primary energy source in the future.

In summary, the story of the global natural gas market in 2023 is one of gradual adaptation and a tentative march towards a new equilibrium. Balancing the influences of geopolitics, economic conditions, and evolving energy policies, the market's trajectory was a testament to its resilience and capacity for change in the face of global challenges.

## 2. The U.S. Natural Gas Market

In 2023, the U.S. natural gas market navigated a path marked by historical volatility, a familiar theme but with new nuances. This year's journey was steered by a confluence of factors, ranging from escalating production rates due to the aftermath of high drilling activities prompted by the exceptionally high price in 2022, and a positive outlook on medium-term demand growth, to weather anomalies. These factors have skewed the delicate balance of demand and supply.

### Monthly Henry Hub Natural Gas Spot Price



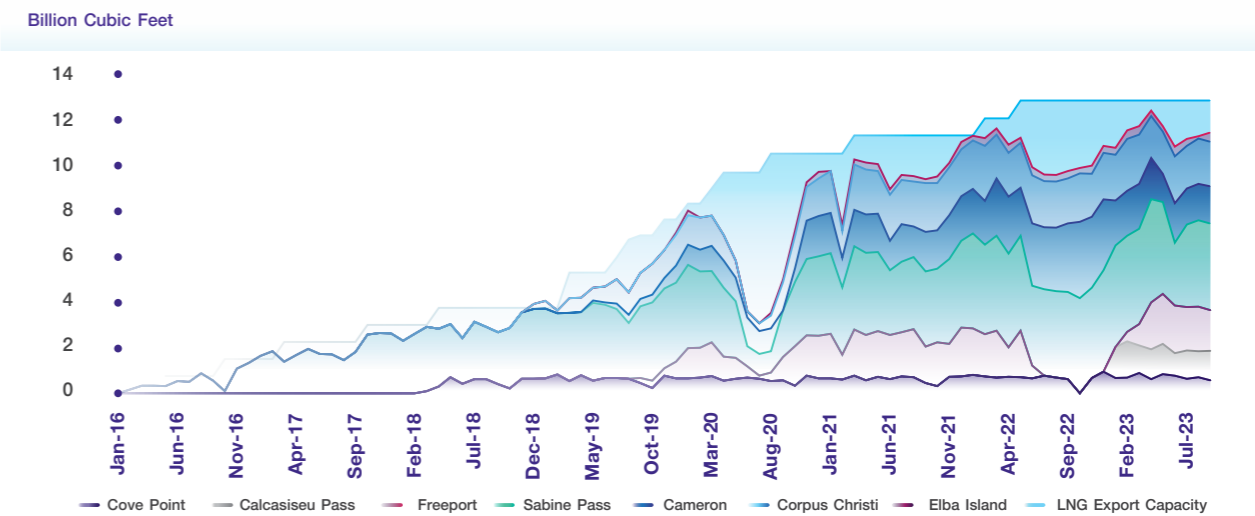
Data Source: IEA, Short-Term Energy Outlook

The beginning of the year brought warmer-than-expected weather, tipping the scales in the demand-supply dynamic, toward oversupply. This shift was met with a strategic response from the U.S. industry players, who remained steadfast in their focus on capital efficiency and balance sheet strength. Throughout the year, the natural gas market witnessed a decline in prices, a scenario compounded by the rising tide of inflation, which exerted pressure on profitability. Despite these headwinds, the majority of gas operators showcased resilience, maintaining profitability through efficient operations and exemplifying capital flexibility amid market volatility.

Strategically, the U.S. gas operators pursued growth through various avenues. They engaged in organic expansion, mergers, and acquisitions, and notably ventured into the realm of energy transition business lines. This multifaceted approach was balanced with a commitment to returning value to shareholders, a testament to the industry's adaptive capacity. Each strategic choice bore its own set of implications, shaping the operators' performance and positioning within the dynamic landscape of the industry. Looking ahead to 2024, the sector anticipates navigating through headwinds such as a weak pricing environment, escalating costs, and the ever-present challenges posed by regulatory and political policies.

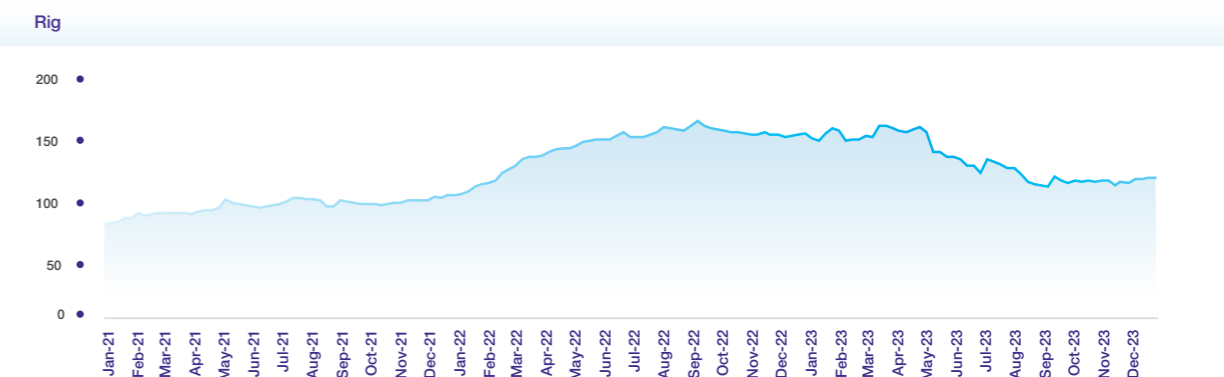
From a supply-demand perspective, the domestic market in 2023 continued to seek signposts for future trends, particularly in Henry Hub pricing. A key driver was the unwavering demand for the U.S. LNG exports and natural gas pipeline exports to Mexico, coupled with the steady demand for natural gas in power generation. Despite a short-term oversupply challenge, the rig count for gas saw a decline to 120 rigs by the end of 2023, reflecting a roughly 20 percent decrease from the beginning of the year. This decline suggests a deceleration in production growth and the possibility of a near-term decline.

### Monthly U.S. Liquefied Natural Gas (LNG) Exports (January 2016 - September 2023)



Data Source: U.S. Energy Information Administration (EIA) and Liquefaction Capacity Table

### U.S. Natural Gas Rig Count 2021-2023



Data Source: Baker Hughes US Natural Gas Rotary Rig Count

The shift in power generation was equally telling. Natural gas-fired power continued to gain market share, primarily due to the ongoing retirement of coal-fired assets in the U.S. regional power markets. This transition, driven by efficiencies and economic considerations, was also motivated by a broader commitment to reducing carbon footprints.

In the Permian Basin of West Texas, operators continued to invest in incremental natural gas production capacity, necessary for the region's burgeoning oil volumes. By 2024, an additional 4.2 Bcf/d of capacity is anticipated, signaling a significant contribution to the overall U.S. production growth. This expansion, however, will require balancing across both regional and broader the U.S. markets.

Looking at the long-term horizon, the U.S. natural gas market maintains a constructive outlook. Factors such as the retirement of coal-fired power plants, with 12 GW expected to be retired by 2024-2025, and the maturation of unconventional shale plays point towards a market adjusting to new realities, including inventory challenges.

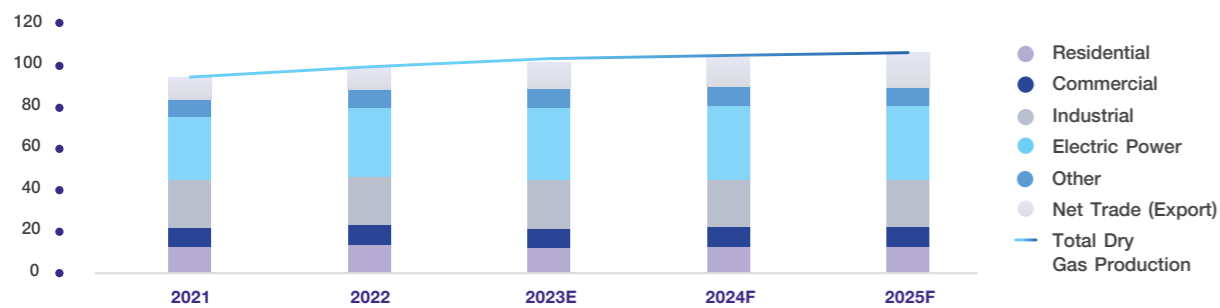
Moreover, the increasing interlinkage of the U.S. market with global LNG markets is set to become a major demand driver, starting from 2024-2025 and extending throughout the decade.

As per the Federal Energy Regulatory Commission (FERC), by the end of 2023, the U.S. boasted 14.4 Bcfe/d of LNG export capacity, running at near full utilization. With an additional 17 Bcfe/d of approved and under-construction projects, and another 15 Bcfe/d approved but not yet constructed, the U.S. LNG market is poised for significant expansion. This prospective growth, including 9 Bcfe/d of proposed projects, underscores the burgeoning demand for the U.S. natural gas, a promising to reshape the market landscape significantly.

In essence, 2023 has been a year where the U.S. natural gas market continued to evolve, influenced by both domestic factors and its growing integration into the global energy matrix. This interplay of local and global forces, alongside the industry's adaptive strategies and evolving policy landscapes, sets the stage for a dynamic and transformative future.

### U.S. Annual Supply - Demand

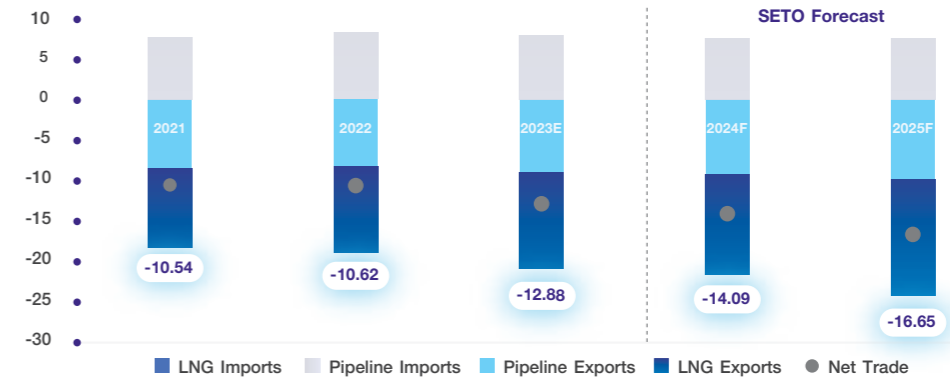
Billion Cubic Feet Per Day



Data Source: IEA, Short-Term Energy Outlook

### U.S. Annual Natural Gas Trade

Billion Cubic Feet Per Day



Data Source: IEA, Short-Term Energy Outlook

### 3. Other Key U.S. Industries

#### Carbon Capture, Utilization, and Sequestration (CCUS)

CCUS involves the capture of CO<sub>2</sub> emissions and processing them for reuse or permanent storage in subsurface geological formations. Recognized as a primary means of reducing CO<sub>2</sub> emissions from large-scale energy and industrial sources, CCUS plays a crucial role in advancing the objectives outlined in the Paris Agreement. In 2021, the U.S. set ambitious goals, including delivering a net-zero emission economy by no later than 2050 (and 2035 specifically for the electric power sector).

According to the Global Status of CCS 2023 Report, as of July 2023, there were 392 projects in the worldwide CCUS facilities pipeline, including 41 operational CCUS facilities. This represents an impressive 102 percent year over year growth and continues the upward momentum in CCUS projects in development. The U.S. Energy Information Administration (EIA) also suggests that achieving long-term global emissions reduction targets will require CCUS capacity about 1,000 million tonnes per annum (Mtpa) by 2023 and reach 10,000 Mtpa by 2050.

Additionally, the Global CCS Institute reported that, as of November 2023, 41 CCUS facilities were operational around the world. In Energy Technology Perspectives 2020, published by the International

Energy Agency (IEA), the IEA estimated that 80 percent of industrial facilities and power plants accounting for 85 percent of emissions are located within 100 kilometers of a potential storage site.

To stimulate investment in CCUS, the US Energy Act of 2020 provided over USD 6 billion for CCUS research and development programs. In 2021, the U.S. Treasury and the Internal Revenue Service (IRS) issued critical guidance on Section 45Q tax credits for carbon capture and storage, expanding its applications to a wider range of CCUS activities. In addition, the Inflation Reduction Act of 2022, signed into law on August 16, 2022, authorized approximately USD 370 billion for clean energy and climate change spending, providing significant incentives for CCUS investments.

Furthermore, with the support of these unparalleled incentives and an intensified commitment to sustainability across companies in the market, Boston Consulting Group anticipated a remarkable double-digit surge in the CCUS sector within the US. Projections indicate that by the early 2030s, the industry is poised to attain a substantial valuation of USD 50 billion. This trajectory not only signifies substantial growth but also solidifies the U.S. standing as a frontrunner in the global CCUS industry.



### Liquefied Natural Gas (LNG)

LNG is natural gas in its liquid phase, achieved by super-cooled it to -260°F. Its primary purpose is to store and transport gas between markets with limited natural gas pipeline connectivity. Upon reaching an LNG facility, natural gas is liquefied and compressed to approximately 1/600th of its original volume. Subsequently, the LNG is loaded onto carriers equipped with large cryogenic tanks for maritime transport. At receiving terminals, the LNG is reverted to its original gaseous state through a process known as regasification. From there, the regasified gas can be stored or transported via pipelines to end-consumers, including power plants, industrial facilities, and residential communities.

In the wake of the Russian invasion of Ukraine, Russia's substantial cuts in gas supply to the EU exerted pressure on European and global gas markets. According to the EIA, Russia's piped natural gas exports to the EU declined by an estimated 49 percent year-over-year in 2022, close to 40 percent of total EU gas demand was sourced from Russia before these cuts. To mitigate that shortfall, European LNG imports

increased by 65 percent compared to 2021. The EIA also reported a 141 percent increase in U.S. LNG exports to Europe during the same period, representing 64 percent of all U.S. LNG exports in 2022. Furthermore, the EIA and FERC note that the U.S. LNG utilizations are at all-time highs, operating at 98 percent of baseline capacity. To meet growing demand, an additional 17 Bcf/d capacity is currently under construction, and another 15 Bcf/d in capacity has been approved by U.S. regulators.

Current market dynamics have poised LNG for expansion, with the EIA forecasting a 25 percent increase in global LNG capacity from 2022 to 2026. The U.S. is set to strengthen its position as the world's largest LNG exporter, driven by the establishment of new liquefaction plants, particularly in the U.S. Gulf Coast, where approximately 90 percent of the U.S. LNG build is slated. Qatar is also strategically positioned to emerge as a major player in the LNG sector, fueled by its planned expansion projected for 2026-2027. This growth in LNG supply signifies a transition towards a more globalized gas marketplace, enhancing resilience and the capacity of suppliers and consumers to adapt to supply and demand fluctuations.

### Competition

Within the U.S. natural gas production market, there are three primary sources of competition.

#### 1. Competitive Natural Gas Producers

The U.S. Natural Gas Producer Benchmarking

YTD Q3 2023 Income - O&G	BKV	Peer 1	Peer 2	Peer 3	Peer 4	Peer 5	Peer 6	Peer 7	Peer 8	Peer 9
<b>Average Production (Mmcfe/day)</b>	867	270	942	1,057	1,420	1,559	2,123	3,478	3,495	4,620
<b>Free Cash Flow Margin</b>	4%	-2%	-29%	58%	-34%	8%	17%	-7%	17%	7%
<b>Reinvestment Rate</b>	44%	73%	61%	62%	134%	69%	49%	99%	72%	89%
<b>Capex per Production (USD/mcfe)</b>	\$0.35	\$3.56	\$1.92	\$1.16	\$2.40	\$1.18	\$0.77	\$0.85	\$1.32	\$1.27

Source : Internal analysis based on peer company GAAP public company filing and BKV IFRS financials; Free Cash Flow Margin = Free Cash Flow/Total Revenue; Reinvestment rate = Capex/Adjusted Earnings before Interest, Taxes, Depreciation, Amortization and Exploration Expense (EBITDAX); Capex per Production = Capex/Total Production

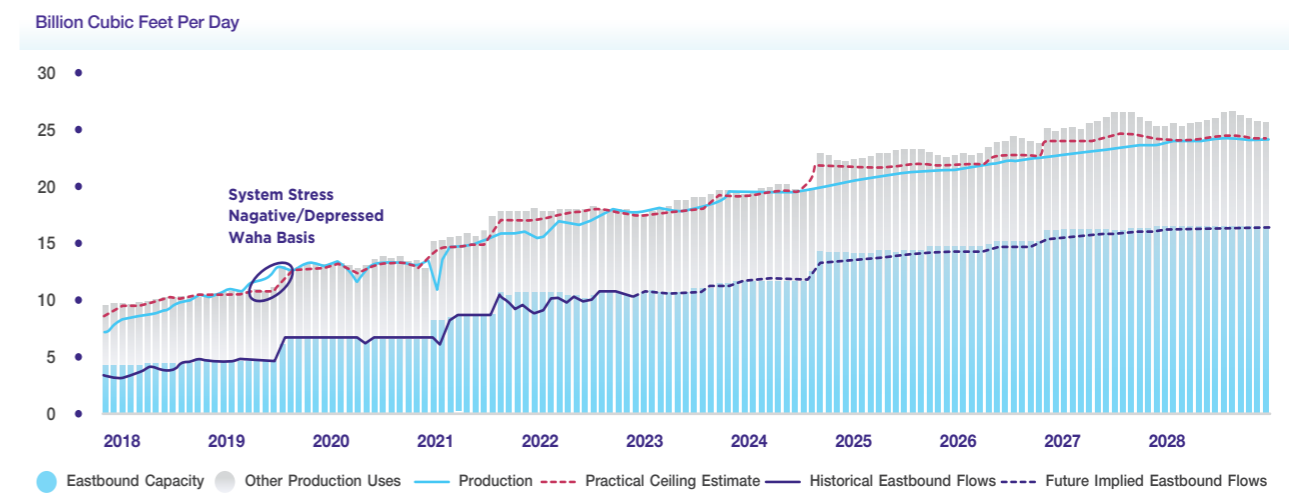
BKV, a subsidiary of Banpu in the U.S, competes with other onshore unconventional natural gas producers in the marketplace. In addition to environmental, social, and governance (ESG) principles, competition in this sector revolves around efficiency and access to key markets. These measures are best quantified by financial metrics, excluding hedging effects. The accompanying chart highlights BKV's competitive position against nine peers operating in similar natural gas basins. Despite its smaller size, the data illustrates that BKV can effectively compete on efficiency and margin metrics with leading U.S. public peers.

#### 2. Associated Gas Production

Secondary competition for natural gas producers arises from associated gas, a by-product of oil-producing operations. Since oil is the primary economic driver for these operators, the marginal costs of their natural gas are extremely low, allowing them to displace existing natural gas demand. For associated natural gas producers, the key lies in efficiently transporting their natural gas to market through economic pipeline infrastructure to monetize these by-products. The primary source of associated natural gas is from the unconventional play in West Texas,

specifically the Permian Basin. Despite substantial production, pipeline constraints from the Permian to demand markets in the Gulf Coast areas of Texas and Louisiana imply that overall competition from this source of associated gas will be capped, contingent on the pace of pipeline infrastructure build-outs. The chart below projects the total potential associated natural gas supply from the Permian Basin, assuming supply is constrained by anticipated future pipeline infrastructure builds.

#### Permian Production, Uses and Ceiling



Data Compile: December 17, 2023

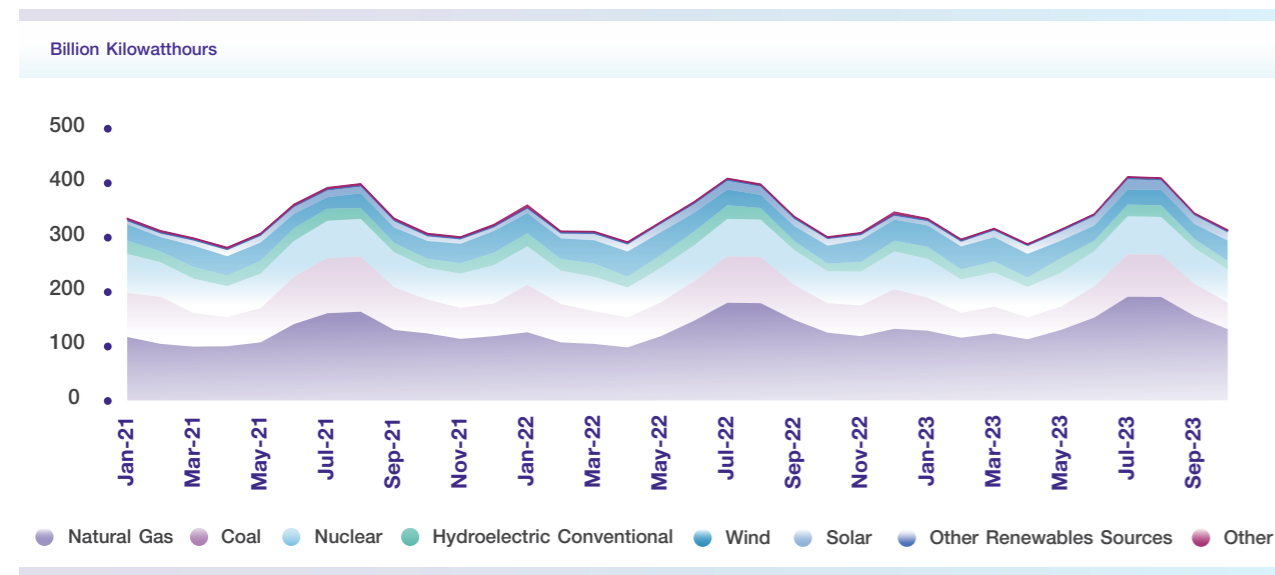
Production uses refer to the way production can be consumed (stacked bars), Practical ceiling reflects the total production potential estimate and can be lower than the theoretical limit because of conditional properties. Future implied eastbound flows based on cumulative share of production growth since January 2019. Source: S&P Global Commodity Insights

### 3. Alternative Sources of Primary Energy

The third source of competition arises from natural gas substitution sources, with a particular focus on the increasing penetration of renewable energy in the power sector, as well as in commercial and residential sectors. Over the past five years, there have been notable increases in net power generation from renewables across the U.S. However, the current base of renewable power generation remains relatively

small, resulting in a muted overall impact on demand substitution. Looking ahead, uncertainties surround policies related to future power generation in the U.S., and these uncertainties are expected to have a significant impact on the outlook for future demand substitution. It is crucial to closely monitor developments in this area for a comprehensive understanding of the evolving competitive landscape.

**U.S. Net Generation by Energy Source - All Sector  
(January 2021 - October 2023)**



Data Source: IEA Net Generation Report All Sector Monthly

### Competitive Strategies

BKV's strategy is to create value for its shareholders by managing and growing its integrated asset base and focusing on the net zero objectives. The strategy has the following principal elements:

#### 1. Deliver Robust Returns to Shareholders

BKV intends to prioritize delivering strong returns to shareholders through its focus on creating shareholder value. The company believes that its operational expertise in successfully drilling and refracturing wells, acquiring and integrating assets purchased at attractive valuations, and maintaining financial discipline, will underpin the ability to meet shareholder return goals. Its integrated businesses and natural gas-weighted, low-decline proved developed producing (PDP) reserves collectively reduce the downside risk while providing asymmetric upside returns from the confluence of commodity price uplift potential, operational improvement and development opportunities, and future accretive acquisition opportunities.

### 2. Optimize the Value of Core Businesses

BKV utilizes technology and data analysis to enhance its assets and operations, which the company believes improves its operational efficiencies, reduces emissions, and helps realize its operational and financial goals as the company continues to scale its business. For example, the "Pad of the Future" program, which includes the conversion of natural gas-powered instrument pneumatics to compressed air-powered instruments on existing pads, combined with emission and leak surveys, is expected to eliminate or reduce approximately 1.15 million tonnes per year (Mtpy) CO<sub>2</sub>e of our annual GHG emissions by the end of 2025. Our "Pad of the Future" application also improves pad efficiencies and operating revenue. By employing technology, data analytics and operational excellence, for the nine months ended September 30, 2023, BKV has reduced our lease operating costs in the Barnett by 10 percent compared to the nine months ended September 30, 2022.

In NEPA, BKV reduced its lease operating costs by 25 percent since January 2019, based on a 12-month rolling average for this time period compared to the prior operatorship twelve-month rolling average ending in January 2019.

Additionally, its refrac and long lateral drill programs have allowed the company to organically grow its reserves base. As of June 30, 2023, our Barnett refrac program has added 371 Bcfe of proved reserves since its inception in early 2021, as well as an estimated 507 Bcfe of probable reserves and 150 Bcfe of possible reserves. As of June 30, 2023, Barnett refrac program has an average of USD 0.79/Mcfe in finding and development costs with respect to proved reserves. This refrac program employs specifically designed perforating technology and a suite of innovative refrac techniques, as well as advanced refrac designs and diversion methods to maximize reserves recovery and economics from legacy Barnett wells. Barnett new well drilling program has added 679 Bcfe of proved reserves since our entry into the Barnett, with a total estimate of approximately 627 Bcfe of probable reserves and 406 Bcfe of possible reserves.

### 3. Grow through Opportunistic and Synergistic Acquisitions

A significant element of our business strategy is gaining scale through accretive acquisitions. BKV has a track record of growth through acquisitions, which the company believes have been at attractive valuations. Since 2016, the company has completed 19 acquisitions and two CCUS partnerships, resulting in greater than a 100 percent compound annual growth rate of Adjusted Earnings before Interest, Taxes, Depreciation, Amortization and Exploration Expense (EBITDAX) as of September 30, 2023. BKV believes its business model, management team experience and application of technology enable the company to quickly and efficiently integrate additional upstream, midstream and power assets into its business.

### 4. Maintain a Disciplined Financial Strategy

BKV believes that it can execute on its business plan and grow business while continuing to generate substantial adjusted free cash flow. The company targets a maintenance reinvestment rate of less than 40 percent and an upstream reinvestment rate of less than 50 percent. BKV is focused on its goal of maintaining a conservative financial profile, with a long-term total net leverage ratio target of 1.0x to 1.5x. Although the company may allow its leverage ratio to exceed that target in connection with a strategic acquisition, it would seek to return its leverage level to between 1.0x and 1.5x as soon as reasonably possible thereafter through adjusted free cash flow and, if needed, reduced activity levels. To support the generation of future adjusted free cash flow, the company has a policy of hedging approximately 25 percent to 60 percent of production volumes over a given 12 to 24-month period. BKV believes its capital efficient project inventory, low-decline natural gas production and multiple, integrated business lines will provide consistent returns through varying business cycles. The company intends to apply our cash flows to manage our indebtedness in line with its leverage target, fund the capital expenditure program, enhance shareholder value, and execute opportunistic acquisitions across its business lines.



### 5. Focus on Net Zero Objectives

BKV seeks to apply its integrated business model, CCUS projects, and carbon-negative initiatives to realize Scope 1 and 2 net zero upstream owned and operated emissions by the end of 2025. The company believes it can achieve this through the “Pad of the Future” emissions reductions program, emissions surveys, installing solar power, and executing CCUS projects. It also believes that carbon emissions within the U.S. can be reduced substantially through carbon capture on natural gas production, power plants, processing facilities, and other energy and industrial infrastructure. As such, in addition to lowering emissions in its direct operations, CCUS for third parties has become a core focus of its business plan. BKV expects its CCUS projects to represent a meaningful portion of its budgeted capital expenditures going forward as the company advances its long-term goal of eliminating and/or offsetting Scope 3 emissions from owned and operated upstream businesses.

Furthermore, BKV is strategically positioned to offer Carbon Sequestered Gas, a Scope 1, 2, and 3 carbon-neutral natural gas product that could command a premium in the marketplace. The carbon credits associated with this innovative product will be generated through BKV's CCUS projects and third-party certified.

In August 2023, BKV entered into a contract with ENGIE Energy Marketing NA, Inc, a subsidiary of the global energy utility ENGIE S.A., to supply up to 10,000 MMBtu/day of Carbon Sequestered Gas. Following satisfaction of certain conditions precedent, delivery of Carbon Sequestered Gas is expected to commence in early 2024. This collaboration underscores the commitment to sustainable energy solutions and positions BKV as a key player in the evolving landscape of environmentally conscious energy practices.

### 6. Encourage Innovation

BKV's distinctive culture encourages innovation with a value-driven focus that helps build its competitive advantage. For example, its emphasis on the efficient application of modern technology led to the development of the “Pad of the Future” program, advancements in Barnett refracs, and other operational improvements. The company intends to continue to develop, retain and add to its already talented, experienced, and forward-thinking employees. The unified team and mantra of “Being a force for good” underpin BKV's core values and contribute to the company's ability to drive business growth successfully.

## Energy Generation

Banpu operates the energy generation group of businesses through its subsidiary, Banpu Power Public Company Limited (BPP). As a leader in power generation and distributor in Asia-Pacific, including in Thailand, Lao PDR, China, Japan, Vietnam, Australia and the U.S.



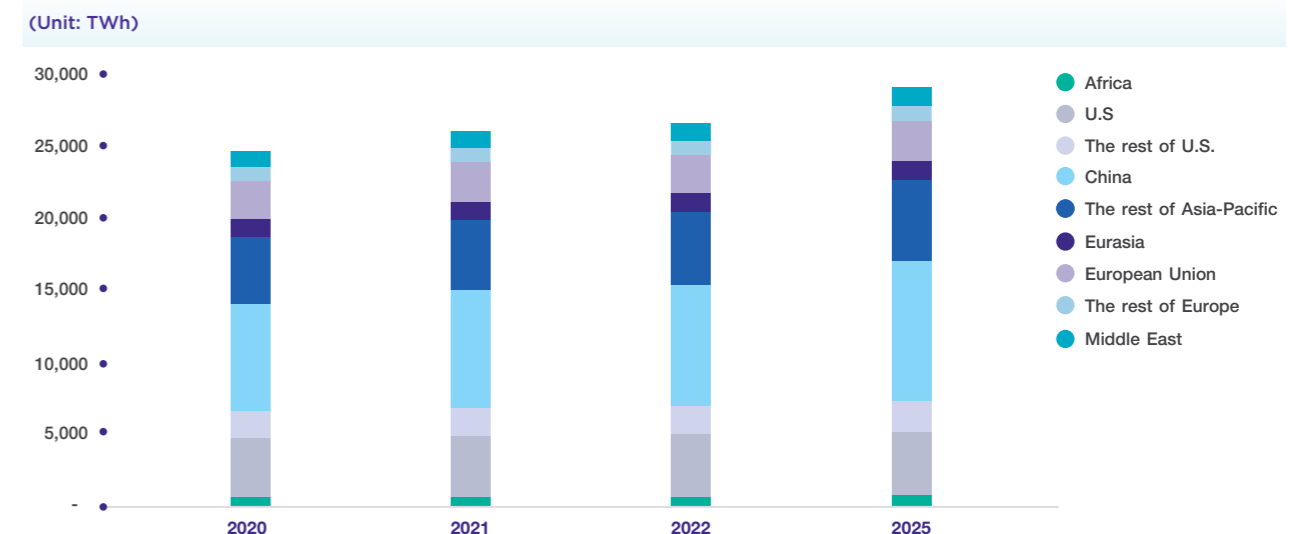
## Market and Competition

### Market

#### Thermal and Renewable Power Businesses

#### 1. Global Electricity Consumption

Global Electricity Demand 2020-2025



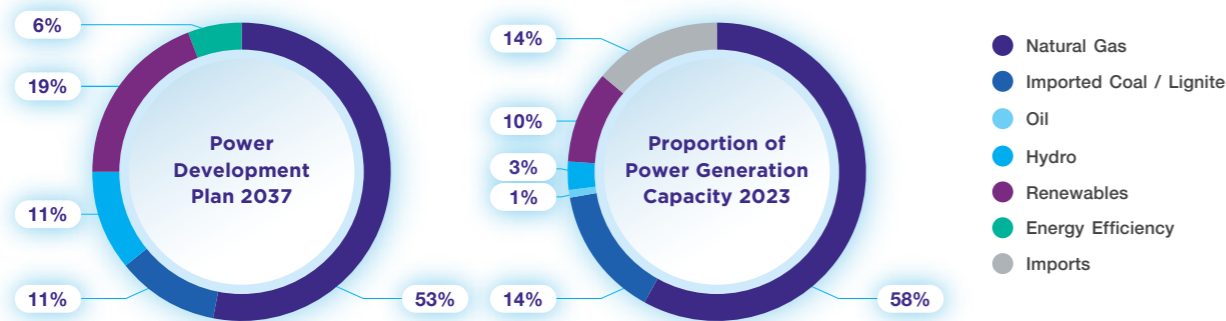
Source: IEA Electricity Outlook 2023

Over 2020-2021, global electricity demand increased by 5.7% per year thanks to a rapid economic rebound after COVID-19. However, between 2021 and 2022, the growth dropped to 1.4% per year due to the worsening energy situation following the war between Russia and Ukraine in February 2022, triggering a global energy crisis. Moreover, the global economy has not fully recovered after the COVID-19 pandemic while the inflation in the United States was severe. The average U.S. inflation rate for 2022 reached 8% before decreasing to 3.7% in August 2023. The Federal Reserve, an influential regulator of the U.S.

finance and economy, has raised the reference interest rates more than ten times since 2022, resulting in adjustments to loan interest rates and investment slowdown in many business sectors. However, the International Energy Agency (IEA) expected global electricity demand to grow at 3% per year over the 2023-2025 period, reflecting the economic recovery resuming the growth of electricity demand. The IEA estimated that by 2025, Asia will account for 50% of the world's electricity consumption, with one-third of global electricity to be consumed in China.

## 2. Market and Competition in Thailand

Comparison of Power Development Plan and Current Proportion of Power Generation Capacity by Energy Source in Thailand

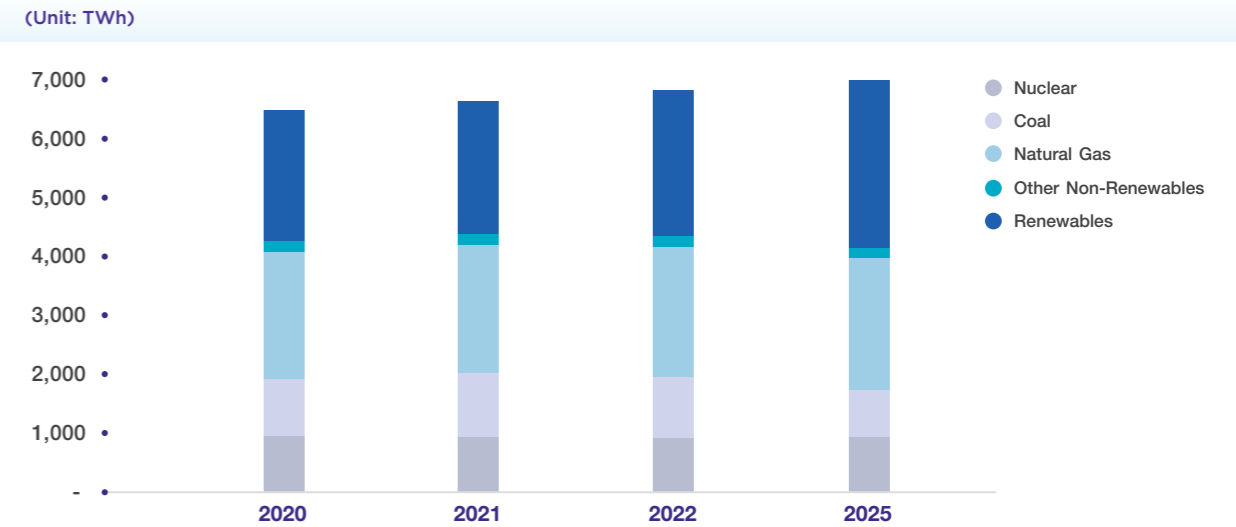


Source: Energy Policy and Planning Office (EPPO), Ministry of Energy \*As of end-September 2023

As of end-September 2023, Thailand's total installed power generation capacity was 48,799 MW, which was comprised of 33% from the Electricity Generating Authority of Thailand, 35% from Independent Power Producer (IPP), 19% from Small Power Producer (SPP), and 13% from imports. The proportion of generation capacity by fuel source consisted of natural gas at 58%, coal at 14%, oil at 1%, hydropower at 3%, and renewable at 10%.

## 3. Market and Competition in the United States of America

U.S. Electricity Generation by Energy Source 2020-2025

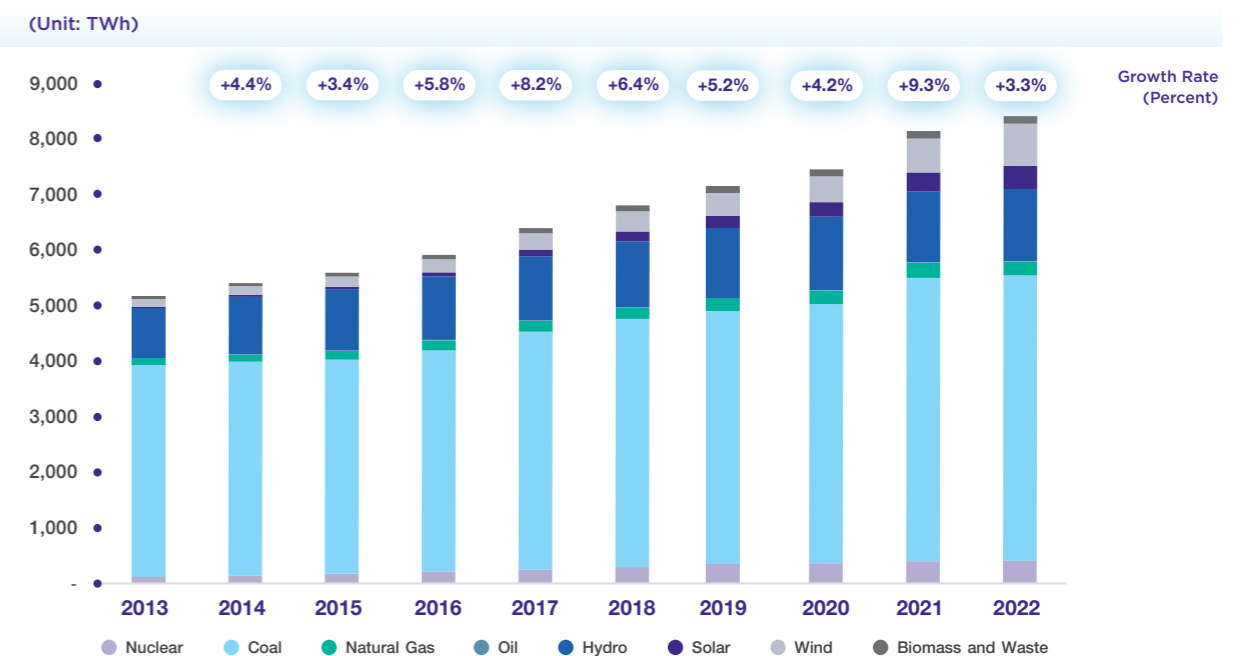


Source: IEA Electricity Outlook 2023

IEA estimated that U.S. electricity demand would grow steadily at an average rate of approximately 1% per year over the 2023-2025 period, while the share of coal-fired power generation will shrink to 7.7% per year. Natural gas and renewables will play a major role in satisfying power demand, with expected shares of 35% and 44%, respectively, of the total power generation by 2025.

## 4. Market and Competition in China

China's Electricity Generation by Energy Source 2013-2022





In 2022, China's power demand growth rate was 3.31%, dropping from the average 2015-2021 growth rate of 5% per year due to slower economic growth in the previous year. However, IEA estimated that the electricity demand in China would grow steadily at an average rate of approximately 5.2% per year over the 2023-2025 period.

As of 2022, fossil fuels still accounted for 64% of total power generation, with coal accounting for 61% of total power generation and the share of natural gas-fired power generation decreasing for the first time since 2002 due to the increase in natural gas prices. For renewable, the National Energy Administration (NEA) reported that China's installed solar capacity in the first five months of 2023 reached 6.12 GW, an increase of 140.3% over the previous year. China plans to reach peak carbon emissions by 2030 and to achieve carbon neutrality by 2060.

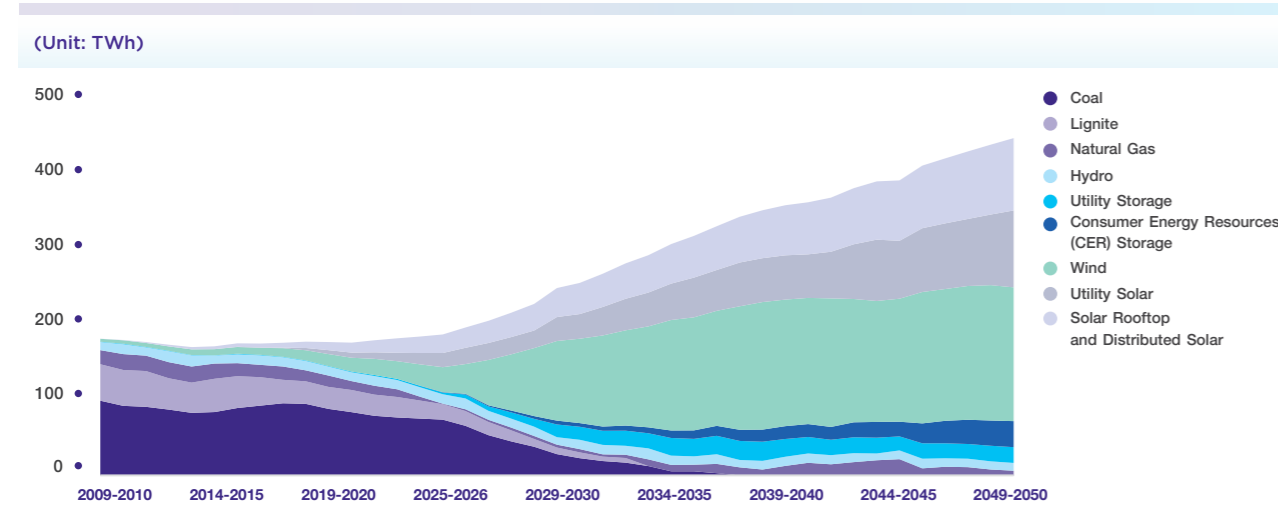
### 5. Market and Competition in Japan

As of December 2023, Japan's electricity consumption experienced stable growth, with the majority of capacity from thermal power generation. Part of the capacity was from renewables, accounting for 16.9%, or 13,436 MWh, of the total capacity, consisting of 510 MWh from wind power, 2,482 MWh from solar power, 2,532 MWh from biomass, and 7,377 MWh from hydropower (as of December 2023). Currently, renewables account for 77,220 MW of the total installed capacity, broken down into 16,923 MW of solar power, 4,628 MW of wind power, 4,538 MW of biomass power, and 49,614 MW of hydropower. According to the 6<sup>th</sup> Strategic Energy

Plan, Japan set a target for renewables to account for 36-38% of Japan's energy mix by 2030 to achieve its GHG reduction target. In addition, the Japanese government has shifted from the Feed-in Tariff (FiT) scheme to an auction scheme for renewable-based electricity pricing. In 2023, newly developed solar power plants secured an average price of JPY 8.55 per kWh through the auction scheme. Besides, a new regulation prescribes that any solar power plant project development with a capacity of over 20 MW is required to submit an Environmental Impact Assessment (EIA) report, effective from April 2022.

### 6. Market and Competition in Australia

Australia's Electricity Generation by Energy Source 2009-2050



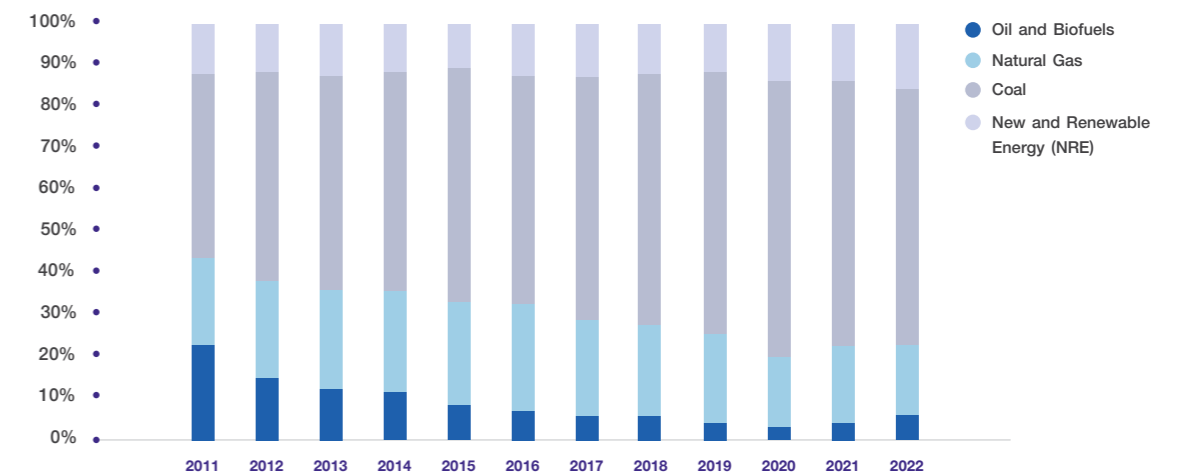
Source: Australian Energy Market Operator (AEMO) Draft 2024 Integrated System Plan (ISP)

Australia's Eastern and Southern states consist of Queensland, New South Wales, Victoria, South Australia, and Tasmania. These states jointly operate the National Electricity Market, where electricity demand has remained stable over the past five years. From 2022 to 2023, the electricity demand reached 208,414 GWh, rising 2% from the previous year. Australia's primary energy source is coal, with a share of 58.3% of total energy sources.

However, the share of coal has gradually declined as renewable energy, especially solar power, has gained popularity in households with solar rooftop systems. The Australian government has pledged to achieve net-zero emissions by 2050, which has led the states to develop and implement policies that promote more renewable energy generation. The share of renewable energy is projected to reach 90.88% by 2050.

### 7. Market and Competition in Indonesia

Indonesia's Electricity Generation by Energy Source 2011-2022



Source: Handbook of Energy & Economic Statistics of Indonesia (HEESI) 2020-2022

Given Indonesia's target of achieving net zero emissions by 2060, the country plans to develop 51.6% more renewable power plants out of the total planned power plant development plan between 2021 and 2030, adding 40.6 GW of new capacity by 2030. PT Perusahaan Listrik Negara (PLN) aims to increase its share of renewable power generation to 24.1-25.3% by 2030.

According to the Indonesian Ministry of Energy's report, electricity consumption per capita in Indonesia reached 1,173 kWh in 2022, increasing 4.45% from the previous year due to Gross Domestic Product (GDP) growth and the latest National Electricity Master Plan (RUKN) 2023-2060 target to grow electricity consumption by 3.6-4.2% per year from 2024-2060.

### 8. Market and Competition in Vietnam

In 2023, Vietnam's Gross Domestic Product (GDP) growth was at 5.05%, dropping 8.02% from the previous year due to slowing growth in the export sector in the first half of the year and frail loan growth. It is forecasted that Vietnam's GDP will reach 6%\* in 2024, driven by the rebound in exports. Vietnam has established a renewable capacity target for 2045 in the Power Development Plan 8, released in May 2023, aiming to increase wind capacity to 27% and solar capacity to 34% of the national total capacity of 490.5 GW. The country has set the Feed-in Tariff (FiT) for solar and wind power projects that have already achieved commercial operation according to the Power Development Plan 7. In the future, the government will change the solar and wind pricing schemes from FiT to an auction scheme.

Source: World Bank - Global Economic Prospects (As of January 2024)

## 9. Market and Competition in Lao PDR

Currently, Lao PDR operates 90 power plants with a combined installed capacity of 10,956 MW. The capacity comes from 77 hydropower plants, each with an installed capacity of 1 MW or more, accounting for 81% of the total power generation capacity, eight solar power plants, four biomass plants, and one coal-fired plant. 72% of the output is exported to foreign countries, such as Thailand, Vietnam, Cambodia, Singapore, and Myanmar.

According to the 2016 statistical data from the Division of Power Generation Planning, the Department of Energy Policy and Planning, the Ministry of Energy and Mine, Lao PDR plans to develop 429 power generation projects, aiming for an additional capacity of approximately 29,171 MW and an annual total power generation capacity of 129,589 GWh by 2030. The memorandum

of understanding (MOUs) have been signed to supply electricity to various countries, including 10,500 MW to Thailand, 6,000 MW to Cambodia, 5,000 MW to Vietnam, 600 MW to Myanmar, and 100 MW to Singapore. Lao PDR is currently exploring the possibility of supplying an extra 300 MW of electricity to Singapore and also supplying electricity to southern China through a power purchase agreement between the countries. Besides, in 2022, Lao PDR signed a MOU with Brunei to promote energy cooperation.

Most of Lao PDR's capacity is from hydropower, which accounts for over 90% of domestic electricity consumption. Therefore, Lao PDR faces power outages during the dry season, forcing the country to rely on electricity imports. To address this challenge, the Lao government plans to diversify energy sources by increasing the energy mix of power from solar, wind, and coal while reducing reliance on hydropower generation.

## Competitive Strategies

### 1. Competitive Strategies in Thailand

BPP holds 50% shareholding in BLCP Power Ltd. which operates the BLCP Power Plant, in which BPP owns an equity-based capacity of 717 MW out of a total capacity of 1,434 MW. Located in the Map Ta Phut Industrial Estate, the BLCP Power Plant is a major power producer selling electricity directly to the Electricity Generating Authority of Thailand (EGAT). The dispatch rate of the BLCP Power Plant in 2023 was 99.3%, reflecting the power plant's ability to manage operational efficiencies. BLCP's production output accounts for 5% of EGAT's total installed and purchased power capacity.

#### Competitive Strategies

##### 1) Maintaining Operational Efficiency and Readiness of Power Plants

BPP consistently conducts the efficiency improvement and equipment maintenance of power plants according to the maintenance schedule to secure the Availability Factor (AF) and Contracted Available Hours (CAH) in accordance with the Power Purchase Agreement (PPA). In 2023, BLCP reported the Equivalent Availability Factor (EAF) of 87.8%.

##### 2) Seeking Opportunities for Business Expansion

BPP has been on the lookout for new domestic growth opportunities by aligning the business expansion plan with the Power Development Plan for 2018-2037 (PDP

2018 Revision 1), approved by the National Energy Policy Council (NEPC) on 19 March 2020, which emphasizes the development of technology that helps reduce CO<sub>2</sub> emissions. In 2023, BLCP Power Plant signed a memorandum of understanding (MOU) with JERA Co., Inc., Mitsubishi Corporation, and Mitsubishi Heavy Industries, Ltd. to study the feasibility of the ammonia co-firing system for the BLCP Power Plant. This marked another significant step reaffirming BPP's commitment to transition to a greener power producer in alignment with the Greener & Smarter strategy.

##### 3) Stakeholder Relations Management

BPP has supported activities and fostered mutual understanding in all the areas where it operates, resulting in a positive relationship with local communities.

## Major Competitors

BPP's thermal power plants that are commercially operational have no direct competitors who are power producers because the company entered into a long-term power purchase agreement with the Electricity Generating Authority of Thailand (EGAT).

### 2. Competitive Strategies in the United States of America

On 1 November 2021, BKV-BPP Power LLC (BKV-BPP), a 50%-owned joint venture of Banpu Power US Corporation (BPPUS), a wholly-owned subsidiary of BPP, invested in the 768-MW Temple I Combined Cycle Gas-Turbine (Temple I CCGT) Power Plant, which achieved commercial operation date in 2014. Subsequently, on 11 July 2023, BKV-BPP invested in the 755-MW Temple II Power Plant, which commenced commercial operation in 2015. Both power plants are located in Temple, Texas, one of the fastest-growing economic and population centers in the United States. The power plants can generate and supply electricity to meet the needs of over 750,000 households in Central Texas. Equipped with a pollution control management system to maintain low emissions, the power plants are highly efficient and flexible in adjusting power generation to match consumption patterns. Their priority dispatch status makes them ideal for the competition in the Electric Reliability Council of Texas (ERCOT) market. The investment has created added value through synergies between BPP and BKV Corporation, a subsidiary of Banpu, leveraging knowledge and resource sharing to maximize investment benefits.

#### Competitive Strategies

##### 1) Maintaining Readiness and Enhancing Efficiency of Power Plants

Temple I and Temple II gas-fired power plants undergo annual maintenance in spring and fall or during March and October to ensure the highest operational readiness during the peak periods for electricity consumption (in winter and summer). Additionally, to prevent damage from winter storms, the power plants have installed windshields and permanent roofs to protect outdoor equipment from snowstorms and extreme temperatures. They also installed the heat tracing system and heaters on pumps, valves, gauges, and other equipment to prevent them from freezing and becoming inoperable. To enhance the efficiency of the power plants during summer, wet compression systems are deployed. The systems increase generation capacity during summer months, the time when the ERCOT market's power demand peaks.

##### 2) Cost and Price Management

Temple I and Temple II gas-fired power plants are exposed to fluctuations in electricity prices and fuel costs. However, in the United States, there are advanced derivatives available that can help power producers mitigate the risk of electricity price fluctuations. So, both power plants will consider entering into derivative contracts to mitigate this risk. Moreover, as Temple I is

one of a few power plants in Texas that own gas storage facilities, BKV-BPP can purchase natural gas when the prices are low and store it at the plant as a reserve for power generation when gas prices are higher, enhancing the power plant's competitiveness. With a team of experts in the natural gas business and effective operational management from both BPP and BKV Corporation, both power plants can benefit from their gas storage facilities.

##### 3) Seeking Opportunities for Business Expansion and Added Value Creation

BPP monitors market conditions, growth, and investment trends. It seeks investment opportunities in various projects across the United States, whether natural gas-fired power plants, renewable power plants, or other technologies. This includes creating value through additional investments in related companies, for example, by exploring the possibility of investing in new fuels aligned with the country's energy development policy. At the end of 2022, BKV-BPP entered the retail electricity business through BKV-BPP Retail, its wholly-owned subsidiary that sells electricity to customers in Texas. Currently, BKV-BPP Retail serves approximately 30,000 customers.

#### Major Competitors

- Domestic and international power producers and investors

### 3. Competitive Strategies in China

BPP's combined heat and power plants (CHP plants) and solar power plants in China are more efficient than average power plants and meet pollution control standards. Hence, they obtain various supports from the Chinese government, such as guaranteed electricity sales to local electricity authorities, exclusive rights to sell steam and heat in permitted zones, and local government subsidies. In 2023, the Chinese government issued an electricity market reform to improve the overall efficiency of the power generation system and reduce the role of power-grid companies to lower production costs for the entire system in the long run.

#### Competitive Strategies

##### 1) Cost and Efficiency Management

The Chinese government has pursued the electricity market reform to reflect fuel costs in each province and, at the same time, has imposed measures to stabilize electricity prices for households. BPP has assessed the impact on the pricing in power and steam purchase agreements and adjusted the prices accordingly. The company maintains its cash flow generation and liquidation management by improving production efficiency and strictly controlling costs by strategically buying and stocking up coal when coal prices decline and utilizing it when coal prices increase.

##### 2) Environmental Management

The Chinese government has a stringent policy on environment and pollution control, which restricts the use of coal as a major fuel source in industrial plants. BPP's power generation processes comply with current environmental standards. The company regularly maintains all equipment and machinery and has a plan to improve environmental control equipment. Furthermore, BPP monitors and assesses environmental impacts to ensure that its business operations fully comply with environmental laws, rules, and regulations. The company has considered deployment of the state-of-the-art technology called Ultra-Supercritical (USC), which is high efficiency, low emissions (HELE) technology, in new projects, such as the Shanxi Lu Guang Power Plant.

##### 3) High Adaptability

BPP has a dedicated team to closely monitor changing market conditions and align business operations to the market conditions or situations in order to embrace business opportunities and mitigate negative impacts. The company is prepared to adjust the

distribution of electricity, steam, and hot and chilled water in response to the factors affecting the demand. For instance, Zhengding CHP Plant would produce electricity, steam, and hot water for sale during winter. In summer, when customer demand shifted, it would swap to produce chilled water for sale, which helped generate more income and reduce the impacts of the seasonal decrease in electricity and steam sales. In addition, Zhengding CHP Plant was selected to develop a major solar rooftop project under the support of the local government in Hebei Province. Currently, the solar rooftop has an operating capacity of 12 MW and an additional capacity of 52 MW under construction, with the potential for expansion in the future, representing another milestone in expanding its clean energy portfolio.

##### 4) Service Quality and Stakeholder Relations Management

BPP prioritizes the quality of products and services. The company strives to ensure readiness and security in generating and distributing electricity and steam to respond to customers' needs at all times, especially the distribution of steam and hot water in wintertime. The company always maintains a good relationship with customers based on mutual trust and benefits, which has earned trust and confidence from customers. Relationship management with local government agencies and communities is based on mutual benefits by providing basic utility services (electricity and steam) to local communities, building trust and equity, and lending continued support to the community. This has brought BPP acceptance from local government agencies and communities as an exemplary local enterprise. Despite a setback from external factors, the company still enjoys full support from local governments, for instance, financial subsidies or approval to raise steam prices when coal prices increase.

##### 5) Seeking Opportunities for Business Expansion and Added Value Creation

BPP puts greater emphasis on investment in renewable energy to align with the government's policy to promote renewable energy. The company also focuses on creating added value by expanding investment into related businesses while considering the costs of different fuel sources and appropriate technology. For example, the location of Luannan CHP Plant is in the urban industrial area, which gives it a strategic advantage in becoming the sole distributor of steam. BPP is also considering expanding its customer base to new industrial areas to offer the service of the solar rooftop power generation system. Moreover, the company is conducting a feasibility study for the development of its existing land to develop the biomass coal co-firing power plant project to reduce costs and create a positive impact on the environment.

#### Major Competitors

- Domestic and international power producers and investors

### 4. Competitive Strategies in Japan

BPP expanded investment into the Japanese market initially through investments in the solar power plant business. Currently, the company has a combined capacity of 148.4 MW from commercially operational plants. In 2023, the company invested in the large-scale Iwate-Tono Battery Farm project, with a total capacity of 58 MWh. With support from the Japanese government, this project aims to drive Japan's net-zero target. In addition, BPP is seeking investment opportunities in power plants that deploy eco-friendly technologies in the Japanese market which has growing power demand and benefiting from favorable government.

#### Competitive Strategies

##### 1) Capability in Investment Management

BPP has a strategy to collaborate with partners in seeking new investment opportunities and managing financial costs by utilizing multiple funding sources, especially domestic financial institutions, to achieve long-term investment goals.

### 2) Project Development

BPP closely monitors policy and regulatory changes of the Japanese government related to the energy industry, with a dedicated team to follow up and study the changes in detail as well as impacts on projects under development to ensure that all projects achieve commercial operation date as planned.

##### 3) Seeking Opportunities for Business Expansion and Added Value Creation

Since Japan's energy management is governed by a clear energy policy, BPP can effectively manage the risk although the Japanese government reduced the Feed-in Tariff (FIT) for solar power and shifted to the auction scheme. BPP has adapted to achieve the target return on investment by focusing on cautious cost management, procuring important equipment to improve efficiency, and seeking appropriate sources of domestic funding. In addition to investments in solar power plants, BPP is exploring opportunities to invest in large-scale battery farms in Tohoku and Kanto regions. The company also constantly seeks investment opportunities in related businesses by building upon the existing power generation business to create added value, such as energy trading and retail electricity, by expanding business opportunities with retail customers as well as solar rooftop business to fulfill demands of business and industrial sectors and renewable energy consumers.

#### Major Competitors

- Domestic and international power producers and investors

### 5. Competitive Strategies in Australia

Banpu Group has been driving the growth of the renewable energy business through Banpu NEXT Company Limited (Banpu NEXT), in which BPP holds a 50% stake. Banpu NEXT has expanded investments in the renewable energy business in Australia. In June 2021, Banpu NEXT established Banpu Energy Hold Trust to invest in two solar farms with a combined generation capacity of 166.8 MWdc, comprising 110.9 MWdc from the Beryl Solar Farm (BSF) and 55.9 MWdc from the Manildra Solar Farm (MSF). Both solar farms are located in New South



Wales, where there is consistent growth in electricity consumption and demand, and the government has a clear policy to promote electricity generation from renewable energy. Power plants under long-term power purchase agreements will supply electricity to the National Electricity Market (NEM). As NEM is a wholesale electricity market with an advanced trading system, BPP entered into a long-term power purchase agreement (PPA) with the private sector concurrently to prevent the risk of trading in the wholesale electricity market. The acquisition of the two solar farms has paved the way for renewable energy investments in Australia. The company has been actively seeking investment opportunities with a focus on team and people management and building trust with business partners to expand growth in renewable energy and related businesses. Furthermore, the company is working on developing an integrated energy solution platform. After obtaining the license in 2022, BPP started energy trading to generate added value and enhance profitability.

### Major Competitors

- Domestic and international power producers and investors

## 6. Competitive Strategies in Indonesia

PT. ITM Bhinneka Power (IBP) engages in renewable power generation and explores opportunities in the new energy technology business. IBP started operating a 2.2 MWp hybrid solar rooftop project at the mines of PT. TCM, a subsidiary of PT. Indo Tambangraya Megah Tbk (ITM). PT. Cahaya Power Indonesia (CPI), a joint venture in which IBP owns 80% of its ownership, and local partners own 20%, operates a solar rooftop project under lease agreements for commercial and industrial customers. In 2023, CPI's capacity from lease agreements amounted to 14.1 MWp while the electricity from the operating projects amounted to 6.3 MWp.

Aiming to increase the capacity of solar power projects according to its strategy, IBP acquired 65% ownership of PT Centra Multi Suryanesia Aset (CMSA) in September 2023, with the remaining 35% owned by local partners. Similar to CPI, CMSA operates

a solar rooftop project under lease agreements for commercial and industrial customers. In 2023, CMSA's capacity from lease agreements amounted to 14.2 MWp while the electricity from the operating projects at year end amounted to 2.7 MWp.

In addition to solar projects, IBP has been pursuing other opportunities in hydropower projects. The company currently has hydropower projects, including operating projects and projects under development, which are during the assessment and acquisition stages.

### Competitive Strategies

#### 1) Relationship Management with Current Networks and Expansion to Related Business Alliances

The management leverages existing networks of coal businesses, Thai companies, and partners in Indonesia to connect with industries and companies that can promote renewable energy and carbon credits. The company also builds relationships with new alliances by investing in their companies, which helps accelerate business growth.

#### 2) Business Development and Project Management

IBP focuses on exploring renewable energy projects, primarily solar and hydropower. The company surveys existing projects in the market to conduct a thorough analysis and hires a consultant for due diligence to ensure the accuracy and feasibility of project operation and development. The company also cooperates with experts from Banpu NEXT who efficiently provide advice and transfer knowledge on renewable energy and energy business.

#### 3) Seeking Opportunities in Integrated Energy Use and Value-Added Services

Indonesia has sizable commercial, industrial, and service markets. However, the energy sector is still in its early stages and at a point where other competitors are also looking to enter the renewable energy sector. As BPP's advantage is its accumulated experience in renewable energy and energy technologies in other regions, it has devised a strategy to provide integrated

energy services, including solar rooftop installation and energy efficiency projects, to increase energy saving and support carbon credit offset plans for customers.

### Major Competitors

- Domestic and international power producers, developers of solar rooftop projects, and investors

## 7. Competitive Strategies in Vietnam

BPP has expanded investment in the power business in Vietnam since 2016 under a memorandum of understanding (MOU) signed with Soc Trang Provincial People's Committee to conduct a feasibility study on investment in a renewable energy project. In 2018, the company was awarded an Investment Registration Certificate (IRC) for the Vinh Chau Wind Power Plant Project Phase 1. BPP subsequently established a subsidiary in Soc Trang Province, managed by an experienced team with a good understanding of Vietnam's business climate. The construction of the Vinh Chau Wind Power Plant Project Phase 1 has been completed and is ready for commercial dispatch. The company continued a feasibility study to explore the opportunity for further expansion of the generation capacity. In 2020, BPP expanded its investment through the acquisition of the commercially operational EI Wind Mui Dinh Wind Power Plant in Ninh Thuan Province. The 37.6 MW wind farm is eligible for a Feed-in-Tariff (FiT) for a period of 20 years. Located on the South Central Coast of Vietnam, Ninh Thuan Province has the highest potential and investment opportunities in renewable energy, thanks to government support. In addition, in December 2021, a subsidiary of Banpu NEXT entered into a purchase and sale agreement to invest in a 35-MW Nhon Hai Solar Farm in Ninh Thuan Province, which is also eligible for a Feed-in Tariff (FiT). The investment was approved by local authorities, and the solar farm has realized income since June 2022.

## Competitive Strategies

### 1) Managing Relationships with Local Government Agencies and Communities

BPP and its subsidiaries in Vietnam build relationships with local government agencies on the basis of the understanding of social and cultural differences. The company focuses on becoming a mutually responsible partner with government agencies to sustainably engage in local community development by providing continuous support for community activities.

### 2) Seeking Opportunities for Business Expansion and Added Value Creation

Vietnam has enjoyed a continuous growth rate and is projected to achieve a GDP growth rate of 6% in 2024\*, which will lead to a continuous increase in electricity demand. The Vietnamese government also has a clear energy management plan to increase its renewable power generation portfolio, presenting a promising investment opportunity for the company. BPP is well aware of investment risks; thus, it exercises careful deliberation of investment and business expansion opportunities to align with the business direction to generate quality megawatts.

### 3) Management by the Operational Excellence Approach

BPP recognizes the importance of improving operational efficiency and maintaining optimal production readiness. Therefore, it prioritizes operational process management as well as preventive and corrective machine maintenance. The company has implemented various development projects to minimize equipment downtime while effectively controlling and managing costs to align with its business operations and financial costs. Furthermore, BPP provides human resource development within the organization to ensure that employees can adapt to changing situations.

### Major Competitors

- Domestic and international power producers and investors

\*Source: World Bank – Global Economic Prospects (As of January 2024)

## 8. Competitive Strategies in Lao PDR

BPP holds a 40% stake in Hongsa Power Company Limited, which operates the HPC Power Plant, the only mine-mouth power plant in Lao PDR. The HPC Power Plant has a total capacity of 1,878 MW, of which BPP holds 751 MW equity capacity. The power plant sells the majority of electricity to the Electricity Generating Authority of Thailand (EGAT) under the Independent Power Producer (IPP) scheme and some of its output to Lao PDR. The HPC Power Plant's production output constitutes 25% of the total electricity that Lao PDR supplies to Thailand.

### Competitive Strategies

#### 1) Maintaining Operational Efficiency and Readiness of Power Plants

All three production units of the HPC Power Plant have been fully operational since 2016 and achieved 102.9% dispatch in 2023. This demonstrates the operational stability and low operating costs, which are crucial for both countries' electricity systems.

#### 2) Managing Relationships with Local Government Agencies and Communities

BPP places importance on community development by promoting community engagement and improving the quality of life of local people. These measures have been realized into community development initiatives, for example, infrastructure development (water supply, electricity, and roads), partial relocation and rebuilding of houses in appropriate areas, vocational training, and promotion of employment at power plants such as contracts for project design, and equipment procurement.

#### 3) Cost and Efficiency Management

In 2023, BPP supported the HPC Power Plant in improving its efficiency and capacity readiness in power generation and distribution. The improvements covered equipment refurbishment and improvements in coal transportation to the power plant, which helped maintain the Equivalent Availability Factor (EAF) at 84.9%. Moreover, the power plant increased readiness by stocking equipment parts and improving the speed and efficiency of maintenance, contributing to stable power generation.

#### Major Competitors

BPP's commercially operational coal-fired power plant has no direct competitors because the Company has a long-term power purchase agreement with the Electricity Generation Authority of Thailand and Électricité du Laos.

## Energy Technology



## Market and Competition

### Market

#### 1. Renewable Power Business

Renewable energy, particularly solar power, has experienced exponential growth in Thailand. According to the Power Development Plan (PDP), Thailand's current power generation capacity for the period of 2018-2025 is 20,343 MW, of which 3,000 MW is attributed to solar power and 1,500 MW to wind power. By 2037, Thailand's total capacity is projected to increase to 56,431 MW, with 18,833 MW from solar and wind power. The increasing demand for solar energy in Thailand is driven by various factors, including fluctuations in energy prices, particularly those of natural gas and LNG used for power generation, resulting in higher electricity bills for consumers. Another major factor is the government's energy policy, encouraging the adoption of clean energy, including solar power. Most financial institutions in Thailand have policies supporting the financing of clean energy production, fostering growth in the solar energy market. The market for installing solar rooftop systems in residential, industrial, and commercial buildings has witnessed exponential growth, averaging 22% annually. It is projected to reach THB 67 billion by 2025 (Source: Ministry of Energy, REIC, and ttb analytics). Declining solar panel installation costs also enhance accessibility for both business and household sectors to the installation of clean energy solutions.

#### 2. E-Mobility Business

Thailand's electric vehicle market is experiencing exponential growth, with registrations of 77,737 new electric vehicles in the first nine months of 2023 (Jan-Sep), increasing 409.98% year-on-year. Supporting factors for e-mobility growth include the government's purchase subsidies for EV car buyers, tax incentives until 2025, expansion of EV charging infrastructure to cover wider areas, and oil prices that remain high. Heightened awareness of pollution issues among both the government and people in Thailand has further fueled local buyers' interest in EVs. In addition, automakers and parts manufacturers in the global EV supply chain have decided to invest in establishing production bases and sales offices in Thailand. EV production is expected to start in 2024 onward. This will provide consumers with more diverse and accessible options, which will be a contributing factor leading to the expansion of the EV market. However, rising production costs stemming from the prices of lithium, a critical battery component, energy and electricity expenses, and labor costs may also push the selling price up. In addition to changes in the passenger vehicle market, more electric vehicles have been used for public transport and logistics, such as short-term EV rentals or car-sharing services. This trend not only reduces reliance on private vehicles but also contributes to mitigating air pollution and enhancing urban mobility.

### 3. Smart City and Energy Management Business

The Smart City Development Plan is another policy that the government is prioritizing to align with the country's development direction under the Thailand 4.0 guidelines. The government encourages cities to embrace cutting-edge and smart technologies and innovations. Energy solutions development, in particular, is deemed essential infrastructure for driving smart cities in Thailand. Smart city solutions that maximize energy efficiency encompass energy management systems (EMS), energy storage systems (ESS), District Cooling System (DCS) and electric vehicles (EV). As of December 2023, 153 smart city proposals were submitted to the Smart City Thailand office, with 147 cities already enrolled in the program and six cities as new applicants. So far, 36 cities have been declared smart cities (as of 17 August 2023), and 117 cities are being promoted to become smart cities.

Regarding energy policy, the Ministry of Energy has introduced several energy reform plans under the 20-year National Strategy to drive the government's policy and key strategies for energy management, energy conservation, and innovations. This is aimed to enhance energy efficiency and reduce the country's energy consumption, with an emphasis on industrial and commercial sectors, which account for substantial energy usage.

### 4. Energy Storage Systems

The current global trend increasingly prioritizes transitioning to a Net Zero Carbon society, favoring the transition to green energy. Electric vehicles and power generation from clean energy are pivotal in achieving this objective, resulting in a rise in demand for batteries. According to the Power Development Plan, an estimated 2.76 gigawatt-hours (GWh) of batteries will be deployed in energy storage systems by 2030 alongside solar power plants. This strategic deployment aims to stabilize the power transmission system and facilitate the growth of smart power grids in the near term. In addition, Thailand aims to manufacture zero-emission vehicles to constitute up to 30% of total capacity by 2030, which will drive an exponential increase in battery demand within Thailand.

### Integrated Energy Services Policy for Transitioning to Net-Zero Carbon Society

Banpu NEXT has established an explicit, transparent, and accountable marketing policy to support the Banpu Group's Sustainability Policy as follows:

1. To expand the customer portfolio to cover major markets in the Asia-Pacific Region
2. To create added value to products and services as an integrated smart energy solutions provider, offering versatile energy solutions with state-of-the-art technology, including smart hardware and digital platforms, to satisfy varying customer needs at every step of business operations in order to ensure limitless access to clean energy, alignment with ESG principles to achieve SDGs, contribute to a better living of customers and communities.
3. To maintain marketing ethics and show respect to customers, competitors, and stakeholders.
4. To ensure transparency, credibility, integrity, and professionalism.

### Competition

Banpu NEXT focuses on differentiating itself from competitors by offering net zero solutions for sustainability, encompassing smart hardware and digital platforms. The Company deploys cutting-edge and appropriate technologies as well as designs products and services by prioritizing customers' painpoints and needs. The Company provides customers with limitless access to clean energy in line with ESG principles and SDGs while promoting better living conditions of customers and communities. Banpu NEXT's major strategies are as follows:

- **Being an Integrated Smart Energy Solutions Provider**

Apart from providing solar rooftop system installation, Banpu NEXT also offers other energy solutions to improve customers' quality of life. The Company helps promote and drive Thailand's transition toward a net-zero carbon society. Solutions provided are, for example,

energy storage systems or batteries, smart city & energy management, as well as e-Mobility services. These solutions are carefully tailored to meet diverse customer needs in different businesses and locations in terms of cost reduction, energy efficiency enhancement, and customer convenience.

Additionally, Banpu NEXT recognizes the importance of the environment. Consequently, the Company has conducted feasibility studies on managing retired batteries, aiming to repurpose components with satisfactory performance while ensuring environmentally responsible disposal of non-recyclable parts through collaboration with our affiliated recycling company. This reflects Banpu Next's integrated business operations that responsibly address the entire process from upstream to downstream.

- **Customer-Centricity**

In developing services and solutions, Banpu NEXT employs a customer-centric approach by considering the customer's pain points and energy utilization needs. Banpu NEXT's team of experts will visit customers at their sites to discuss their requirements. Cutting-edge technologies and innovations are integrated to support data collection, analysis, and evaluation, enabling the provision of efficient and cost-effective energy solutions to customers. This endeavor aims to address their challenges and meet their needs as comprehensively as possible while fostering long-term relationships with customers.

- **Product Excellence**

Banpu NEXT uses top-tier products from industry-leading brands with guaranteed industrial standards. The Company's engineering team has expertise in designing systems that address the specific needs of each project location. System installations comply with international standards, while state-of-the-art technology, such as drone

thermal scan, is used to inspect solar panels to ensure the delivery of safe, durable, and highly efficient smart energy solutions utilizing advanced technology customized to customer needs. In the e-Mobility business, Banpu NEXT offers a diverserange of tailored solutions to meet every customer's requirement. These solutions include Energy-as-a-Service (EaaS) – providing batteries and chargers, Pay-Per-Use options, and Vehicle-as-a-Service (VaaS) – offering commercial EV fleets through 3-6-year operating leases. The Company opts for lightweight batteries that support fast charging and have suitable battery pack sizes. Its high-quality chargers and vehicles are sourced from leading brands in the market and accredited by institutions both domestically and internationally.

- **Service Excellence**

Banpu NEXT has developed numerous systems to support after-sales service, for instance, a control room for real-time monitoring of power generation, allowing timely rectification of system malfunctions by a team of experienced engineers and customer service staff. The mobile application "Banpu Application" was developed to enable real-time tracking of the power generation system, the amount of power generated, and the power-saving performance. Customers can also view historical data and can be alerted in case of system failures. The Company's electric vehicles and equipment are insured to ensure reliable service and the highest safety and efficiency for customers.

In addition, Banpu NEXT has a customer service department responsible for providing information, receiving complaints, and responding to customer queries through various channels. Customers can report problems regarding Banpu NEXT's smart energy solutions to customer service 24/7, facilitating swift resolutions. The Company also has a support team capable of offering after-sales assistance and basic solutions over the phone before dispatching an onsite service team to assist customers onsite.



**Strong Ecosystem**

Banpu NEXT operates its business under the Greener & Smarter strategy while prioritizing collaboration with partners across diverse businesses, including energy technology, clean energy, battery and energy storage systems, e-mobility, charging stations, and electric vehicle manufacturing and importing. Through these collaborations, the Company aims to enhance its service provision to address various customer issues, as well as to develop business potential, strengthen its energy technology, and create a robust business ecosystem. The Company has conducted feasibility studies on managing retired batteries, aiming to repurpose components with satisfactory performance while ensuring environmentally responsible disposal of non-recyclable parts through collaboration to transform innovations into new business or to foster business growth.

**Brand and Marketing Communication Strategies**

Banpu NEXT conducts its business in alignment with its vision to ensure limitless access to smart energy solutions and to create better living for all and future generations. This commitment is underpinned by two main aspects.

1) Banpu NEXT is committed to becoming a “Net-Zero Solutions Provider” for enterprises across Asia-Pacific. It offers total smart energy solutions and supports sustainable operations to reduce CO<sub>2</sub> emissions and drive the transition to a zero-carbon society.

2) Banpu NEXT positions itself as a long-term partner that facilitates the transitioning of customers’ businesses toward smart businesses, offering them integrated smart energy solutions that serve every business requirement.

Banpu NEXT’s brand communication aims to create trust among the target groups, namely business customers, investors, service users, and the general public, by stressing the Company’s commitment to being a total net-zero solutions provider, with five business groups

as drivers of growth to achieve a zero-carbon society. The Company’s PR and marketing promotion activities are as follows:

**1. PR Activities for Business Movement and Highlight Projects**

- PR activity presenting the summary of the successful expansion of the smart energy business in 2023, which includes investments in leading companies and joint ventures with major partners to strengthen the smart energy business ecosystem, the business plan for 2024, and the expansion of investments with leading partners in Asia Pacific to drive the goal of achieving a zero-carbon society
- PR materials highlighting the Company’s investment in Oyika Co. Ltd, a Singapore-based startup specializing in battery swap solutions for electric motorcycles, in a form of Battery-as-a-Service (BaaS), enabling instant battery swaps without waiting for recharging. This strategic investment aims to facilitate the expansion of battery swap stations in the Southeast Asia market, further enhancing the integration of e-Mobility business.
- PR materials highlighting expansion of the better business by Durapower Holdings Pte. Ltd., a subsidiary of Banpu NEXT. Durapower develops a Battery Energy Storage System (BESS) tailored for a hybrid solar power generation and utilization system at an Indonesian mine as well as its plans to establish a battery assembly plant in Amata City, Chonburi. A PR material of the investment in SVOLT Energy Technology (Thailand) or SVOLT Thailand, a manufacture and distributor of lithium-ion batteries for electric vehicles located in Sri Racha, Chonburi. This partnership aims to jointly develop and distribute EV batteries in Thailand and Southeast Asia. In addition, there are PR materials highlighting an investment in Green Li-ion Pte. Ltd., a Singapore-based lithium-ion battery recycling technology company, aiming to create value in the battery business and to offer more comprehensive solutions covering battery production, distribution, and recycling.

- PR materials highlight BNSP Smart Tech Co.,Ltd., a joint venture between Banpu NEXT and SP Group from Singapore, for winning a tender to design, build own and operate a district cooling system at the Government Complex Center Zone C. The installation is expected to be completed by 2024, with the system projected to yield substantial energy cost savings over THB 40 million per year, or over 20%, while also reducing CO<sub>2</sub> emissions by more than 3,000 tonnes per year.
- An article reaffirming Banpu NEXT’s commitment to being a long-term partner of customers, offering them the best tailor-made and total smart energy solutions that will help reduce CO<sub>2</sub> emissions and drive the transition to smart business. The article featured diverse businesses that have place their trust in Banpu NEXT’s net-zero solutions. These include Rugby International School, which utilizes integrated solutions consisting of a solar rooftop system, EV shuttles within the school premises, energy management system, and waste management system; Lakchai Muang Yang Industrial Estate in Rayong Province which installs a floating solar system; Betagen Factory and Summer Lasalle project which install several phases of solar rooftop systems; and Samyan Smart City and FN Outlet stores for having installed solar rooftop systems.

**2. Corporate Branding**

- Launching the campaign “Infinite Cafe Powered by Banpu NEXT” as a means to promote and reinforce the brand identity of Banpu NEXT, reaffirming its position as an integrated smart energy solutions provider, offering customers limitless access to smart energy and enabling the collective effort of people in society toward achieving a zero-carbon society.

Banpu NEXT aims to create a smart business prototype utilizing integrated net-zero solutions, selecting a business that is related to everyday’s lifestyle life so everyone can experience limitless access to clean energy. It has found a partner with the same business direction, Roots, a specialty coffee shop brand that cares about all aspects of sustainability. Banpu NEXT and Roots collaborated to create Thailand’s first 100% clean energy



pop-up cafe that maximally utilizes clean energy under the concept of “A Cup to Net-Zero” to drive a zero-carbon society in a cup of coffee, considering the environment and Net-Zero at every stage of operations from upstream to downstream. Starting with the selection of sustainable coffee beans grown organically in a zero-waste, low-energy process, the cafe uses plant-based milk and cups made from natural materials. The shop and coffee-brewing areas deploy integrated net-zero solutions, including an off-grid power generation system from solar energy with battery storage. A digital platform monitors electricity usage, displaying real-time reductions in CO<sub>2</sub> emissions. MuvMi electric tuk-tuks offer convenient and eco-friendly transportation for cafe visitors. Addressing downstream concerns, the cafe implements smart waste management practices for proper waste disposal. Additionally, Banpu NEXT and Roots have collaborated to develop exclusive menu designed to further reduce CO<sub>2</sub> emissions, enabling everyone to effortlessly contribute to a zero-carbon society by enjoying beverage from this cafe.

Since opening in mid-2023, the period of over two months was a success, with excellent response. CO<sub>2</sub> emissions were reduced by nearly 5,000 kg. from all beverages purchased by customers and the use of clean energy in-store. Customers believed that the café brought clean energy closer to them. They were impressed and felt good about helping reduce CO<sub>2</sub> emissions, seeing it as another way to preserve the environment and wanting this good campaign to continue.

In addition, many government and private agencies are interested in the net-zero café concept as a Smart Business prototype and have requested study visits and helped publicize the project.

They acknowledged that Infinite Cafe Powered by Banpu NEXT has created interest in adopting Banpu NEXT's net-zero solutions for businesses and see opportunities for businesses of all sizes – small, medium, or large – to embrace clean energy practices, fostering greater social engagement and eco-friendliness.

- An article about new energy trends and deployment of technology along with clean energy production to enhance real-time energy management efficiency, transform businesses into smart businesses, and join efforts toward achieving a zero-carbon society, aiming to improve the quality of life for everyone.
- Giving an interview with the press on business vision, corporate management concept, directions, and strategies for promoting smart energy business, and the role of Banpu NEXT as a Net-Zero Solutions Provider aimed at creating sustainability in all dimensions and promoting a zero-carbon society.

### 3. Branding and Marketing Communication Events

- Banpu NEXT's Chief Executive Officer gave a talk on the transformative shift toward green business led by the passion of people in the organization at the talk session entitled "Lessons Learned from Game-Changing People" in THE PEOPLE TALK: GAME CHANGER FORUM 2023." The talk was organized by THE PEOPLE, the media presenting stories of "people" who inspire others and change other people's lives. Banpu NEXT's CEO discussed trends in the smart energy business, the sustainability concept to improve the living conditions for people in the society, and the corporate culture "Banpu Heart" to inspire participants.



- Participating in a talk titled "Smart Energy Solutions for Transforming into a Smart Business" at the Global Business Review Forum (GBR Forum). The event aimed to update senior executives and executives from the private sector on current trends and new technologies, fostering business development and inspiring leaders to possess a global perspective and vision in their management approach.
- Joining a panel discussion on "Green Energy for Sustainability" at the Activity Day event organized by the Student Club of Sripatum University, providing students with an opportunity to develop skills and enhance their potential through activities of their interest. The event also cultivated awareness and inspired the young generation to embrace social responsibility.
- Organizing the seminar "Shortcut to Net-Zero Business Growth with Energy Innovation," where entrepreneurs from various industries were invited to exchange views with Banpu NEXT's smart energy solutions experts and innovation and sustainability experts from other leading organizations. This seminar provided guidance on transforming business into smart business through the utilization of clean energy, while driving toward sustainability goals and a zero-carbon society.

### Major Competitors

Currently, Banpu NEXT, a Net-Zero Solutions Provider, has no major competitors offering comprehensive smart energy solutions as it does since most competitors in the market tend to focus on providing specific aspects of energy solutions.

Banpu NEXT's competitors in the solar rooftop business are large operators offering installation services along with investment packages since they are financially stable operators with diverse services to offer. Meanwhile, smaller operators with access to funding from foreign investors can also offer similar services as large operators. The access to funding enables them to partner with other operators that offer similar services to those of Banpu NEXT.

Financial institutions are considered competitors to Banpu NEXT in the EV services sector due to their financial stability and ability to provide operating and financial leases. However, the e-mobility business is relatively new in Thailand and requires specialized expertise in

EV electrical systems, energy storage systems, and maintenance. As a result, there are few competitors who possess all the necessary qualifications in this emerging field.

Another group of competitors consists of traditional combustion-engine car manufacturers venturing into EV business and new EV manufacturers from China investing in EV assembly plants in Thailand. Many battery manufacturers from China, who saw this development as an opportunity, followed suit by establishing battery assembly plants in Thailand. Some of these plants are still under construction, while others have already commenced operations. To capitalize on the growth opportunities in the battery business for passenger cars, Banpu NEXT invested in SVOLT Energy Technology (Thailand) Co., Ltd., a subsidiary of Great Wall Motor, one of the world's leading manufacturers of batteries for electric and passenger cars. The Company also invested in Durapower, which specializes in manufacturing high-performance batteries with expertise in the large vehicle market, such as mini-buses, buses, and trucks. Both companies also have outstanding capabilities in battery products for energy storage systems. These investments position Banpu NEXT to compete effectively in the battery market in Thailand and potentially expand into other markets in the Asia-Pacific region.

### Pricing Policy

Banpu NEXT offers various pricing packages tailored to meet customers' conditions and requirements. In the renewable power or solar power generation sector, the Company provides two pricing packages for solar rooftop installation services: customers can opt for Banpu NEXT's investment or cover the equipment and installation costs themselves. The investment budget depends on factors such as equipment specifications, installation size, and the chosen service model. In the e-mobility sector, the Company procures certified EVs that can be legally registered from authorized dealers, importers, or manufacturers who are eligible for government subsidies and exemptions from import and excise duties, ensuring customers access high-quality, cutting-edge EV technology at reasonable prices. Banpu NEXT also adjusts installation, equipment costs and electricity tariffs as per the government's policy in response to market conditions. Moreover, the Company stays abreast of recent technological advancements to offer customers smart technology options that maximize efficiency and affordability.

### Customer Profiles

Banpu NEXT's customer portfolio in the renewable energy business consists of enterprises seeking alternative energy management solutions or medium and large enterprises that primarily consume electricity during the daytime, such as industrial and commercial buildings, and industrial estates or communities seeking optimal utilization of smart energy technology. In 2023, 75% of customers who signed solar power installation contracts with Banpu NEXT opted the first option, where Banpu NEXT serves as an investor, allowing customers to enjoy saving on electricity bills without having to make own investment. The other 25% of customers opted for the system installation service in which they invest in equipment and installation and enjoy the free use of solar energy generated from their rooftops. For other solutions, namely electric vehicle management, energy storage systems, and energy management, customers have similar investment needs, including periodic payment plans or lease options. The primary target market of the battery sector is customers who need batteries for electric vehicles such as passenger cars, mini-buses, buses, trucks, industrial transport vehicles, and passenger tourist boats. Banpu NEXT's future target group consists of customers seeking energy storage solutions for homes, factories, and public utilities. These batteries are to be integrated with, for example, solar panel system or microgrid infrastructure to enhance the stability of electric transmission networks. Furthermore, the Company extends its services to provide commercial electric vehicle solutions tailored for customers who are bus rental service providers, retailers, and logistics companies to support their operational needs.

### Distribution and Distribution Channel

Banpu NEXT offers smart energy solutions through auctions, direct negotiations with customers, and presentations to agencies or organizations responsible for renewable energy. The Company will reach out to prospective customers to introduce itself and understand their needs. Then, the engineering team will conduct a site survey to design the power generation system or other solutions tailored to the customer's requirements. These solutions may include electric vehicle management, energy storage systems, or energy management. Based on their findings, the team will prepare a project proposal to present to the customer. Banpu NEXT expands its distribution channels through events, various activities, including word-of-mouth referrals from satisfied customer of Banpu NEXT's services.



## BUSINESS ASSETS

### Fixed Assets

Banpu's business assets in Thailand and overseas include coal mining, natural gas, generation and distribution of power and steam, renewables, energy technology, and related businesses. The fixed assets illustrated in the tables below consist of the Company's and its subsidiaries' fixed assets. Net book value after deducting accumulated depreciation and impairment losses, as reported in the consolidated financial statements of the Company and its subsidiaries for the year ended 31 December 2023 and 31 December 2022, amounted to USD 4,601.76 million and USD 4,190.37 million, respectively, as detailed below:

#### The Group's Property, Plant and Equipment

Items	Book Value (USD Million)		Liabilities
	31 Dec 2023	31 Dec 2022	
1. Land	49.77	52.83	No obligation
2. Land Improvement	52.84	57.05	No obligation
3. Building and Infrastructures	125.83	136.98	Put up some buildings and infrastructures as collateral for the long-term loan agreements between subsidiaries and financial institutions
4. Machinery and Equipment and Power Plants and Components of Power Plants and Gas Exploration and Producing Assets and Pipelines	4,221.98	3,812.61	Put up some machinery and equipment as collateral for the long-term loan agreements between subsidiaries and financial institutions
5. Furniture and Office Equipment	6.39	7.25	Put up some furniture and office equipment as collateral for the long-term loan agreements between subsidiaries and financial institutions
6. Equipment and Tools	6.20	4.51	Put up some equipment and tools as collateral for the long-term loan agreements between subsidiaries and financial institutions
7. Motor Vehicles	7.31	9.11	Put up some motor vehicles as collateral for the long-term loan agreements between subsidiaries and financial institutions
8. Assets under Construction	131.44	110.03	Put up some assets under construction as collateral for the long-term loan agreements between subsidiaries and financial institutions
<b>Total</b>	<b>4,601.76</b>	<b>4,190.37</b>	

### Leases and Rights

#### 1. Leases and Investment Incentives of the Company and its Subsidiaries and Joint Ventures

##### 1.1 Leases held by Subsidiaries in Indonesia

Project	Lease No.	County	Province	Area (Hectare)	Expiry Date	Lessee	Notes
Jorong	06PB0318	Tanah Laut	South Kalimantan	4,883	9 December 2029	PT. Jorong Barutama Greston	Production
Indominco	01PB0435	Bontang, Kutai Timur, Kutai Kartanegara	East Kalimantan	24,121	31 March 2028	PT. Indominco Mandiri	Production
Kitadin (Embalut)	KTN 2013 006 OP	Embalut, Kutai Kartanegara	East Kalimantan	2,973	25 February 2022	PT. Kitadin	Mine Rehabilitation & Mine Closure
Trubaindo	96PB0160	Kutai Barat	East Kalimantan	22,687	27 February 2035	PT. Trubaindo Coal Mining	Production
Bharinto	04PB0081	Barito Utara & Kutai Barat	Central and East Kalimantan	17,311	29 June 2041	PT. Bharinto Ekatama	Production
TIS	64.07.14.08 (Code/Block Area)	Kutai Barat	East Kalimantan	2,065	11 April 2029	PT. Tepian Indah Sukses	Production
NPR	3362053032014090	Barito Utara	Central Kalimantan	4,291	20 May 2033	PT. Nusa Persada Resources	Production
GPK	64.07.19.16	Kutai Barat	East Kalimantan	5,060	14 September 2029	PT. Graha Panca Karsa	Production



1.2 Leases held by Subsidiaries in Australia

Project	Lease No.	County	State	Area (Hectare)	Expiry Date	Lessee	Notes
Airly	ML1331	Airly, Coco, Morundurey & Bandamora	New South Wales	2,745	11 October 2035	Centennial Airly Pty Ltd.	Production
Airly	ML1814	Morundurey	New South Wales	1,258	22 July 2042	Centennial Airly Pty Ltd.	Production
Angus Place	ML1424	Wolgan, Cox, Cook & Marangaroo	New South Wales	7,735	18 August 2024	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Care & Maintenance
Angus Place	CCL704	Cox & Lidsdale	New South Wales	2,541	20 July 2039	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Care & Maintenance
Angus Place	ML1699	Cook	New South Wales	30.6	26 June 2035	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Care & Maintenance
Angus Place	ML1720	Cook	New South Wales	158.9	23 November 2036	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Care & Maintenance
Angus Place	ML1853	Cox, Lidsdale	New South Wales	92.7	25 May 2044	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Care & Maintenance
Blue Mountains	CCL738	Lett	New South Wales	1,116	28 September 2025	Hartley Valley Coal Company Pty Ltd.	Closed
Blue Mountains	ML1457	Lett & Marangaroo	New South Wales	185.1	4 November 2033	Hartley Valley Coal Company Pty Ltd.	Closed
Charbon	MPL505	Clandulla	New South Wales	0.4	11 August 2026	Charbon Coal Pty Ltd.	Closed
Charbon	MPL526	Wells, Clandulla & Rylstone	New South Wales	7.1	14 December 2024	Charbon Coal Pty Ltd.	Closed

Project	Lease No.	County	State	Area (Hectare)	Expiry Date	Lessee	Notes
Charbon	MPL499	Clandulla	New South Wales	0.8	28 May 2026	Charbon Coal Pty Ltd.	Closed
Charbon	ML1318	Clandulla	New South Wales	983	29 June 2026	Charbon Coal Pty Ltd.	Closed
Charbon	ML1384	Clandulla	New South Wales	195.5	18 January 2038	Charbon Coal Pty Ltd.	Closed
Charbon	ML1501	Clandulla	New South Wales	13	20 December 2043	Charbon Coal Pty Ltd.	Closed
Charbon	ML1545	Clandulla	New South Wales	204.7	9 January 2025	Charbon Coal Pty Ltd.	Closed
Charbon	CCL732	Clandulla	New South Wales	1,024	2 December 2025	Charbon Coal Pty Ltd.	Closed
Charbon	MPL670	Rylstone & Clandulla	New South Wales	9.9	26 March 2045	Charbon Coal Pty Ltd.	Closed
Charbon	ML1524	Clandulla	New South Wales	20.3	27 October 2044	Charbon Coal Pty Ltd.	Closed
Charbon	MPL964	Clandulla	New South Wales	4.9	20 November 2044	Charbon Coal Pty Ltd.	Closed
Charbon	MPL270	Clandulla	New South Wales	213.7	29 April 2026	Charbon Coal Pty Ltd.	Closed
Charbon	ML1647	Clandulla	New South Wales	570.9	17 December 2031	Charbon Coal Pty Ltd.	Closed
Charbon	ML1663	Clandulla	New South Wales	52.5	9 January 2033	Charbon Coal Pty Ltd.	Closed
Charbon	ML1850	Roxburgh	New South Wales	51.3	15 May 2044	Charbon Coal Pty Ltd.	Closed
Clarence	CCL705	Clwydd, Marangaroo & Rock Hill	New South Wales	3,210	20 December 2026	Coalex Pty Ltd. and Clarence Coal Investments Pty Ltd.	Production
Clarence	ML1354	Clwydd & Cook	New South Wales	155.3	21 July 2036	Coalex Pty Ltd. and Clarence Coal Investments Pty Ltd.	Production
Clarence	ML1353	Clwydd, Cook & Rock Hill	New South Wales	1,075	21 July 2036	Coalex Pty Ltd. and Clarence Coal Investments Pty Ltd.	Production

Project	Lease No.	County	State	Area (Hectare)	Expiry Date	Lessee	Notes
Clarence	ML1583	Clwydd, Marangaroo, Lett	New South Wales	3,331	9 July 2027	Coalex Pty Ltd.	Production
Clarence	ML1721	Clwydd	New South Wales	5.1	7 December 2036	Coalex Pty Ltd. and Clarence Coal Investments Pty Ltd.	Production
Ivanhoe	ML1627	Cullen Bullen	New South Wales	79.8	2 February 2030	Ivanhoe Coal Pty Ltd.	Closed
Ivanhoe	CCL712	Cullen Bullen, Cox & Falnash	New South Wales	1,628	28 June 2027	Ivanhoe Coal Pty Ltd.	Closed
Ivanhoe	ML1301	Cox	New South Wales	5.1	28 September 2034	Ivanhoe Coal Pty Ltd.	Closed
Ivanhoe	MPL348	Cox	New South Wales	9.5	24 May 2025	Ivanhoe Coal Pty Ltd.	Closed
Mandalong	ML1443	Morisset, Dora & Mandalong	New South Wales	3,648	1 March 2043	Centennial Mandalong Pty Ltd.	Production
Mandalong	ML1543	Mandalong	New South Wales	172.5	25 November 2024	Centennial Mandalong Pty Ltd.	Production
Mandalong	MPL191	Coorumbung	New South Wales	0.6	25 February 2044	Centennial Mandalong Pty Ltd.	Production
Mandalong	CCL762	Dora, Awaba, Mandalong, Morisset & Wallarah	New South Wales	2,940	13 October 2043	Centennial Mandalong Pty Ltd.	Production
Mandalong	ML1553	Morisset	New South Wales	64.3	7 September 2025	Centennial Mandalong Pty Ltd.	Production
Mandalong	ML1722	Mandalong, Morisset, Wyong & Munmorah	New South Wales	3,206	17 December 2036	Centennial Mandalong Pty Ltd.	Production

Project	Lease No.	County	State	Area (Hectare)	Expiry Date	Lessee	Notes
Mandalong	ML1744	Mandalong, Wyong, Olney	New South Wales	409	6 October 2037	Centennial Mandalong Pty Ltd.	Production
Mandalong	ML1793	Coorumbung	New South Wales	6.4	16 July 2040	Centennial Mandalong Pty Ltd.	Production
Mandalong	ML1852	Coorumbung	New South Wales	2.4	25 May 2044	Centennial Mandalong Pty Ltd.	Production
Mannering	CCL721	Morisset & Wallarah	New South Wales	579	29 July 2026	Centennial Mannering Pty Ltd.	Closed Subleased to Chain Valley
Mannering	CCL719	Walarah	New South Wales	964.4	3 July 2031	Centennial Mannering Pty Ltd.	Closed Subleased to Chain Valley
Munmorah	CCL720	Walarah & Munmorah	New South Wales	58.8	12 December 2039	Centennial Munmorah Pty Ltd.	Closed
Munmorah	CCL722	Morisset, Wallarah, Munmorah & Tuggerah	New South Wales	978.3	28 June 2028	Centennial Munmorah Pty Ltd.	Closed Subleased to Chain Valley
Myuna	MPL334	Awaba	New South Wales	33.3	19 October 2036	Centennial Myuna Pty Ltd.	Production
Myuna	ML1370	Walarah	New South Wales	524	7 March 2033	Centennial Myuna Pty Ltd.	Production - Part Subleased to Chain Valley Colliery
Myuna	ML1632	Awaba, Coorumbung, Wallarah & Morisset	New South Wales	6,125	13 October 2043	Centennial Myuna Pty Ltd.	Production - Part Subleased to Chain Valley Colliery
Neubecks Project	CCL756	Cox	New South Wales	101	6 December 2024	Centennial Springvale Pty Ltd.	Project
Newstan	CCL746	Awaba & Coorumbung	New South Wales	3,308	31 December 2028	Centennial Newstan Pty Ltd.	Care & Maintenance

Project	Lease No.	County	State	Area (Hectare)	Expiry Date	Lessee	Notes
Newstan	CCL764	Teralba & Awaba	New South Wales	108.8	19 May 2041	Centennial Newstan Pty Ltd.	Care & Maintenance
Newstan	CCL763	Awaba	New South Wales	190.9	9 June 2032	Centennial Newstan Pty Ltd.	Care & Maintenance
Newstan	PLL497	Awaba	New South Wales	20.2	24 August 2038	Centennial Newstan Pty Ltd.	Care & Maintenance
Newstan	ML1587	Awaba	New South Wales	3	23 October 2027	Centennial Newstan Pty Ltd.	Care & Maintenance
Newstan	ML1586	Awaba & Coorumbung	New South Wales	449.1	13 October 2022 (Expired)	Centennial Newstan Pty Ltd.	Care & Maintenance
Newstan	ML1452	Awaba & Coorumbung	New South Wales	1,587	6 July 2020 (Renewal Submitted)	Centennial Newstan Pty Ltd.	Care & Maintenance
Newstan	CCL727	Teralba & Awaba	New South Wales	2,194.1	12 August 2027	Centennial Newstan Pty Ltd.	Care & Maintenance
Newstan	MPL328	Awaba	New South Wales	0.4	5 August 2036	Centennial Newstan Pty Ltd.	Care & Maintenance
Newstan	ML1380	Awaba	New South Wales	78	18 September 2037	Centennial Newstan Pty Ltd.	Care & Maintenance
Newstan	MPL304	Teralba	New South Wales	0.7	25 March 2035	Centennial Newstan Pty Ltd.	Care & Maintenance
Newstan	MPL305	Awaba	New South Wales	0.4	25 March 2035	Centennial Newstan Pty Ltd.	Care & Maintenance
Newstan	ML1480	Awaba	New South Wales	14.5	20 July 2044	Centennial Newstan Pty Ltd.	Care & Maintenance
Newstan	MPL327	Awaba	New South Wales	1	5 August 2036	Centennial Newstan Pty Ltd.	Care & Maintenance

Project	Lease No.	County	State	Area (Hectare)	Expiry Date	Lessee	Notes
Newstan	ML1797	Awaba & Teralba	New South Wales	43.1	20 July 2028	Centennial Newstan Pty Ltd.	Care & Maintenance
Newstan	ML1826	Awaba & Teralba	New South Wales	287.1	10 January 2030	Centennial Newstan Pty Ltd.	Care & Maintenance
Springvale	ML1303	Lidsdale & Marangaroo	New South Wales	713	15 December 2034	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Production
Springvale	ML1588	Cook & Clwydd	New South Wales	976	19 October 2027	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Production
Springvale	CL377	Lidsdale & Marangaroo	New South Wales	1,105	9 March 2025	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Production
Springvale	MPL314	Lidsdale	New South Wales	96	3 August 2035	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Production
Springvale	ML1323	Lidsdale & Marangaroo	New South Wales	30.1	3 August 2035	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Production
Springvale	ML1537	Marangaroo	New South Wales	4.1	15 June 2045	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Production
Springvale	ML1326	Clwydd, Cook, Cox & Marangaroo	New South Wales	2,157	18 August 2024	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Production
Springvale	ML1352	Cox & Lidsdale	New South Wales	7.6	23 June 2036	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Production
Springvale	ML1670	Cook	New South Wales	0.3	17 February 2033	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Production



Project	Lease No.	County	State	Area (Hectare)	Expiry Date	Lessee	Notes
Springvale	ML1727	Clwydd, Cook, Maranagroo	New South Wales	1,256	4 February 2037	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Production
Springvale	ML1843	Cook & Maranagroo	New South Wales	19	7 February 2044	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Production
Western Main	CL361	Lidsdale	New South Wales	14.3	16 July 2032	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Titles were relinquished due to resource recovery being completed
Western Main	PLL133	Lidsdale	New South Wales	16.5	10 August 2024	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Titles were relinquished due to resource recovery being completed
Western Main	ML204	Lidsdale & Cook	New South Wales	10.1	27 May 2033	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Titles were relinquished due to resource recovery being completed
Western Main	CL394	Lidsdale	New South Wales	17	27 May 2034	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Titles were relinquished due to resource recovery being completed
Western Main	ML564	Lidsdale	New South Wales	19.8	2 May 2023	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Titles were relinquished due to resource recovery being completed
Western Main	ML1448	Lidsdale	New South Wales	95.2	31 May 2043	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Production
Western Main	CCL733	Cox & Lidsdale	New South Wales	146.7	3 July 2027	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Large area of subsurface part cancelled due to resource recovery being completed.
Western Main	ML1319	Cox	New South Wales	1.5	5 July 2035	Centennial Springvale Pty Ltd. and Boulder Mining Pty Ltd.	Closed

### 1.3 Leases held by Subsidiaries in the People's Republic of China

Project	Lease No.	County	State	Area (Hectare)	Expiry Date	Lessee	Notes
Gaohe	C1000002 01010111 0077581	Changzhi County, Changzhi City	Shanxi	65.0596	14 October 2040	Shanxi Gaohe Energy Co., Ltd.	Production
Hebi	10000 0052 0080	Heshan District, Hebi City	Henan	23.4825	14 July 2035	Hebi Zhong Tai Mining Co., Ltd.	Production

### 2. Land Use Rights of Power Business in the People's Republic of China

Location	Right Holder	Area (sq. m)	Start Date	Expiry Date	Purpose	Book Value of Land Use Right (THB Thousand)
Zhending County Shijiazhuang City, Hebei Province	Shijiazhuang Chengfeng Cogen Co., Ltd.	7,132 67,354 17,665 23,135	27 December 2006 16 February 1998 28 December 2016 18 April 2001	2 September 2053 30 November 2047 26 March 2062 17 April 2031	To be the location of Zhengding Combined Heat and Power Plant	83,508
Luannan County Tangshan City, Hebei Province	Tangshan Banpu Heat and Power Co., Ltd.	225,172 2,100 90,370 40,960	18 April 2020 22 September 2018 1 January 2017 1 January 2017	18 April 2070 21 September 2068 31 December 2066 Under Consideration by Government Agencies	To be the location of Luannan Combined Heat and Power Plant	394,397
Zouping County Binzhou Prefecture, Shandong Province	Zouping Peak CHP Co., Ltd.	105,831 18,190 24,315	30 August 2001 29 December 2007 29 December 2008	3 July 2051 29 December 2056 3 December 2058	To be the location of Zouping Combined Heat and Power Plant	32,358

## COAL AND NATURAL GAS RESERVES



### Details of coal reserves and sales volume as of 31 December 2023 are as follows:

(Unit: Million Tonnes)

Coal Mine	Reserves as of 31 Dec 2022	Reserves Reduce 2023	Sales Volume Jan - Dec 2023	Reserves as of 31 Dec 2023
<b>1. Indonesia</b>				
1.1 Jorong	7.28	-	0.58	6.70
1.2 Indominco	23.54	-	6.56	16.98
1.3 Kitadin	0.12	0.12	-	(0.00)
1.4 Trubaindo	32.52	-	2.80	29.72
1.5 Bharinto	135.84	-	6.99	128.86
1.6 Graha Panca Karsa	21.50	-	-	21.50
1.7 NPR Project	77.40	-	-	77.40
<b>2. Australia</b>	252.62	-	6.46	246.16
<b>3. China</b>				
3.1 Gaohe	100.15	-	9.37	90.79
3.2 Hebi Zhongtai	12.93	-	0.90	12.04
<b>Total</b>	<b>663.91</b>	<b>0.12</b>	<b>33.64</b>	<b>630.15</b>

Note: A full name of NPR Project is Nusa Persada Resources Project.



### Details of natural gas reserves and sales volume as of 31 December 2023 are as follows:

(Unit: Million Cubic Feet)

<b>Natural Gas Reserves as of 31 December 2022</b>	<b>5,785,289</b>
1. Reserves addition from XTO acquisition	-
2. Adjustment on reserve estimation	(321,765)
3. Production and sales 2023	(313,800)
<b>Natural Gas Reserves as of 31 December 2023</b>	<b>5,149,724</b>

Note: Natural Gas Reserves from the Marcellus and Barnett shales refer to Reserve Report's Ryder Scott.





## DETAIL OF THE COMPANY, ITS SUBSIDIARIES, ASSOCIATED COMPANIES, JOINT VENTURES AND OTHER INVESTMENT OF BANPU PUBLIC COMPANY LIMITED

As of 31 December 2023

Name	Type of business	Authorized capital	Paid up capital	No. of paid-up capital (Shares)	Par value per Share	% of holding	Head Office	Telephone
1 Banpu Public Company Limited	Energy	10,149,163,028 THB	10,018,902,725 THB	10,018,902,275	1	-	1550, Thanapoom Tower, 27 <sup>th</sup> Floor, New Petchburi Road, Makkasan, Ratchathewi, Bangkok 10400, Thailand	+66 2694 6600
<b>Subsidiary companies</b>								
<b>Thailand</b>								
2 Banpu Minerals Co., Ltd.	Coal mining and trading	52,462,730,000 THB	52,462,730,000 THB	52,462,730	1,000	100.00% (held by Banpu Public Company Limited)	1550, Thanapoom Tower, 27 <sup>th</sup> Floor, New Petchburi Road, Makkasan, Ratchathewi, Bangkok 10400, Thailand	+66 2694 6600
3 Banpu NEXT Green Energy Co., Ltd.	Smart clean energy solution business	80,000,000 THB	80,000,000 THB	800,000	100	100.00% (held by Banpu NEXT Co., Ltd.)	1550, Thanapoom Tower, 24 <sup>th</sup> Floor, New Petchburi Road, Makkasan, Ratchathewi, Bangkok 10400, Thailand	+66 2095 6569
4 Banpu International Ltd.	Investment studying	1,040,000,000 THB	1,040,000,000 THB	104,000,000	10	100.00% (held by Banpu Minerals Co., Ltd.)	1550, Thanapoom Tower, 27 <sup>th</sup> Floor, New Petchburi Road, Makkasan, Ratchathewi, Bangkok 10400, Thailand	+66 2694 6600
5 BOG Co., Ltd.	Investment in energy business	33,506,000,000 THB	30,924,700,000 THB	335,060,000	100	100.00% (held by Banpu Public Company Limited)	1550, Thanapoom Tower, 27 <sup>th</sup> Floor, New Petchburi Road, Makkasan, Ratchathewi, Bangkok 10400, Thailand	+66 2694 6600
6 Banpu Engineering Services Co., Ltd.	Investment in alternative energy	212,000,000 THB	212,000,000 THB	21,200,000	10	100.00% (held by Banpu Public Company Limited)	1550, Thanapoom Tower, 27 <sup>th</sup> Floor, New Petchburi Road, Makkasan, Ratchathewi, Bangkok 10400, Thailand	+66 2694 6600
7 Banpu Energy Services (Thailand) Co., Ltd.	Investment in alternative energy	139,124,430 THB	139,124,430 THB	13,912,443	10	100.00% (held by Banpu Engineering Services Co., Ltd.)	1550, Thanapoom Tower, 27 <sup>th</sup> Floor, New Petchburi Road, Makkasan, Ratchathewi, Bangkok 10400, Thailand	+66 2694 6600
8 Banpu Innovation & Ventures Co., Ltd.	Research and development in disruptive technology	460,135,500 THB	460,135,500 THB	4,601,355	100	100.00% (held by Banpu Public Company Limited)	1550, Thanapoom Tower, 27 <sup>th</sup> Floor, New Petchburi Road, Makkasan, Ratchathewi, Bangkok 10400, Thailand	+66 2694 6600
9 Banpu Power Public Company Limited	Energy generation business	31,012,020,000 THB	30,477,317,000 THB	3,047,731,700	10	78.66% (held by Banpu Public Company Limited)	1550, Thanapoom Tower, 26 <sup>th</sup> Floor, New Petchburi Road, Makkasan, Ratchathewi, Bangkok 10400, Thailand	+66 2007 6000
10 Banpu Coal Power Ltd.	Investment in energy and power business	5,138,087,160 THB	5,138,087,160 THB	513,808,716	10	100.00% (held by Banpu Power Public Company Limited)	1550, Thanapoom Tower, 26 <sup>th</sup> Floor, New Petchburi Road, Makkasan, Ratchathewi, Bangkok 10400, Thailand	+66 2007 6000
11 Banpu Power (Japan) Co., Ltd.	Investment in renewable energy business	5,000,000 THB	5,000,000 THB	500,000	10	100.00% (held by Banpu Power Public Company Limited)	1550, Thanapoom Tower, 26 <sup>th</sup> Floor, New Petchburi Road, Makkasan, Ratchathewi, Bangkok 10400, Thailand	+66 2007 6000

Name	Type of business	Authorized capital	Paid up capital	No. of paid-up capital (Shares)	Par value per Share	% of holding	Head Office	Telephone
12 Banpu NEXT Co., Ltd.	Smart clean energy solution business	18,795,000,000 THB	18,795,000,000 THB	1,879,500,000	10	50.00% (held by Banpu Public Company Limited) 50.00% (held by Banpu Power Public Company Limited)	1550, Thanapoom Tower, 24 <sup>th</sup> Floor, New Petchburi Road, Makkasan, Ratchathewi, Bangkok 10400, Thailand	+66 2095 6569
13 Banpu Next Green Leasing Co., Ltd.	Investment in energy business and leasing	50,000,000 THB	50,000,000 THB	5,000,000	10	100.00% (held by Banpu NEXT Co., Ltd.)	1550, Thanapoom Tower, 24 <sup>th</sup> Floor, New Petchburi Road, Makkasan, Ratchathewi, Bangkok 10400, Thailand	+66 2095 6569
14 Banpu NEXT EcoServe Co., Ltd.	Providing energy management services	228,000,000 THB	207,000,000 THB	2,280,000	100	100.00% (held by Banpu NEXT Co., Ltd.)	1550, Thanapoom Tower, 24 <sup>th</sup> Floor, New Petchburi Road, Makkasan, Ratchathewi, Bangkok 10400, Thailand	+66 2095 6569
15 Banpu NEXT Green Services Co., Ltd.	Electric vehicle and charging stations business	1,000,000 THB	1,000,000 THB	100,000	10	100.00% (held by Banpu NEXT Green Leasing Co., Ltd.)	1550 Thanapoom Tower, 24 <sup>th</sup> Floor, New Petchburi Road, Makkasan, Ratchathewi, Bangkok 10400, Thailand	+66 2095 6595
16 DP NEXT Co., Ltd.	Assembly and sale of battery	92,865,000 THB	92,865,000 THB	928,650	100	70.00% (held by Banpu NEXT Co., Ltd.) 30.00% (held by Durapower Technology (Thailand) Co., Ltd.)	1550 Thanapoom Tower, 24 <sup>th</sup> Floor, New Petchburi Road, Makkasan, Ratchathewi, Bangkok 10400, Thailand	+66 2095 6595
17 Durapower Technology (Thailand) Co., Ltd.	Manufacture of batteries and accumulators	3,000,000 THB	3,000,000 THB	30,000	100	100.00% (held by Durapower Holdings Pte. Ltd.)	75/19 Ocean Tower 2, 16 <sup>th</sup> Floor, Soi Sukhumvit 19 (Wattana), Klongtoey Nua, Wattana, Bangkok 10110, Thailand	N/A
<b>Republic of Indonesia</b>								
18 PT. Indo Tambangraya Megah Tbk	Major trading of solid, liquid and gas fuel and other related products	1,500,000,000,000 IDR	564,962,500,000 IDR	1,129,925,000	500	65.14% (held by Banpu Minerals (Singapore) Pte. Ltd.)	Pondok Indah Office Tower 3, 3 <sup>rd</sup> floor, Jl. Sultan Iskandar Muda, Pondok Indah Kav. V-TA, Jakarta 12310, Indonesia	+62 21 29328100
19 PT. Kitadin	Coal mining	1,000,000,000,000 IDR	377,890,000,000 IDR	188,945	2,000,000	100.00% (held by PT. Indo Tambangraya Megah Tbk)	Pondok Indah Office Tower 3, 3 <sup>rd</sup> floor, Jl. Sultan Iskandar Muda, Pondok Indah Kav. V-TA, Jakarta 12310, Indonesia	+62 21 29328100
20 PT. Indominco Mandiri	Coal mining	20,000,000,000 IDR	12,500,000,000 IDR	12,500	1,000,000	100.00% (held by PT. Indo Tambangraya Megah Tbk)	Pondok Indah Office Tower 3, 3 <sup>rd</sup> floor, Jl. Sultan Iskandar Muda, Pondok Indah Kav. V-TA, Jakarta 12310, Indonesia	+62 21 29328100
21 PT. Jorong Barutama Greston	Coal mining	318,855,000,000 IDR	318,855,000,000 IDR	21,257	15,000,000	100.00% (held by PT. Indo Tambangraya Megah Tbk)	Pondok Indah Office Tower 3, 3 <sup>rd</sup> floor, Jl. Sultan Iskandar Muda, Pondok Indah Kav. V-TA, Jakarta 12310, Indonesia	+62 21 29328100
22 PT. Trubaindo Coal Mining	Coal mining	100,000,000,000 IDR	63,500,000,000 IDR	63,500	1,000,000	100.00% (held by PT. Indo Tambangraya Megah Tbk)	Pondok Indah Office Tower 3, 3 <sup>rd</sup> floor, Jl. Sultan Iskandar Muda, Pondok Indah Kav. V-TA, Jakarta 12310, Indonesia	+62 21 29328100
23 PT. Bharinto Ekutama	Coal mining	68,000,000,000 IDR	17,000,000,000 IDR	17,000	1,000,000	100.00% (held by PT. Indo Tambangraya Megah Tbk)	Pondok Indah Office Tower 3, 3 <sup>rd</sup> floor, Jl. Sultan Iskandar Muda, Pondok Indah Kav. V-TA, Jakarta 12310, Indonesia	+62 21 29328100
24 PT. ITM Indonesia	Major Trading of Solid, Liquid and Gas fuel and Other related products	40,000,000,000 IDR	11,000,000,000 IDR	11,000	1,000,000	100.00% (held by PT. Indo Tambangraya Megah Tbk)	Pondok Indah Office Tower 3, 3 <sup>rd</sup> floor, Jl. Sultan Iskandar Muda, Pondok Indah Kav. V-TA, Jakarta 12310, Indonesia	+62 21 29328100

Name	Type of business	Authorized capital	Paid up capital	No. of paid-up capital (Shares)	Par value per Share	% of holding	Head Office	Telephone
25 PT. Tambang Raya Usaha Tama	Mining and other excavations support activities	500,000,000,000 IDR	424,610,000,000 IDR	42,461	10,000,000	100.00% (held by PT. Indo Tambangraya Megah Tbk)	Pondok Indah Office Tower 3, 3 <sup>rd</sup> floor, Jl. Sultan Iskandar Muda, Pondok Indah Kav. V-TA, Jakarta 12310, Indonesia	+62 21 29328100
26 PT. ITM Batubara Utama	Coal mining	40,000,000,000 IDR	11,000,000,000 IDR	11,000	1,000,000	100.00% (held by PT. Indo Tambangraya Megah Tbk)	Pondok Indah Office Tower 3, 3 <sup>rd</sup> floor, Jl. Sultan Iskandar Muda, Pondok Indah Kav. V-TA, Jakarta 12310, Indonesia	+62 21 29328100
27 PT. ITM Energi Utama	Energy Business	1,200,000,000,000 IDR	300,000,000,000 IDR	300,000	1,000,000	99.99% (held by PT. Indo Tambangraya Megah Tbk)	Pondok Indah Office Tower 3, 3 <sup>rd</sup> floor, Jl. Sultan Iskandar Muda, Pondok Indah Kav. V-TA, Jakarta 12310, Indonesia	+62 21 29328100
28 PT. ITM Bhinneka Power	Electric power generator	774,788,000,000 IDR	193,697,000,000 IDR	193,697	1,000,000	70.00% (held by PT. Indo Tambangraya Megah Tbk) 30.00% (held by Banpu NEXT Co., Ltd.)	Pondok Indah Office Tower 3, 3 <sup>rd</sup> floor, Jl. Sultan Iskandar Muda, Pondok Indah Kav. V-TA, Jakarta 12310, Indonesia	+62 21 29328100
29 PT. Gas Emas	Major trading of solid, liquid and gas fuel and other related products	600,600,000,000 IDR	441,232,500,000 IDR	32,700,000	9,725 (Series A Shares) 13,700 (Series B Shares)	94.80% (held by PT. Indo Tambangraya Megah Tbk) 3.90% (held by PT. ITM Indonesia)	Pondok Indah Office Tower 3, 3 <sup>rd</sup> floor, Jl. Sultan Iskandar Muda, Pondok Indah Kav. V-TA, Jakarta 12310, Indonesia	+62 21 29328100
30 PT. Tepian Indah Sukses	Coal mining	3,000,000,000 IDR	1,000,000,000 IDR	1,000	1,000,000	100.00% (held by PT. Indo Tambangraya Megah Tbk)	Jl. A.M. Sangaji No. 38F No. 9-10, Kel. Bandara, Kec. Sungai Pinang, Prov. Samarinda Corresponding office: Pondok Indah Office Tower 3, 3 <sup>rd</sup> floor, Jl. Sultan Iskandar Muda, Pondok Indah Kav. V-TA, Jakarta 12310, Indonesia	+62 54 1749437
31 PT. Nusa Persada Resources	Coal mining	500,000,000,000 IDR	312,337,000,000 IDR	3,123,370	100,000	100.00% (held by PT. Indo Tambangraya Megah Tbk)	Jalan Pendreh, Komplek Perumahan Nur Asri Perdana, RT. 33-A, Kel., Kec., Kab. Bario Utara, Prop. Kalimantan Tengah. Corresponding office: Pondok Indah Office Tower 3, 3 <sup>rd</sup> floor, Jl. Sultan Iskandar Muda, Pondok Indah Kav. V-TA, Jakarta 12310, Indonesia	+62 81 1884374
32 PT. Energi Batubara Perkasa	Major trading of solid, liquid and gas fuel and other related products	60,000,000,000 IDR	33,410,000,000 IDR	33,410	1,000,000	100.00% (held by PT. Indo Tambangraya Megah Tbk)	Pondok Indah Office Tower 3, 3 <sup>rd</sup> floor, Jl. Sultan Iskandar Muda, Pondok Indah Kav. V-TA, Jakarta 12310, Indonesia	+62 21 29328100
33 PT. Sentral Mutiara Energy	Major trading of solid, liquid and gas fuel and other related products	150,000,000,000 IDR	131,897,000,000 IDR	1,318,970	100,000	95.07% (held by PT. Indo Tambangraya Megah Tbk) 4.93% (held by PT. ITM Batubara Utama)	Gd. Menara Pertiwi Lt.28 Unit C-D Jl. Mega Kuningan Barat III Kav.10.1 No.3 Kel. Kuningan Timur, Kec. Setiabudi Jakarta Selatan -12950	+62 21 25983737
34 PT. Graha Panca Karsa	Coal mining and major trading of metal goods for construction material	500,000,000 IDR	270,000,000 IDR	270	1,000,000	70.00% (held by PT. Sentral Mutiara Energy)	Pondok Indah Office Tower 3, 3 <sup>rd</sup> floor, Jl. Sultan Iskandar Muda Kav. V-TA Pondok Pinang, Kebayoran Lama, Jakarta 12310, Indonesia	+62 21 29328100
35 PT. Cahaya Power Indonesia	Renewable energy	114,720,000,000 IDR	28,680,000,000 IDR	2,000,000	14,340	79.50% (held by PT. ITM Bhinneka Power)	Pondok Indah Office Tower 3, suite 302 Jl. Sultan Iskandar Muda Kav. V-TA Pondok Pinang, Kebayoran Lama, Jakarta 12310, Indonesia	+62 21 29328100

Name	Type of business	Authorized capital	Paid up capital	No. of paid-up capital (Shares)	Par value per Share	% of holding	Head Office	Telephone
36 PT. IBP Hydro Power	Management consultation	840,000,000,000 IDR	252,150,000,000 IDR	252,150	1,000,000	100.00% (held by PT. ITM Bhinneka Power)	Pondok Indah Office Tower 3, suite 302 Jl. Sultan Iskandar Muda Kav. V-TA Pondok Pinang, Kebayoran Lama, Jakarta 12310, Indonesia	+62 21 29328100
37 PT. Centra Multi Suryanesia Aset	Rental and leasehold without option rights and wholesale trade in machinery, equipment and other supplies	40,000,000,000 IDR	10,000,000,000 IDR	10,000,000	1,000	65.00% (held by PT. ITM Bhinneka Power)	Jalan Kaji Nomor 6, Desa/ Kelurahan Petojo Utara, Gambir, Jakarta Pusat, DKI Jakarta, Indonesia	+62 21 29328100
<b>Australia</b>								
38 Banpu Australia Co. Pty Ltd.	Investment in coal mining in Australia	2,920,721,000 AUD	2,920,721,000 AUD	2,920,721,000	1	100.00% (held by Banpu Singapore Pte. Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
39 AFE Investments Pty Ltd.	Mining investment	2 AUD	2 AUD	2	1	100.00% (held by Banpu Australia Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
40 ACN 152 429 206 Pty Ltd.	Investment in coal mining	2 AUD	2 AUD	2	1	100.00% (held by Banpu Australia Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
41 Airly Solar Pty Ltd.	Renewable energy	2 AUD	2 AUD	2	1	100.00% (held by Banpu Australia Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
42 Centennial Coal Co. Pty Ltd.	Coal mining and marketing	2,899,783,562 AUD	2,599,783,562 AUD	845,126,381	4.8	100.00% (held by Banpu Australia Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
43 Centennial Northern Coal Services Pty Ltd.	Employer company for Newstan Washery	1 AUD	1 AUD	1	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
44 Berrima Coal Pty Ltd.	Dormant	2 AUD	2 AUD	2	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
45 Centennial Airly Pty Ltd.	Coal mining	2 AUD	2 AUD	2	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
46 Centennial Angus Place Pty Ltd.	Coal mining	1 AUD	1 AUD	1	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
47 Centennial Coal Infrastructure Pty Ltd.	Coal exporting logistics and infrastructure	2 AUD	2 AUD	2	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
48 Centennial Coal Sales and Marketing Pty Ltd.	Coal marketing	1 AUD	1 AUD	1	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
49 Centennial Northern Mining Services Pty Ltd.	Dormant	1 AUD	1 AUD	1	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
50 Centennial Inglenook Pty Ltd.	Coal mining	1 AUD	1 AUD	1	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700

Name	Type of business	Authorized capital	Paid up capital	No. of paid-up capital (Shares)	Par value per Share	% of holding	Head Office	Telephone
51 Centennial Mandalong Pty Ltd.	Coal mining	1 AUD	1 AUD	1	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
52 Centennial Mannering Pty Ltd.	Coal mining	1 AUD	1 AUD	1	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
53 Centennial Munmorah Pty Ltd.	Coal mining (Now dormant)	1 AUD	1 AUD	1	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
54 Centennial Myuna Pty Ltd.	Coal mining	1 AUD	1 AUD	1	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
55 Centennial Newstan Pty Ltd.	Coal mining	1 AUD	1 AUD	1	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
56 Charbon Coal Pty Ltd.	Coal mining	2 AUD	2 AUD	2	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
57 Centennial Clarence Pty Ltd.	Coal mining - Clarence JV	8,800,000 AUD	8,800,000 AUD	8,800,000	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
58 Centennial Fassifern Pty Ltd.	Coal mining	2 AUD	2 AUD	2	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
59 Powercoal Pty Ltd.	Dormant holding company	4,590,001 AUD	4,590,001 AUD	4,590,001	1	100.00% (held by Centennial Fassifern Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
60 Powercoal Superannuation Pty Ltd.	Superannuation company (Dormant)	2 AUD	2 AUD	2	1	100.00% (held by Powercoal Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
61 Powercoal Employee Entitlements Co. Pty Ltd.	Employee trust company Ex Powercoal	2 AUD	2 AUD	2	1	50.00% (Held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
62 Hartley Valley Coal Co Pty Ltd.	Dormant	1,000,000 AUD	1,000,000 AUD	1,000,000	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
63 Ivanhoe Coal Pty Ltd.	Coal mining	2 AUD	2 AUD	2	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
64 Centennial Drilling Services Pty Ltd.	Drilling services	1,250,000 AUD	1,250,000 AUD	750,000 A Class shares 250,000 B Class shares 250,000 C Class shares	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
65 Centennial Springvale Holdings Pty Ltd.	Coal mining	1 AUD	1 AUD	1	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
66 Coalex Pty Ltd.	Coal mining - Clarence JV	7,500,000 AUD	7,500,000 AUD	750,000	10	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700

Name	Type of business	Authorized capital	Paid up capital	No. of paid-up capital (Shares)	Par value per Share	% of holding	Head Office	Telephone
67 Clarence Coal Investments Pty Ltd.	Coal mining - Clarence JV	19,500,002 AUD	19,500,002 AUD	15,500,002 Ord A shares 4,000,000 Ord B shares	1	100.00% (held by Coalex Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
68 Clarence Colliery Pty Ltd.	Coal mining - Clarence JV	10,000 AUD	10,000 AUD	10,000	1	100.00% (held by Coalex Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
69 Clarence Coal Pty Ltd.	Coal mining - Clarence JV	2 AUD	2 AUD	2	1	100.00% (held by Coalex Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
70 Collieries Superannuation Pty Ltd.	Superannuation company (Dormant)	2 AUD	2 AUD	2	1	100.00% (held by Powercoal Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
71 Elcom Collieries Pty Ltd.	Dormant	1,500,000 AUD	1,500,000 AUD	750,000	2	100.00% (held by Powercoal Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
72 Huntley Colliery Pty Ltd.	Dormant	354,000 AUD	354,000 AUD	177,000	2	100.00% (held by Powercoal Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
73 Mandalong Pastoral Management Pty Ltd.	Dormant	2,736,028 AUD	2,736,028 AUD	10,000,000 Ord partly paid shares - \$0.20 368,014 Ord Shares - \$2.00	2	100.00% (held by Powercoal Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
74 Centennial Springvale Pty Ltd.	Coal mining	1,000,000 AUD	1,000,000 AUD	1,000,000	1	100.00% (held by Centennial Springvale Holdings Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
75 Springvale Coal Pty Ltd.	Coal mining	2,000,000 AUD	2,000,000 AUD	2,000,000	1	100.00% (held by Centennial Springvale Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
76 Boulder Mining Pty Ltd.	Coal mining	1,000 AUD	1,000 AUD	1,000	1	100.00% (held by Centennial Springvale Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
77 Springvale Coal Sales Pty Ltd.	Coal marketing	2 AUD	2 AUD	2	1	50.00% (held by Centennial Springvale Pty Ltd.) 50.00% (held by Boulder Mining Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
78 Centennial Wallarah Pty Ltd.	Mining investment	2 AUD	2 AUD	2	1	100.00% (held by Centennial Coal Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
79 Hunnu Coal Pty Ltd.	Coal mining and trading	296,070,779 AUD	296,070,779 AUD	408,985,717	No par value*	100.00% (held by Banpu Minerals (Singapore) Pte. Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9166 2700
80 Banpu Energy Australia Pty Ltd.	Renewable energy	40,504,002 AUD	40,504,002 AUD	40,504,002	1	100.00% (held by Banpu Australia Co. Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700

Note: \*Under Corporate Law



Name	Type of business	Authorized capital	Paid up capital	No. of paid-up capital (Shares)	Par value per Share	% of holding	Head Office	Telephone
81 Banpu Renewable Australia Pty Ltd.	Renewable energy	7,900,002 AUD	7,900,002 AUD	7,900,002	1	100.00% (held by Banpu Renewable Singapore Pte. Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
82 Banpu Energy Hold Trust	Renewable energy	N/A	N/A	82,320,008 20,580,002	N/A	80.00% (held by Banpu Energy Australia Pty Ltd. 20.00% (held by Banpu Renewable Australia Pty Ltd.))	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
83 Banpu Energy Holding Pty Ltd.	Renewable energy	10 AUD	10 AUD	10	1	80.00% (held by Banpu Energy Australia Pty Ltd. 20.00% (held by Banpu Renewable Australia Pty Ltd.))	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
84 FS NSW Project No 1 HT Pty Ltd.	Renewable energy	100 AUD	100 AUD	100	1	100.00% (held by Banpu Energy Holding Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
85 FS NSW Project No 1 AT Pty Ltd.	Renewable energy	1 AUD	1 AUD	1	1	100.00% (held by FS NSW Project No 1 HT Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
86 FS NSW Project No 1 Finco Pty Ltd.	Renewable energy	1 AUD	1 AUD	1	1	100.00% (held by FS NSW Project No 1 AT Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
87 Manildra Prop Hold Pty Ltd.	Renewable energy	1 AUD	1 AUD	1	1	100.00% (held by Banpu Energy Holding Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
88 Manildra Prop Pty Ltd	Renewable energy	1 AUD	1 AUD	1	1	100.00% (held by Manildra Prop Hold Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
89 Manildra Finco Pty Ltd	Renewable energy	1 AUD	1 AUD	1	1	100.00% (held by Manildra Prop Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
90 Manildra Solar Farm Pty Ltd.	Renewable energy	100 AUD	100 AUD	100	1	100.00% (held by Manildra Prop Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
91 FS NSW Project No 1 Hold Trust	Renewable energy	1 AUD	1 AUD	1	1	100.00% (held by FS NSW Project No 1 HT Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
92 FS NSW Project No 1 Asset Trust	Renewable energy	N/A	N/A	8,206,490,677	N/A	100.00% (held by FS NSW Project No 1 Hold Trust as trustee for FS NSW Project No 1 AT Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
93 Manildra Hold Trust	Renewable energy	N/A	N/A	6,926,658,900	N/A	100.00% (held by Banpu Energy Hold Trust as trustee of the Manildra Prop Hold Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700

Name	Type of business	Authorized capital	Paid up capital	No. of paid-up capital (Shares)	Par value per Share	% of holding	Head Office	Telephone
94 Manildra Asset Trust	Renewable energy	N/A	N/A	3,701,105	N/A	100.00% (held by Manildra Hold Trust as trustee for Manildra Prop Pty Ltd.)	Level 20, 1 Market Street, Sydney NSW 2000, Australia	+61 2 9266 2700
<b>Republic of China</b>								
95 Shijiazhuang Chengfeng Cogen Co., Ltd.	Power and steam generation and sales	52,516,000 USD	52,516,000 USD	N/A	N/A	100.00% (held by Banpu Power Investment Co., Ltd.)	East of Jingshen Highway, Zhengding County, Shijiazhuang City, Hebei Province, P.R.China, 050800	+86 31 185176918
96 Banpu Investment (China) Ltd.	Investment in energy business and other industrial areas	30,000,000 USD	30,000,000 USD	N/A	N/A	100.00% (held by Banpu Power Investment Co., Ltd.)	Unit 508, 5 <sup>th</sup> Floor, Tower 21, No. 10 Jiuxianqiao Road, Chaoyang District, Beijing, P.R.China	+86 10 57580388
97 Tangshan Banpu Heat and Power Co., Ltd.	Power and steam generation and sales	78,082,200 USD	47,504,217 USD	N/A	N/A	87.92% (held by Pan-Western Energy Corporation LLC) 12.08% (held by Banpu Investment (China) Ltd.)	West of Gujiaying Village, Bencheng Town, Luannan County, Tangshan City, Hebei Province, P.R.China, 063500	+86 31 54168274
98 Zouping Peak CHP Co., Ltd.	Power and steam generation and sales	261,800,000 CNY	261,800,000 CNY	N/A	N/A	70.00% (held by Zouping Peak Pte. Ltd.)	Handian Town, Zouping County, Binzhou City, Shandong Province, P.R.China, 256209	+86 54 34615655
99 BPP Renewable Investment (China) Co., Ltd.	Investment in renewable energy business	160,000,000 USD	97,620,000 USD	N/A	N/A	100.00% (held by Banpu NEXT Co., Ltd.)	Unit 509, 5 <sup>th</sup> Floor, Tower B21, UBP, No.10 Jiuxianqiao Road, Chaoyang District, Beijing, P.R.China, 100015	+86 10 57580388
100 Anqiu Huineng Renewable Energy Co., Ltd.	Solar power generation	66,000,000 CNY	66,000,000 CNY	N/A	N/A	100.00% (held by BPP Renewable Investment (China) Co., Ltd.)	1 <sup>st</sup> Floor, Unit 1, Dafugou Village, Wushan Town, Anqiu County, Weifang City, Shandong Province, P.R.China	+86 10 57580310
101 Weifang Tian'en Jinshan Comprehensive Energy Co., Ltd.	Solar power generation	83,000,000 CNY	83,000,000 CNY	N/A	N/A	100.00% (held by BPP Renewable Investment (China) Co., Ltd.)	2 <sup>nd</sup> Floor, Unit 1, Dafugou Village, Wushan Town, Anqiu County, Weifang City, Shandong Province, P.R.China	+86 10 57580310
102 Dongping County Haoyuan Solar Power Generation Co., Ltd.	Solar power generation	69,000,000 CNY	69,000,000 CNY	N/A	N/A	100.00% (held by BPP Renewable Investment (China) Co., Ltd.)	East side of the north section of Xishan Road, Dongping County, Taian City, Shandong Province, P.R.China	+86 10 57580310
103 Anqiu County Hui'en PV Technology Co., Ltd.	Solar power generation	62,000,000 CNY	62,000,000 CNY	N/A	N/A	100.00% (held by BPP Renewable Investment (China) Co., Ltd.)	Unit 2, Longwangmiao Village, Dasheng Town, Anqiu County, Weifang City, Shandong Province, P.R.China	+86 10 57580310
104 Jiaxing Deyuan Energy-Saving Technology Co., Ltd.	Solar power generation	150,740,000 CNY	150,737,586 CNY	N/A	N/A	100.00% (held by BPP Renewable Investment (China) Co., Ltd.)	No. 999 Xianghu Road, Yaozhuang Town, Jiashan County, Jiaxing City, Zhejiang Province, P.R.China	+86 10 57580310
105 Feicheng Xingyu Solar Power PV Technology Co., Ltd.	Solar power generation	55,000,000 CNY	55,000,000 CNY	N/A	N/A	100.00% (held by BPP Renewable Investment (China) Co., Ltd.)	Huangtuling Village, Anzhan Town, Feicheng County, Tai'an City, Shandong Province, P.R.China	+86 10 57580310

Name	Type of business	Authorized capital	Paid up capital	No. of paid-up capital (Shares)	Par value per Share	% of holding	Head Office	Telephone
107 Banpu (Beijing) Energy Trading Ltd.	Coal Trading	80,000,000 CNY	40,000,000 CNY	N/A	N/A	100.00% (held by Banpu Minerals (Singapore) Pte. Ltd.)	Unit 508A, 5 <sup>th</sup> Floor, Tower 21, No.10 Jiuxianqiao Road, Chaoyang District, Beijing, P.R.China	+86 10 57580388
108 Shijiazhuang Chengfeng New Energy Co., Ltd.	Solar power generation	66,000,000 CNY	5,000,000 CNY	N/A	N/A	100.00% (held by Shijiazhuang Chengfeng Cogen Co., Ltd.)	No. 2-1, Jianye Xiang, Jianye Road, Zhengding County, Shijiazhuang City, Hebei Province, P.R.China	+86 31 185176918
109 Suzhou Durapower Technology Co., Ltd.	Manufacture and sales of Lithium batteries for hybrid and electronic vehicles	50,000,000 USD	N/A	N/A	N/A	100.00% (held by Durapower Holdings Pte. Ltd.)	No.12 Fuhua Road, Changshu Economic Development Zone, Changshu, Jiangsu, China, 215513	N/A
<b>Mongolia</b>								
110 Hunnu Altai LLC	Foreign trade, investment in coal mining	94,597,212,404.47 MNT	94,597,212,404.47 MNT	683,061	138,490	100.00% (held by Hunnu Investments Pte. Ltd.)	Suite 1502, Fides Tower, Gegeenten Complex, 15 <sup>th</sup> khoroo, Khan-Uul district, Ulaanbaatar-17011, Mongolia	+976 75551221, +976 75551551
111 Hunnu Gobi Altai LLC	Foreign trade, minerals exploration, mining	155,000,000 MNT	155,000,000 MNT	155,000	1,000	80.00% (held by Hunnu Altai LLC)	Suite 1502, Fides Tower, Gegeenten Complex, 15 <sup>th</sup> khoroo, Khan-Uul district, Ulaanbaatar-17011, Mongolia	+976 75551221, +976 75551551
112 Hunnu Altai Minerals LLC	Foreign trade, minerals mining	17,242,032,000 MNT	17,242,032,000 MNT	17,242,032	1,000	100.00% (held by Hunnu Altai LLC)	Suite 1502, Fides Tower, Gegeenten Complex, 15 <sup>th</sup> khoroo, Khan-Uul district, Ulaanbaatar-17011, Mongolia	+976 75551221, +976 75551551
113 Hunnu Resources LLC	Foreign trade, investment in coal mining	380,841,975,086.57 MNT	380,841,975,086.57 MNT	237,348,308	1,604.57	100.00% (held by Hunnu Coal Pty Ltd.)	Suite 1502, Fides Tower, Gegeenten Complex, 15 <sup>th</sup> khoroo, Khan-Uul district, Ulaanbaatar-17011, Mongolia	+976 75551221, +976 75551551
114 Munkh Sumber Uul LLC	Foreign trade	4,099,599,712.83 MNT	4,099,599,712.83 MNT	409,959	10,000	100.00% (held by Hunnu Resources LLC)	Suite 1502, Fides Tower, Gegeenten Complex, 15 <sup>th</sup> khoroo, Khan-Uul district, Ulaanbaatar-17011, Mongolia	+976 75551221, +976 75551551
115 Bilegt Khaikhan Uul LLC	Foreign trade, minerals mining	31,941,519,864.99 MNT	31,941,519,864.99 MNT	3,194,151	10,000	100.00% (held by Hunnu Resources LLC)	Suite 1502, Fides Tower, Gegeenten Complex, 15 <sup>th</sup> khoroo, Khan-Uul district, Ulaanbaatar-17011, Mongolia	+976 75551221, +976 75551551
116 Munkhnoyon Suvraga LLC	Foreign trade, minerals mining, tourism, construction materials sale	196,897,807,350 MNT	196,897,807,350 MNT	196,897,807	1,000	100.00% (held by Hunnu Resources LLC)	Suite 1502, Fides Tower, Gegeenten Complex, 15 <sup>th</sup> khoroo, Khan-Uul district, Ulaanbaatar-17011, Mongolia	+976 75551221, +976 75551551
<b>Republic of Singapore</b>								
117 Banpu Minerals (Singapore) Pte. Ltd.	Investment in coal mining	N/A	17,670,002 SGD 11,000,000 USD	17,670,002	No par value*	50.00% (held by Banpu Minerals Co., Ltd.) 50.00% (held by Banpu Coal Investment Co., Ltd.)	One Marina Boulevard, #28-00 Singapore 018989	+65 6890 7188
118 Banpu Singapore Pte. Ltd.	Investment in coal business	N/A	1,500,000 SGD 3,067,856,827.21 USD	1,500,000	No par value*	100.00% (held by Asian American Coal, Inc.)	One Marina Boulevard, #28-00 Singapore 018989	+65 6890 7188

Note: \*Under Corporate Law

Name	Type of business	Authorized capital	Paid up capital	No. of paid-up capital (Shares)	Par value per Share	% of holding	Head Office	Telephone
119 Hunnu Investments Pte. Ltd.	Investment in coal business	N/A	100 SGD 35,260,188.82 USD	100	No par value*	100.00% (held by Hunnu Coal Pty Ltd.)	One Marina Boulevard, #28-00 Singapore 018989	+65 6890 7188
120 Banpu Power Investment Co., Ltd.	Investment in power business	N/A	111,962,391.00 USD	104,917,663	No par value*	100.00% (held by Banpu Power International Ltd.)	8 Marina Boulevard, #05-02 Marina Bay Financial Centre, Singapore 018981	+65 6338 1888
121 Zouping Peak Pte. Ltd.	Investment in power business	N/A	2 SGD 140,495,758 CNY	2	No par value*	100.00% (held by Banpu Power Investment Co., Ltd.)	8 Marina Boulevard, #05-02 Marina Bay Financial Centre, Singapore 018981	+65 6338 1888
122 Banpu Renewable Singapore Pte. Ltd.	Investment in renewable energy business	N/A	16,310,029,719.8 JPY 71,295,176.69 USD	16,310,029,719	No par value*	100.00% (held by Banpu NEXT Co., Ltd.)	8 Marina Boulevard, #05-02 Marina Bay Financial Centre, Singapore 018981	+65 6338 1888
123 BRE Singapore Pte. Ltd.	Investment in renewable energy business	N/A	73,420,001 USD	73,420,001	No par value*	100.00% (held by Banpu NEXT Co., Ltd.)	8 Marina Boulevard, #05-02 Marina Bay Financial Centre, Singapore 018981	+65 6338 1888
124 Banpu Innovation & Ventures (Singapore) Pte. Ltd.	Research and development in disruptive technology	N/A	3,000,000 USD	3,000,000	No par value*	100.00% (held by Banpu Innovation & Ventures Co., Ltd.)	8 Marina Boulevard, #05-02 Marina Bay Financial Centre, Singapore 018981	+65 6338 1888
125 Banpu Ventures Pte. Ltd.	Holding company for investment in fund and securities	N/A	187,650,000 USD	187,650,000	No par value*	100.00% (held by Banpu Public Company Limited)	1 Marina Boulevard #28-00 One Marina Boulevard Singapore 018989	+65 6890 7188
126 Durapower Holdings Pte. Ltd.	Investment holding company (with subsidiaries undertaking manufacturing of Lithium-ion battery (lib) for EV and Energy Storage system (ESS))	N/A	59,737,835.50 SGD 50,000,000.00 USD	385,699	154.88 518.54	65.10% (held by BPIN Investment Co., Ltd.)	66 Kallang Pudding Road, #05-02 Hor Kew Business Centre, Singapore 349324	+65 6846 0171
127 Durapower Technology (Singapore) Pte. Ltd.	Marketing and sales of batteries and energy storage solution and wholesale of parts and accessories for vehicles	N/A	50,000 SGD	50,000	No par value*	100.00% (held by Durapower Holdings Pte. Ltd.)	66 Kallang Pudding Road #05-02 Hor Kew Business Centre Singapore 349324	+65 6846 0171
128 Aizu Energy Pte. Ltd.	Investment in renewable energy business	N/A	1,601,577,060 JPY	1,601,577,060	No par value*	100.00% (held by Banpu NEXT Co., Ltd.)	8 Marina Boulevard, #05-02 Marina Bay Financial Centre, Singapore 018981	+65 6338 1888
<b>Republic of Mauritius</b>								
129 Banpu Coal Investment Co., Ltd.	Investment in coal mining	11,050,500 USD	11,050,500 USD	11,050,500	1	100.00% (held by Banpu Minerals Co., Ltd.)	Block E, River Court, 6 St Denis Street, Port Louis, Mauritius	+230 214 3266
130 BP Overseas Development Co., Ltd.	Investment in coal mining	515,533,002 USD	515,533,002 USD	515,533,002	1	100.00% (held by Banpu Minerals Co., Ltd.)	Block E, River Court, 6 St Denis Street, Port Louis, Mauritius	+230 214 3266
131 BPIN Investment Co., Ltd.	Investment in renewable energy	212,497,600 USD	212,497,600 USD	212,497,600	1	100.00% (held by Banpu NEXT Co., Ltd.)	Block E, River Court, 6 St Denis Street, Port Louis, Mauritius	+230 214 3266

Note: \*Under Corporate Law

Name	Type of business	Authorized capital	Paid up capital	No. of paid-up capital (Shares)	Par value per Share	% of holding	Head Office	Telephone
132 Banpu Power International Ltd.	Investment in power business	117,835,000 USD	117,835,000 USD	117,835,000	1	100.00% (held by Banpu Power Public Company Limited)	Block E, River Court, 6 St Denis Street, Port Louis, Mauritius	+230 214 3266
<b>British Virgin Islands</b>								
133 Asian American Coal, Inc.	Investment in coal mining	410,000,000 USD	265,917,026 USD	265,917,026	1	100.00% (held by BP Overseas Development Co., Ltd.)	Geneva Place, 2 <sup>nd</sup> Floor, #333 Waterfront Drive, Road Town, Tortola, British Virgin Islands	+284 494 4388
<b>Cayman Islands</b>								
134 Pan-Western Energy Corporation LLC	Investment in power business	100,000 USD	100,000 USD	10,000,000	0.01	100.00% (held by Banpu Power Investment Co., Ltd.)	PO Box 309, Uglund House, Grand Cayman, KY1-1104, Cayman Islands	+1 345 949 8066
<b>Japan</b>								
135 Banpu Power Trading G.K.	Energy trading	N/A	100,000,000 JPY	N/A	No par value*	100.00% (held by Banpu Renewable Singapore Pte. Ltd.)	Kasumigaseki Building, 33 <sup>rd</sup> Floor, 3-2-5, Kasumigaseki, Chiyoda-ku, Tokyo, Japan 100-6033	+81 3 6205 4665
136 Banpu Japan K.K.	Investment in renewable energy business	N/A	100,000,000 JPY	395,549	No par value*	100.00% (held by Banpu NEXT Co., Ltd.)	Kasumigaseki Building, 33 <sup>rd</sup> Floor, 3-2-5, Kasumigaseki, Chiyoda-ku, Tokyo, Japan 100-6033	+81 3 6205 4665
137 J&A Energy G.K.	Store and sell electricity using battery	N/A	500,000 JPY	N/A	No par value*	100.00% (held by Banpu Japan K.K.)	Kasumigaseki Building, 33 <sup>rd</sup> Floor, 3-2-5, Kasumigaseki, Chiyoda-ku, Tokyo, Japan 100-6033	+81 3 6205 4665
138 Banpu Taiyo 1 GK	Power generation and sale of electricity	N/A	10,000 JPY	N/A	No par value*	100.00% (held by Banpu Japan K.K.)	Kasumigaseki Building, 33 <sup>rd</sup> Floor, 3-2-5, Kasumigaseki, Chiyoda-ku, Tokyo, Japan 100-6033	+81 3 6205 4665
139 Aizu Renewable Services G.K.	Electricity business aggregation and consulting service in Aizuwakamatsu City area	N/A	2,000,000 JPY	N/A	No par value*	100.00% (held by Banpu Japan K.K.)	Kasumigaseki Building, 33 <sup>rd</sup> Floor, 3-2-5, Kasumigaseki, Chiyoda-ku, Tokyo, Japan 100-6033	+81 3 6205 4665
<b>Netherlands</b>								
140 Durapower Technology Group B. V.	N/A	N/A	N/A	N/A	No par value*	100.00% (held by Durapower Holdings Pte. Ltd.)	Netherlands	N/A
<b>United States of America</b>								
141 Banpu North America Corporation	Investment in oil and gas business	938,000,100 USD	938,000,100 USD	938,000,100	1	100.00% (held by BOG Co., Ltd.)	2711 Centerville Road, Suite 400, Wilmington, Delaware, USA 19808	+1 302 654 7584
142 BKV Corporation	Investment in oil and gas business	3,000,000,000 USD	1,170,840,000 USD	117,084,000	0.01	96.38% (held by Banpu North America Corporation)	1200 17 <sup>th</sup> Street, Suite 2100, Denver, Colorado, USA 80202	+1 720 375 9680
143 Kalnin Ventures, LLC	Investment in oil and gas business	N/A	18,576,245 USD	N/A	No par value*	100.00% (held by BKV Corporation)	1200 17 <sup>th</sup> Street, Suite 2100, Denver, Colorado, USA 80202	+1 720 375 9680
144 BKV Chaffee Corners, LLC	Investment in oil and gas business	N/A	109,529,841 USD	N/A	No par value*	100.00% (held by BKV Corporation)	1200 17 <sup>th</sup> Street, Suite 2100, Denver, Colorado, USA 80202	+1 720 375 9680

Note: \*Under Corporate Law

Name	Type of business	Authorized capital	Paid up capital	No. of paid-up capital (Shares)	Par value per Share	% of holding	Head Office	Telephone
145 BKV Chelsea, LLC	Investment in oil and gas business	N/A	205,285,594 USD	N/A	No par value*	100.00% (held by BKV Corporation)	1200 17 <sup>th</sup> Street, Suite 2100, Denver, Colorado, USA 80202	+1 720 375 9680
146 BKV Operating, LLC	Investment in oil and gas business	N/A	195,541,343 USD	N/A	No par value*	100.00% (held by BKV Corporation)	1200 17 <sup>th</sup> Street, Suite 2100, Denver, Colorado, USA 80202	+1 720 375 9680
147 BKV Barnett, LLC	Investment in oil and gas business	N/A	406,000,000 USD	N/A	No par value*	100.00% (held by BKV Corporation)	1200 17 <sup>th</sup> Street, Suite 2100, Denver, Colorado, USA 80202	+1 720 375 9680
148 Banpu Innovation & Ventures, LLC	Research and development in disruptive technology	1,000,000 USD	1,000,000 USD	N/A	No par value*	100.00% (held by Banpu Innovation & Ventures (Singapore) Pte. Ltd.)	1150 North Market Street, Suite 1300, Wilmington, Delaware, USA 19801	+1 302 427 7650
149 Banpu Power US Corporation	Investment in energy generation and related business	100 USD	100 USD	10,000	0.1	100.00% (held by Banpu Power Public Company Limited)	251 Little Falls Drive, in the City of Wilmington, County of New Castle, Delaware, USA 19808	+1 720 375 9680
150 BKV-BPP Power, LLC	Investment in energy generation and related business	NA	173,963,925 USD	N/A	No par value*	50.00% (held by Banpu Power US Corporation) 50.00% (held by BKV Corporation)	1200 17 <sup>th</sup> Street, Suite 2100, Denver, Colorado, USA 80202	+1 720 375 9680
151 Temple Generation Holdings, LLC	To uses as an intermediate entity	N/A	N/A	N/A	No par value*	100.00% (held by BKV-BPP Power, LLC)	211 East 7 <sup>th</sup> Street, Suite 620, Austin, Texas, USA 78701	+1 720 375 9680
152 Temple Generation Intermediate Holding II, LLC	Energy generation and related business	N/A	N/A	N/A	No par value*	100.00% (held by Temple Generation Holdings, LLC)	1200 17 <sup>th</sup> Street, Suite 2100, Denver, Colorado, USA 80202	+1 720 375 9680
153 Temple Generation I, LLC	Energy generation and related business	N/A	N/A	N/A	No par value*	100.00% (held by Temple Generation Intermediate Holding II, LLC)	1200 17 <sup>th</sup> Street, Suite 2100, Denver, Colorado, USA 80202	+1 720 375 9680
154 Temple Generation II, LLC	Gas-fired power plant	N/A	N/A	N/A	No par value*	100.00% (held by Temple Generation Intermediate Holding II, LLC)	1200 17 <sup>th</sup> Street, Suite 2100, Denver, Colorado, USA 80202	+1 720 375 9680
155 BKV Mid-stream, LLC	Investment in oil and gas business	N/A	N/A	N/A	No par value*	100.00% (held by BKV Corporation)	1200 17 <sup>th</sup> Street, Suite 2100, Denver, Colorado, USA 80202	+1 720 375 9680
156 BKV North Texas, LLC	Investment in oil and gas business	N/A	N/A	N/A	No par value*	100.00% (held by BKV Corporation)	1200 17 <sup>th</sup> Street, Suite 2100, Denver, Colorado, USA 80202	+1 720 375 9680
157 BKV-BPP Retail, LLC	Energy retailing and related business	N/A	N/A	N/A	No par value*	100.00% (held by BKV-BPP Power, LLC)	1200 17 <sup>th</sup> Street, Suite 2100, Denver, Colorado, USA 80202	+1 720 375 9680
158 BKV dCarbon Ventures, LLC	Investment in carbon capture business	N/A	N/A	N/A	No par value*	100.00% (held by BKV Corporation)	1200 17 <sup>th</sup> Street, Suite 2100, Denver, Colorado 80202	+1 720 375 9680
159 BKVerde, LLC	Investment in carbon capture business	N/A	N/A	N/A	No par value*	100.00% (held by BKV dCarbon Ventures, LLC)	1200 17 <sup>th</sup> Street, Suite 2100, Denver, Colorado 80202	+1 720 375 9680

Note: \*Under Corporate Law



Name	Type of business	Authorized capital	Paid up capital	No. of paid-up capital (Shares)	Par value per Share	% of holding	Head Office	Telephone
159 BKV dCarbon High West, LLC	Investment in carbon capture business	N/A	N/A	N/A	No par value*	100.00% (held by BKV dCarbon Ventures, LLC)	1200, 17 <sup>th</sup> Street, Suite 2100, Denver, Colorado 80202	+1 720 375 9680
160 BKV dCarbon Temple, LLC	Investment in carbon capture business	N/A	N/A	N/A	No par value*	100.00% (held by BKV dCarbon Ventures, LLC)	1200, 17 <sup>th</sup> Street, Suite 2100, Denver, Colorado 80202	+1 720 375 9680
161 BKV- BPP Cotton Cove, LLC	Investment in carbon capture business	N/A	N/A	N/A	No par value*	51.00% (held by BKV dCarbon Ventures, LLC) 49.00% (held by Banpu Power US Corporation)	251 Little Falls Dive, Wilmington, Delaware 19808	+1 720 375 9680
162 BKV dCarbon Barnett Zero, LLC	Investment in carbon capture business	N/A	N/A	N/A	No par value*	100.00% (held by BKV dCarbon Ventures, LLC)	251 Little Falls Dive, Wilmington, Delaware 19808	+1 720 375 9680
163 BKV-BPP Ponder Solar, LLC	Renewable energy business	N/A	N/A	N/A	No par value*	100.00% (held by BKV-BPP Power, LLC)	251 Little Falls Dive, Wilmington, Delaware 19808	+1 720 375 9680
164 BPPUS Power Trading, LLC	To hold a power trading license and perform power trading activities	N/A	N/A	N/A	No par value*	100.00% (held by Banpu Power US Corporation)	251 Little Falls Dive, Wilmington, Delaware 19808	+1 720 375 9680
165 High West Sequestration, LLC	Investment in carbon capture business	N/A	N/A	N/A	No par value*	100.00% (held by BKV dCarbon Ventures, LLC)	111 Veterans Memorial Boulevard, Metairie, Louisiana, USA	N/A
<b>Socialist Republic of Vietnam</b>								
166 BPP Vinh Chau Wind Power LLC	Wind power production, power transmission and distribution	427,395,900,000 VND	427,395,900,000 VND	N/A	No par value*	100.00% (held by BRE Singapore Pte. Ltd.)	Wind power plant no.3, Street 48, Vinh Phuoc ward, Vinh Chau town, Soc Trang province, Vietnam	+84 90 988 5015
167 Banpu Vietnam LLC	Management consulting services (Except for financial, accounting and legal consultancy)	23,000,000,000 VND	23,000,000,000 VND	N/A	No par value*	100.00% (held by Banpu Public Company Limited)	8 <sup>th</sup> Floor, Friendship Tower, 31 Le Duan Street, Ben Nghe Ward, District 1, Ho Chi Minh City, Vietnam	+84 90 748 4047
168 Ei Wind Mui Dinh Ltd.	Power production, installation of electrical systems	235,128,370,557 VND	235,128,370,557 VND	N/A	No par value*	100.00% (held by BRE Singapore Pte. Ltd.)	Tu Thien Village, Phuoc Dinh Ward, Thuan Nam District, Ninh Thuan Province, Vietnam	+84 925 9651 1234
169 Licogi 16 Ninh Thuan Renewable Energy Joint Stock Company	Power production	240,000,000,000 VND	240,000,000,000 VND	24,000,000	10,000	100.00% (held by BRE Singapore Pte. Ltd.)	Kien Kien Vinh Hy Street, Khanh Phuoc Hamlet, Nhon Hai Commune, Ninh Hai District, Ninh Thuan Province 59000 Vietnam	+84 28 3866 8535
<b>Associated companies</b>								
<b>Australia</b>								
170 Port Kembla Coal Terminal Limited	Ship loading coal port	600,000 AUD	600,000 AUD	600,000	1	16.66% (held by Centennial Coal Co. Pty Ltd.)	Port Kembla Road, Inner Harbour, Wollongong NSW 2520, Australia	+61 2 4228 0288

Note: \*Under Corporate Law

Name	Type of business	Authorized capital	Paid up capital	No. of paid-up capital (Shares)	Par value per Share	% of holding	Head Office	Telephone
<b>Japan</b>								
171 FOMM Corporation	Planning, developing, manufacturing and selling of compact electric vehicle	N/A	3,505,170,250 JPY	2,046,635	No par value*	21.32% (held by Banpu NEXT Co., Ltd.)	7-7 Shinkawasaki, Saiwai-ku, Kawasaki-shi, Kanagawa, Japan 212-0032	+81 4 4200 4020
172 Global Engineering Co., Ltd	Electricity sales and resource aggregator of virtual power plant	N/A	308,200,000 JPY	3,759,000	No par value*	19.16% (held by Banpu Renewable Singapore Pte. Ltd.)	Nishiko Living Kashii 2 <sup>nd</sup> Floor, 1-1-1, Kashii, Higashi-ku, Fukuoka city, Fukuoka pref. Japan 813-0011	+81 92 692 7547
<b>Thailand</b>								
173 Urban Mobility Tech Co., Ltd.	Electric vehicle business	Ordinary share 1,070,000 Preference share 723,750 THB	Ordinary share 1,070,000 Preference share 723,750 THB	Ordinary share 107,000 Preference share 72,375	10	39.74% (held by Banpu NEXT Co., Ltd.)	256 Soi Soonvijai, Rama IX Soi 17 Road, Bangkapi, Huaykwang, Bangkok 10310, Thailand	+66 86887 4796
174 Beyond Green Co., Ltd.	Integrated electric vehicle	714,285,700 THB	714,285,700 THB	7,142,857	100	39.18% (held by Banpu NEXT Co., Ltd.)	115/1, 115/6, Motorway Road, Thap Chang Subdistrict, Saphan Sung District, Bangkok 10250, Thailand	+66 2136 0490
175 GEPP SA-ARD Co., Ltd.	Integrated waste management platform	2,666,700 THB	2,666,700 THB	26,667	100	25.00% (held by Banpu NEXT Co., Ltd.)	559/186 Nonsi Road, Chong Nonsi Subdistrict, Yannawa District, Bangkok 10120, Thailand	+66 84360 2928
176 SVOLT Energy Technology (Thailand) Co., Ltd.	Manufacturing of Lithium-Ion Battery (LiB) for EV and Energy Storage System (ESS)	519,466,700 THB	519,466,700 THB	5,194,667	100	40.00% (held by Banpu NEXT Co., Ltd.)	102/21 Moo 7, Bo Win Subdistrict, Sri Racha District, Chonburi 20230, Thailand	+66 94592 5936
177 Haupcar Co., Ltd.	Renting of passenger car, pick-up truck, van and similar light motor vehicles	Ordinary share 5,214,340 Preference share 2,796,350 THB	Ordinary share 5,214,340 Preference share 2,796,350 THB	Ordinary share 521,434 Preference share 279,635	10 (Ordinary share) 10 (Preference share)	22.54% (held by Banpu NEXT Co., Ltd.)	128/21 3 Floor, Phayathai Plaza, Phayathai Road, Thung Phaya Thai Subdistrict, Ratchathewi District, Bangkok 10400 Thailand	+66 2113 1155
<b>Socialist Republic of Vietnam</b>								
178 Solar Esco Joint Stock Company	Computer programming, power production, power transmission and distribution	Ordinary share 121,715,750,000 VND Preference share 158,160,000 VND	Ordinary share 121,715,750,000 VND Preference share 158,160,000 VND	Ordinary share 12,171,575 Preference share 15,816	10,000 (Ordinary share) 10,000 (Preference share)	49.00% (held by BRE Singapore Pte. Ltd.)	47 Le Van Thinh, Quarter 5, Binh Trung Dong Ward, Thu Duc City, Ho Chi Minh City, Vietnam	+286 285 4535
<b>Joint Ventures</b>								
<b>Republic of Indonesia</b>								
179 PT. Nusantara Timur Unggul	Fuel distributor	1,000,000,000 IDR	600,000,000 IDR	600	1,000,000	33.34% (held by PT. ITM Indonesia)	Gedung Graha Indramas 4 <sup>th</sup> Fl., Jalan AIP II K.S. Tubun Raya No. 77, Palmerah, West Jakarta Corresponding office: Pondok Indah Office Tower 3, 3 <sup>rd</sup> floor, Jl. Sultan Iskandar Muda, Pondok Indah Kav. V-TA, Jakarta 12310, Indonesia	+62 21 29328100
<b>Republic of China</b>								
180 Shanxi Gaohe Energy Co., Ltd.	Coal mining in China	1,519,860,000 CNY	1,519,860,000 CNY	N/A	N/A	45.00% (held by Asian American Coal, Inc.)	Haojiazhuang Town, Changzhi County, Changzhi City, Shanxi Province, P.R.China	+86 10 58203663

Note: \*Under Corporate Law

Name	Type of business	Authorized capital	Paid up capital	No. of paid-up capital (Shares)	Par value per Share	% of holding	Head Office	Telephone
181 Hebi Zhong Tai Mining Co., Ltd.	Investment in coal mining	783,330,000 CNY	783,330,000 CNY	N/A	N/A	40.00% (held by Banpu Minerals Co., Ltd.)	Sikuang Industrial Park, Hebei City, Henan Province, P.R.China	+86 39 22917401-2
182 Shanxi Lu Guang Power Co., Ltd.	Power generating and sales	1,745,818,000 CNY	1,500,000,000 CNY	N/A	N/A	30.00% (held by Banpu Power Investment Co., Ltd.)	Songcun Town, Zhangzi County, Changzhi City, Shanxi Province, P.R.China	+86 35 58580511
<b>Japan</b>								
183 Aizu Land Solar G.K.	Land owner of solar project	N/A	100,000 JPY	N/A	No par value*	100.00% (held by Aura Land Development Pte. Ltd.)	Kasumigaseki Building, 33rd Floor, 3-2-5, Kasumigaseki, Chiyoda-ku, Tokyo, Japan 100-6033	+81 3 6205 4665
184 Hokkaido Solar Estate G.K.	Land owner of solar project	N/A	10,000,000 JPY	N/A	No par value*	60.00% (held by Banpu Energy Services (Thailand) Co., Ltd.)	1-1-7 Moto-akasaka, Minato-ku, Tokyo, Japan	+81 3 3560 1115
185 Nakoso IGCC Management Co., Ltd.	Electricity power generation, supply services of electricity power and steam	N/A	1,000,000 JPY	N/A	No par value*	33.50% (held by Banpu Power Investment Co., Ltd.)	2-6-1 Marunouchi, Chiyoda-ku, Tokyo, Japan 100-8086	+81 3 3210 2121
186 Nakoso IGCC Power Plant GK	Power generation	N/A	100,000,000 JPY	N/A	No par value*	40.00% (held by Nakoso IGCC Management Co., Ltd.)	102-3 Kawada, Iwamamachi, Iwaki, Fukushima, Japan	+81 2 4651 2211
<b>Lao People's Democratic Republic</b>								
187 Hongsa Power Co., Ltd.	Power generating and Sales	927,000,000 USD	927,000,000 USD	92,700,000	10	40.00% (held by Banpu Power Public Company Limited)	NNN Building 4th Floor, Room No.D5 Bourichan Road, Phonsinouane Village, Sisattanak District, Vientiane Capital, Lao PDR	+856 2122 483
188 Phu Fai Mining Co., Ltd.	Mining concession	50,000 USD	50,000 USD	5,000	10	37.50% (held by Banpu Power Public Company Limited)	NNN Building 4 <sup>th</sup> Floor, Room No.D5 Bourichan Road, Phonsinouane Village, Sisattanak District, Vientiane Capital, Lao PDR	+856 2122 483
<b>Republic of Singapore</b>								
189 Aura Land Development Pte. Ltd.	Investment in property for solar energy business	N/A	3,840,989.20 USD	3,840,988	No par value*	75.00% (held by Banpu Energy Services (Thailand) Co., Ltd.)	8 Marina Boulevard, #05-02 Marina Bay Financial Centre, Singapore 018981	+65 6338 1888
190 Aizu Energy Pte. Ltd.	Investment in renewable energy business	N/A	1,601,577,060 JPY	1,601,577,060	No par value*	100.00% (held by Banpu NEXT Co., Ltd.)	8 Marina Boulevard, #05-02 Marina Bay Financial Centre, Singapore 018981	+65 6338 1888
191 LIV Energy Venture Pte. Ltd.	Development and commercialization of hybrid ESS	N/A	1,000,000 USD 1,000,000 SGD	1,000,000 2,333,333	No par value*	30.00% (held by Banpu Innovation & Ventures (Singapore) Pte. Ltd.)	1 Cleantech Loop #02-26 Cleantech One Singapore 637141	+65 6268 6129
192 Oyika Pte. Ltd.	Operate battery swapping platform	N/A	Ordinary share 540,378 USD Preference share 22,000,007 USD	Ordinary share 1,961,200 Preference share 2,264,326 USD	N/A	15.91% (held by BPIN Investment Co., Ltd.)	2 Leng Kee Road #05-02A Thye Hong Centre 159086 Singapore	N/A

Name	Type of business	Authorized capital	Paid up capital	No. of paid-up capital (Shares)	Par value per Share	% of holding	Head Office	Telephone
<b>Thailand</b>								
193 BLC Power Ltd.	Power generation and sales	12,010,000,000 THB	12,010,000,000 THB	120,100,000	100	50.00% (held by Banpu Coal Power Ltd.)	9 I-8 Road, Map Ta Phut Industrial Estate, Muang District, Rayong 21150 Thailand	+66 3892 5100
194 BNSP Smart Tech Co., Ltd.	Investor and developer district cooling systems (DCS)	3,000,000 THB	3,000,000 THB	30,000	100	51.00% (held by Banpu NEXT EcoServe Co., Ltd.)	1550, Thanapoom Tower, 24 <sup>th</sup> Floor, New Petchburi Road, Makkasan, Ratchathewi, Bangkok 10400, Thailand	+66 2095 6595
195 Evolt Technology Co., Ltd.	Electric vehicle infrastructure	6,250,000 THB	6,250,000 THB	62,500	100	23.81% (held by Banpu NEXT Co., Ltd.)	Block 28, Building C, Floor 2 C201-202 Alley, Wang Mai, Pathum Wan District, Bangkok 10330 Thailand	+66 80593 1072
196 Altotech Global Co., Ltd.	Other information technology and computer service activities	Ordinary share 1,015,300 THB Preference share 629,200 THB	Ordinary share 1,015,300 THB Preference share 629,200 THB	Ordinary share 10,153 Preference share 6,292	100 (Ordinary share) 100 (Preference share)	25.00% (held by Banpu NEXT Co., Ltd.)	719, Rama VI, Wang Mai, Pathum Wan, Bangkok 10330 Thailand	+66 2059 9603
<b>United States of America</b>								
197 Temple Generation SF, LLC	Energy generation and related business	N/A	N/A	N/A	No par value*	50.00% (held by Temple Generation I, LLC)	1200 17 <sup>th</sup> Street, Suite 2100, Denver, Colorado, USA 80202	+1 720 375 9680
<b>Other investment</b>								
<b>Republic of Singapore</b>								
198 Green Li-ion Pte. Ltd.	Recycling of metal waste and scrap	N/A	37,112,368.12 USD 75,000.00 SGD 1,177.00 USD 81.77 SGD	Preference share 150,875 Preference share 8,135 Ordinary share 7,124 Ordinary share 81,770	N/A	4.51% (held by BPIN Investment Co., Ltd.)	83 Kim Yam Road #03-01 Singapore 239378	+65 6016 7459

Note: \*Under Corporate Law

## SHAREHOLDERS

### Top 10 Major Shareholders, as of 31 December 2023

Major Shareholders	No. of Shares	%
<b>1. Vongkusolkit Family</b>	787,417,939	7.86
Mitr Phol Sugar Corp., Ltd.	827,908,786	8.26
TME Capital Co., Ltd.	102,371,266	1.02
Mid-Siam Capital Co., Ltd.	82,300,820	0.82
MP Particle Board Co., Ltd.	61,299,415	0.61
City Holding Co., Ltd.	59,918,082	0.60
East Spring Holding Co., Ltd.	55,801,100	0.56
Pacific Sugar Corp., Ltd.	27,482,796	0.27
Mitr Phol Bio-Power (Phu Wiang) Co., Ltd.	24,794,390	0.25
<b>2. Thai NVDR Co., Ltd.</b>	889,021,844	8.87
<b>3. South East Asia UK (Type C) Nominees Limited</b>	279,998,025	2.79
<b>4. State Street Europe Limited</b>	203,539,751	2.03
<b>5. Mr. Direk Vinichbutr</b>	149,466,900	1.49
<b>6. Credit Suisse AG, Singapore Branch</b>	128,381,575	1.28
<b>7. Mr. Prateep Tangmatitham</b>	106,353,498	1.06
<b>8. Mr. Supachai Suthipongchai</b>	71,994,210	0.72
<b>9. The Bank of New York (Nominees) Limited</b>	61,651,336	0.62
<b>10. Krungsri LTF Dividend Stock</b>	49,532,400	0.49
<b>Total</b>	<b>3,969,234,133</b>	<b>39.60</b>

#### Notes:

- Mitr Phol Sugar Corp., Ltd. has the following shareholder:  
Mid-Siam Sugar Corp., Ltd. holds 99.99% of its paid-up capital.
- TME Capital Co., Ltd. has the following shareholders:
  - The Vongkusolkit Family holds 80.01% of its paid-up capital.
  - Ufinves Co., Ltd. holds 15.23% of its paid-up capital.
  - The Kanjanakumnerd Family holds 3.82% of its paid-up capital.
  - The Putpongiriporn Family holds 0.94% of its paid-up capital.
- Mid-Siam Capital Co., Ltd. has the following shareholder:  
Mid-Siam Sugar Corp., Ltd. holds 99.99% of its paid-up capital.
- MP Particle Board Co., Ltd. has the following shareholder:  
United Farmer and Industry Co., Ltd. holds 99.99% of its paid-up capital.
- City Holding Co., Ltd. has the following shareholders:
  - The Vongkusolkit Family holds 90.50% of its paid-up capital.
  - The Kanjanakumnerd Family holds 6.00% of its paid-up capital.
  - The Putpongiriporn Family holds 2.00% of its paid-up capital.
  - The Jenlapwattanukul Family holds 1.50% of its paid-up capital.
- East Spring Holding Co., Ltd. has the following shareholder:  
The Vongkusolkit Family holds 100% of its paid-up capital.
- Pacific Sugar Corp., Ltd. has the following shareholder:  
Mitr Phol Sugar Corp., Ltd. holds 99.99% of its paid-up capital.
- Mitr Phol Bio-Power (Phu Wiang) Co., Ltd. has the following shareholder:  
United Farmer and Industry Co., Ltd. holds 52.38% of its paid-up capital.

## SECURITY

Authorized Capital	
<b>Company Name</b>	บริษัท บ้านปู จำกัด (มหาชน)
<b>Company Name (English)</b>	Banpu Public Company Limited
<b>Market Symbol</b>	BANPU
<b>Major Business</b>	Energy
<b>Registration Number</b>	BorMorJor. 152
<b>Authorized Capital</b>	THB 10,149,163,028 Consisting of 10,149,163,028 ordinary shares with the par value of THB 1 per share
<b>Paid-up Capital</b>	THB 10,018,902,725* Consisting of 10,018,902,725 ordinary shares with the par value of THB 1 per share
<b>Number of Shares</b>	10,018,902,725 shares
<b>Par Value</b>	THB 1 (One Baht)

#### Notes:

\* The Company has accordingly allocated 1,564,741,337 new common shares (par value of THB 1 per share) from exercise BANPU-W5 and successfully registered as paid-in capital with the Ministry of Commerce on 4 October 2023, resulting in an increase in the Company's paid-in capital from THB 8,454,161,388 to THB 10,018,902,725.

As of 31 December 2023, Thai NVDR Company Limited (Thai NVDR), a subsidiary of the Stock Exchange of Thailand, as well as the Company's shareholders hold the underlying securities total amount of 889,021,844 shares, or 8.87% of the issued and paid-up shares at that date. NVDR holders will obtain all financial benefits in the same manner as the Company's ordinary shareholders, except that NVDR holders will have no voting rights at shareholder meetings since they are not the Company's direct shareholders. Practically, Thai NVDR will attend a shareholder meeting and vote at its discretion but not by the instruction of NVDR shareholders. The number of the Company's shares held by the investors who have invested via Thai NVDR is subject to change, which is beyond the Company's control.

### Foreign Ownership Restrictions

Foreign shareholders may own the Company's shares in a total amount not exceeding 40% of the Company's issued and paid-up shares. As of 31 December 2023, the Company's shares owned by foreign shareholders were approximately 18.67% of the Company's paid-up capital.



## DEBENTURE

Debenture Details	Banpu Debentures No. 1/2011 Tranche 4	Banpu Debentures No. 2/2013 Tranche 2	Banpu Debentures No. 1/2014 Tranche 2	Banpu Debentures No. 1/2015 Tranche 2	Banpu Debentures No. 1/2015 Tranche 3
<b>Issuer</b>	Banpu Plc.	Banpu Plc.	Banpu Plc.	Banpu Plc.	Banpu Plc.
<b>Total Value of Debentures</b>	THB 2,000 Million	THB 2,100 Million	THB 5,000 Million	THB 1,750 Million	THB 1,250 Million
<b>Type of Debenture</b>	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative	Name-registered, unsubordinated and unsecured debentures	Name-registered, unsubordinated and unsecured debentures
<b>Amount of Debentures</b>	2,000,000 Units	2,100,000 Units	5,000,000 Units	1,750,000 Units	1,250,000 Units
<b>Par Value</b>	THB 1,000	THB 1,000	THB 1,000	THB 1,000	THB 1,000
<b>Outstanding Debenture Value as of 31 December 2023</b>	THB 2,000 Million	THB 2,100 Million	THB 5,000 Million	THB 1,750 Million	THB 1,250 Million
<b>Coupon Rate</b>	5.19%	5.05%	4.80%	4.00%	4.10%
<b>Tenor</b>	15 Years	12 Years	10 Years	10 Years	12 Years
<b>Issue Date</b>	1 April 2011	10 July 2013	4 July 2014	12 November 2015	12 November 2015
<b>Maturity Date</b>	1 April 2026	10 July 2025	4 July 2024	12 November 2025	12 November 2027
<b>Call Option for Debenture Holders and Issuer</b>	-None-	-None-	-None-	-None-	-None-
<b>Principal Payment Before the Maturity Date</b>	The debenture issuer will pay the principal on the maturity date.	The debenture issuer will pay the principal on the maturity date.	The debenture issuer will pay the principal on the maturity date.	The debenture issuer will pay the principal on the maturity date.	The debenture issuer will pay the principal on the maturity date.
<b>Maturity Value</b>	THB 1,000	THB 1,000	THB 1,000	THB 1,000	THB 1,000
<b>Collateral</b>	-None-	-None-	-None-	-None-	-None-
<b>Debenture Rating</b>	A+ TRIS Rating Co., Ltd.	A+ TRIS Rating Co., Ltd.	A+ TRIS Rating Co., Ltd.	-None-	-None-

Debenture Details	Banpu Debentures No. 1/2017	Banpu Debentures No. 1/2018	Banpu Debentures No. 1/2019	Banpu Debentures No. 1/2021 Tranche 1	Banpu Debentures No. 1/2021 Tranche 2
<b>Issuer</b>	Banpu Plc.	Banpu Plc.	Banpu Plc.	Banpu Plc.	Banpu Plc.
<b>Total Value of Debentures</b>	THB 10,000 Million	USD 50 Million	THB 10,000 Million	THB 2,000 Million	THB 3,670 Million
<b>Type of Debenture</b>	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative
<b>Amount of Debentures</b>	10,000,000 Units	5,000 Units	10,000,000 Units	2,000,000 Units	3,670,000 Units
<b>Par Value</b>	THB 1,000	USD 10,000	THB 1,000	THB 1,000	THB 1,000
<b>Outstanding Debenture Value as of 31 December 2023</b>	THB 10,000 Million	USD 50 Million	THB 10,000 Million	THB 2,000 Million	THB 3,670 Million
<b>Coupon Rate</b>	4.17%	5.25%	4.00%	3.33%	3.78%
<b>Tenor</b>	10 Years	10 Years	10 Years	7 Years	10 Years
<b>Issue Date</b>	21 April 2017	8 August 2018	22 May 2019	24 February 2021	24 February 2021
<b>Maturity Date</b>	21 April 2027	8 August 2028	22 May 2029	24 February 2028	24 February 2031
<b>Call Option for Debenture Holders and Issuer</b>	-None-	-None-	-None-	-None-	-None-
<b>Principal Payment Before the Maturity Date</b>	The debenture issuer will pay the principal on the maturity date.	The debenture issuer will pay the principal on the maturity date.	The debenture issuer will pay the principal on the maturity date.	The debenture issuer will pay the principal on the maturity date.	The debenture issuer will pay the principal on the maturity date.
<b>Maturity Value</b>	THB 1,000	USD 10,000	THB 1,000	THB 1,000	THB 1,000
<b>Collateral</b>	-None-	-None-	-None-	-None-	-None-
<b>Debenture Rating</b>	A+ TRIS Rating Co., Ltd.	A+ TRIS Rating Co., Ltd.	A+ TRIS Rating Co., Ltd.	A+ TRIS Rating Co., Ltd.	A+ TRIS Rating Co., Ltd.

Debenture Details	Banpu Debentures No. 2/2021 Tranche 1	Banpu Debentures No. 2/2021 Tranche 2	Banpu Debentures No. 2/2021 Tranche 3	Banpu Debentures No. 2/2021 Tranche 4	Banpu Debentures No. 1/2022 Tranche 1
<b>Issuer</b>	Banpu Plc.	Banpu Plc.	Banpu Plc.	Banpu Plc.	Banpu Plc.
<b>Total Value of Debentures</b>	THB 3,945 Million	THB 4,010 Million	THB 6,045 Million	THB 2,000 Million	THB 2,000 Million
<b>Type of Debenture</b>	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative
<b>Amount of Debentures</b>	3,945,000 Units	4,010,000 Units	6,045,000 Units	2,000,000 Units	2,000,000 Units
<b>Par Value</b>	THB 1,000	THB 1,000	THB 1,000	THB 1,000	THB 1,000
<b>Outstanding Debenture Value as of 31 December 2023</b>	THB 3,945 Million	THB 4,010 Million	THB 6,045 Million	THB 2,000 Million	THB 2,000 Million
<b>Coupon Rate</b>	2.90%	3.30%	3.80%	1.58%	1.76%
<b>Tenor</b>	5 Years	7 Years	10 Years	3 Years	3 Years
<b>Issue Date</b>	4 August 2021	4 August 2021	4 August 2021	4 August 2021	27 January 2022
<b>Maturity Date</b>	4 August 2026	4 August 2028	4 August 2031	4 August 2024	27 January 2025
<b>Call Option for Debenture Holders and Issuer</b>	-None-	-None-	-None-	-None-	-None-
<b>Principal Payment Before the Maturity Date</b>	The debenture issuer will pay the principal on the maturity date.	The debenture issuer will pay the principal on the maturity date.	The debenture issuer will pay the principal on the maturity date.	The debenture issuer will pay the principal on the maturity date.	The debenture issuer will pay the principal on the maturity date.
<b>Maturity Value</b>	THB 1,000	THB 1,000	THB 1,000	THB 1,000	THB 1,000
<b>Collateral</b>	-None-	-None-	-None-	-None-	-None-
<b>Debenture Rating</b>	A+ TRIS Rating Co., Ltd.	A+ TRIS Rating Co., Ltd.	A+ TRIS Rating Co., Ltd.	A+ TRIS Rating Co., Ltd.	A+ TRIS Rating Co., Ltd.

Debenture Details	Banpu Debentures No. 1/2022 Tranche 2	Banpu Debentures No. 1/2022 Tranche 3	Banpu Debentures No. 1/2022 Tranche 4	Banpu Debentures No. 1/2022 Tranche 5	Banpu Debentures No. 2/2022 Tranche 1
<b>Issuer</b>	Banpu Plc.	Banpu Plc.	Banpu Plc.	Banpu Plc.	Banpu Plc.
<b>Total Value of Debentures</b>	THB 1,000 Million	THB 2,000 Million	THB 3,000 Million	THB 4,000 Million	THB 4,000 Million
<b>Type of Debenture</b>	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative
<b>Amount of Debentures</b>	1,000,000 Units	2,000,000 Units	3,000,000 Units	4,000,000 Units	4,000,000 Units
<b>Par Value</b>	THB 1,000	THB 1,000	THB 1,000	THB 1,000	THB 1,000
<b>Outstanding Debenture Value as of 31 December 2023</b>	THB 1,000 Million	THB 2,000 Million	THB 3,000 Million	THB 4,000 Million	THB 4,000 Million
<b>Coupon Rate</b>	3.11%	3.58%	3.89%	4.12%	3.26%
<b>Tenor</b>	6 Years	8 Years	10 Years	12 Years	4 Years
<b>Issue Date</b>	27 January 2022	27 January 2022	27 January 2022	27 January 2022	20 September 2022
<b>Maturity Date</b>	27 January 2028	27 January 2030	27 January 2032	27 January 2034	20 September 2026
<b>Call Option for Debenture Holders and Issuer</b>	-None-	-None-	-None-	-None-	-None-
<b>Principal Payment Before the Maturity Date</b>	The debenture issuer will pay the principal on the maturity date.	The debenture issuer will pay the principal on the maturity date.	The debenture issuer will pay the principal on the maturity date.	The debenture issuer will pay the principal on the maturity date.	The debenture issuer will pay the principal on the maturity date.
<b>Maturity Value</b>	THB 1,000	THB 1,000	THB 1,000	THB 1,000	THB 1,000
<b>Collateral</b>	-None-	-None-	-None-	-None-	-None-
<b>Debenture Rating</b>	A+ TRIS Rating Co., Ltd.	A+ TRIS Rating Co., Ltd.	A+ TRIS Rating Co., Ltd.	A+ TRIS Rating Co., Ltd.	A+ TRIS Rating Co., Ltd.

Debenture Details	Banpu Debentures No. 2/2022 Tranche 2	Banpu Debentures No. 2/2022 Tranche 3	Banpu Debentures No. 1/2023 Tranche 1
<b>Issuer</b>	Banpu Plc.	Banpu Plc.	Banpu Plc.
<b>Total Value of Debentures</b>	THB 1,860 Million	THB 3,240 Million	THB 3,226.8 Million
<b>Type of Debenture</b>	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative
<b>Amount of Debentures</b>	1,860,000 Units	3,240,000 Units	3,226,800 Units
<b>Par Value</b>	THB 1,000	THB 1,000	THB 1,000
<b>Outstanding Debenture Value as of 31 December 2023</b>	THB 1,860 Million	THB 3,240 Million	THB 3,226.8 Million
<b>Coupon Rate</b>	3.80%	4.20%	3.26%
<b>Tenor</b>	7 Years	10 Years	5 Years
<b>Issue Date</b>	20 September 2022	20 September 2022	8 March 2023
<b>Maturity Date</b>	20 September 2029	20 September 2032	8 March 2028
<b>Call Option for Debenture Holders and Issuer</b>	-None-	-None-	-None-
<b>Principal Payment Before the Maturity Date</b>	The debenture issuer will pay the principal on the maturity date.	The debenture issuer will pay the principal on the maturity date.	The debenture issuer will pay the principal on the maturity date.
<b>Maturity Value</b>	THB 1,000	THB 1,000	THB 1,000
<b>Collateral</b>	-None-	-None-	-None-
<b>Debenture Rating</b>	A+ TRIS Rating Co., Ltd.	A+ TRIS Rating Co., Ltd.	A+ TRIS Rating Co., Ltd.

Debenture Details	Banpu Debentures No. 1/2023 Tranche 2	Banpu Debentures No. 1/2023 Tranche 3	Banpu Debentures No. 1/2023 Tranche 4
<b>Issuer</b>	Banpu Plc.	Banpu Plc.	Banpu Plc.
<b>Total Value of Debentures</b>	THB 1,531.4 Million	THB 1,951.8 Million	THB 1,490 Million
<b>Type of Debenture</b>	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative	Name-registered, unsubordinated and unsecured debentures with a debenture holders' representative
<b>Amount of Debentures</b>	1,531,400 Units	1,951,800 Units	1,490,000 Units
<b>Par Value</b>	THB 1,000	THB 1,000	THB 1,000
<b>Outstanding Debenture Value as of 31 December 2023</b>	THB 1,531.4 Million	THB 1,951.8 Million	THB 1,490 Million
<b>Coupon Rate</b>	3.76%	4.04%	4.46%
<b>Tenor</b>	7 Years	10 Years	15 Years
<b>Issue Date</b>	8 March 2023	8 March 2023	8 March 2023
<b>Maturity Date</b>	8 March 2030	8 March 2033	8 March 2038
<b>Call Option for Debenture Holders and Issuer</b>	-None-	-None-	-None-
<b>Principal Payment Before the Maturity Date</b>	The debenture issuer will pay the principal on the maturity date.	The debenture issuer will pay the principal on the maturity date.	The debenture issuer will pay the principal on the maturity date.
<b>Maturity Value</b>	THB 1,000	THB 1,000	THB 1,000
<b>Collateral</b>	-None-	-None-	-None-
<b>Debenture Rating</b>	A+ TRIS Rating Co., Ltd.	A+ TRIS Rating Co., Ltd.	A+ TRIS Rating Co., Ltd.



## DIVIDEND POLICY



Banpu has a policy to pay approximately 50% of its net profits from the consolidated financial statements, less all kinds of statutory and corporate reserves.

However, the dividend payout rate will depend on cash flows, investment obligations of the Company and its affiliates as well as legal restrictions and other requirements.

The Company's affiliates have a policy to pay the dividend from net profits after the deduction of all reserves required by governing laws. The Board of Directors shall consider the dividend payout rate based on operating income, financial conditions, and capital requirements. After that, it will be proposed to shareholders for approval. For the past five years, Banpu Public Company Limited has paid out dividends as follows:

Year	Dividend Rate for First Six Months (THB/Share)	Dividend Rate for Second Six Months (THB/Share)	Dividend Rate for Full Year (THB/Share)	Net Profit (THB/Share)	Dividend Payout per Net Profit (%)
2019	0.25	0.35	0.60	(0.08)	n.a.
2020	0.15	0.15	0.30	(0.30)	n.a.
2021	0.20	0.25	0.45	1.59	28%
2022	0.45	0.75	1.20	5.65	21%
2023	0.25	0.20	0.45	0.615	73%

\* The Company announced a total dividend of THB 0.45 per share arising from its performance during the period from 1 January 2023 to 31 December 2023, of which THB 0.25 was paid on 29 September 2023. The remaining dividend of THB 0.20 per share for 2023 performance will be paid on 30 April 2024.

## RISK MANAGEMENT

### Risk Management

Amid volatility and uncertainty in a business environment influenced by significant external factors affecting the global economy, such as geopolitical conflicts, increasing interest rates, and fluctuations in coal, oil, and natural gas prices, Banpu places importance on systematic and effective risk management. This is aimed at minimizing potential risks and their adverse impacts while enhancing business opportunities to create added value for the Company. In 2023, Banpu managed its risks by implementing a production optimization plan to tackle price volatility and meet consumers' energy consumption demands, enabling the Company to generate more revenue while market prices are high. The Company is committed to risk management in conjunction with strategic planning to ensure the Company's growth and to achieve strategic goals and objectives within an acceptable risk appetite. In addition, the Company invested more in cleaner energy and energy technology businesses in 2023 according to the Greener & Smarter strategy, which aligns with future trends in the energy business and meets all stakeholders' needs and expectations regarding environmental sustainability.

### Risk Management Structure

The Company's risk management is under the supervision of the Board of Directors through the Audit Committee, the Environmental, Social, and Governance (ESG) Committee, and the Risk Management Committee, which are assigned to monitor risks and performance according to risk mitigation plans in all business units. The Enterprise Risk Management Department quarterly reports the results of risk management performance reviews to the Risk Management Committee, the Audit Committee, the ESG Committee, and the Board of Directors to ensure that key and emerging risks are addressed in order to reduce risk likelihood and potential impacts within the risk appetite.

In addition, the Company emphasizes specific risk management under the responsibility of various committees, such as the Investment Committee (IC),

the Financial Management Committee (FMC), and the Commodity Risk Management Committee (CRMC), to increase efficiency and closely monitor the situation and progress.

### Risk Management Culture

The Enterprise Risk Management Department is responsible for the company-wide implementation of risk management policy and framework by employing various tools, such as identification of risk appetite and Key Risk Indicators (KRIs), which are reviewed and improved regularly to align with the Company's strategy. The Company has also promoted the inclusion of risk issues in critical meetings and the cultivation of a risk management culture by integrating risk management in the employees' training courses. It organized risk workshops to improve understanding and efficiency in risk assessment, preparing communication materials, hosting activities, and encouraging employees to participate in risk-related activities to gain a better understanding. Moreover, the Company annually organizes training sessions on risk management for the Board of Directors and independent directors. In 2023, specific training sessions were conducted on "ESG Risks and Trends in the Power Business", as well as on "Raising Awareness of Cyber Threats".

### Business Risk Factors

#### 1. Strategic Risk

##### 1.1 Risks in Strategic Planning and Implementation

Risk Management for ESG Development in the aspects of:



Amid the geopolitical conflicts, the imbalance between energy demand and supply, legal and regulatory changes, disruptive technology trends, and growing investor and stakeholder expectations, the Company has reviewed its business direction and strategy to align with the changing situations.

It also prioritizes sustainability issues by defining ESG-based strategies to deliver Smarter Energy for Sustainability. A business plan has been formulated to be more flexible and agile to withstand challenges and enhance competitiveness. Simultaneously, the Company smartly deployed innovation and technology and maintained financial liquidity through revenue generation and risk mitigation, focusing on projects that could generate immediate cash flow. The Company has also reduced expenses and stabilized cash flow to effectively tackle uncertainty. It organizes monthly meetings to analyze the present situation and trends, comparing data from reliable institutions and sources to assist decision-making and inform the deliberation of future business approaches.

### 1.2 Risk in Human Resources (HR) Management and Development to Accommodate Future Growth

Risk Management for ESG Development in the aspects of:



Social

To accommodate future growth in accordance with the Greener & Smarter strategy, Banpu has improved HR strategies and management approaches to enhance employee capabilities in alignment with the Company's strategy. It has reviewed the organizational structure to better support operations and analyzed the workforce and HR development plans. The Company has formulated the training and development policy and allocated more than 5% of salary budgets in each host country for HR development. It has also developed the Banpu Learning and Development Framework for workforce development planning in order to fill the competency gaps of employees throughout the organization. The workforce development plan is reviewed annually, with each employee having an individual development plan based on their required competencies, including functional and leadership competencies specific to their job positions. In terms of new leader development, Banpu has designed the Banpu Global Leadership program to promote cross-cultural working and cross-functional networking to foster collaboration

among employees and working across countries. Additionally, the Company emphasizes fostering the corporate culture, "Banpu Heart," by internalizing 3 core values: Passionate, Innovative, and Committed. These shared values facilitate smooth operations and effective collaboration among employees across all locations.

For top executives and critical positions, the Company has a process to select, review, and monitor succession planning and high-potential talent management. The Succession Planning Committee is responsible for creating individual development plans for selected candidates as well as monitoring and evaluating the results. New executives are also recruited to strengthen the Company. In addition, the Company has adopted the Success Factors system as a standard for developing a succession plan and individual development plans, aiming to improve the efficiency of succession planning for critical roles.

### 1.3 Corporate Reputation Risk

Risk Management for ESG Development in the aspects of:



Social



Governance

Banpu prioritizes corporate brand and reputation risk management as it could rapidly and immensely pose adverse impacts that cannot be valued in monetary terms in both the short and long run. The Company is committed to conducting business according to the Greener & Smarter strategy and the Environmental, Social, and Governance (ESG) principles to drive business growth and generate sustainable benefits and returns to all stakeholders. Banpu adopted the Management Framework – Stakeholder Analysis based on the AA1000 Stakeholder Engagement Standard (AA1000SES) for materiality assessment in compliance with the three principles of inclusivity, materiality, and responsiveness. In addition, the Company has improved the approach for materiality assessment by considering the three aspects of social capital management including human capital, natural capital, and social capital.

The Company has aligned corporate communications and brand management with its direction and commitment to ESG principles by developing communication strategies to achieve quick and accurate communications while ensuring good understanding among all stakeholders. These include quarterly analyst meetings for investors and analysts, a direct communication channel for local and international investors via the Investor Relations Department, and communications of its Corporate Social Responsibility (CSR) activities. Additionally, the Company promotes good relationships with local communities and regularly conducts satisfaction surveys with community members, stakeholders, customers, and employees to assess their attitudes and opinions toward the Company. A whistleblower channel has also been established to gather information to improve the Company's operations.

Accordingly, in 2023, Banpu was selected as a member of the Dow Jones Sustainability Indices (DJSI) in Emerging markets for the 10th consecutive year. The recognition reflects the Company's commitment to delivering "Smarter Energy for Sustainability" to improve people's quality of life through sustainable business operations in all three aspects of Environmental, Social and Governance (ESG) in tandem with business development under the Greener & Smarter strategy. Apart from that, Banpu received the Sustainability Awards of Honor, a category under the Sustainability Excellence Awards, for the 6th consecutive year, reaffirming its leading position as an international versatile energy provider in the Asia-Pacific region with a determination to excel in innovation, technology, and sustainability. Furthermore, Banpu was ranked one of the top listed companies with Excellent CG Scoring, according to the Corporate Governance Report of Thai Listed Companies 2023 conducted by the Thai Institute of Directors Association (Thai IOD), with support from the Stock Exchange of Thailand (SET).

### 1.4 Risk of Success and Investment Returns in Businesses

Risk Management for ESG Development in the aspects of:



Governance

Economic volatility and international unrest have directly impacted the prices of coal, oil, natural gas, and renewables. Moreover, changes in policy and regulations have also influenced investment returns and the company's growth. Therefore, Banpu prioritizes the management of these risks to ensure that both its existing assets and new investments create value for the Company no less than what had been estimated prior to the acquisition. The Company has established an investment decision-making process in which the Investment Committee (IC), comprising executive officers and experts in relevant areas, carefully considers and provides opinions on various aspects of the new investments, such as alignment with the Company's growth strategy, the required return on investment and the project's risk assessment. The Committee regularly monitors investment performance and changes in factors affecting the target rate of return to enable a prompt and effective response to problems while consistently monitoring and analyzing its investment portfolio.

Banpu also emphasizes management to achieve synergy between the Company and its new entities through resource planning, staff capacity building, and appropriate restructuring to facilitate change management, resulting in seamless investment while maintaining consistent long-term growth and returns according to the strategic plan.

In 2023, Banpu pursued the transition of its business portfolio in alignment with the Greener & Smarter strategy to cover the entire energy supply chain in order to meet modern consumer demands and create value for stakeholders inside and outside the organization by embracing the ESG principles representing the three pillars of the environment, social, and governance. The Company

continued expanding its greener energy portfolio both domestically and internationally. It has invested in Carbon Capture Utilization and Storage (CCUS) projects in the U.S. and expanded power generation capacity through the acquisition of the Temple II gas-fired power plant. Furthermore, the Company is conducting a feasibility study of diversifying to a strategic mineral business, particularly critical minerals such as nickel, copper, and lithium, which are upstream resources for clean energy solutions. Banpu recognizes the importance of deploying technology in expanding its energy businesses, emphasizing building a comprehensive customer base and creating investment partners, which include solar rooftop and solar floating development and installation, smart city management, Mobility as a Service (MaaS), energy storage systems development and manufacturing, and energy trading platform. These will increase Banpu's robustness and enable comprehensive energy services in the future. Banpu is focusing on investments in clean energy business and energy technology, aiming to significantly increase EBITDA contribution from greener and smarter business from 30% to more than 50% by 2025. This is to ensure alignment with the Company's energy transition plan as well as its strategic plan, which is consistent with the global goals to combat climate change and achieve sustainability in line with its commitment to the ESG principles.

In addition, Banpu has expanded its investment in Corporate Venture Capital (CVC), focusing on funds and startups in energy technologies that can control or reduce global emissions. This aligns with the Company's strategy to seek opportunities for additional investments in new S-curve businesses with high potential and growth rates driven by advanced technology. These investments have also laid the foundation for increased knowledge and expertise in new business areas, which will help expand Banpu's portfolio and add value in line with the growth plan for its existing energy businesses.

### 1.5 Risks from the Advancement of Technologies Affecting the Energy Industry

Risk Management for ESG Development in the aspects of:



Nowadays, the energy industry's growth is increasingly challenged by environmental and technological issues, such as greenhouse gas emissions that affect the climate, carbon taxes, and the application of environmental policies and agreements. Development of innovative technologies and promotion of innovation in the workplace is thus regarded as a significant strategic approach to prepare businesses for environmental changes and enhance competitive advantage in an efficient and sustainable manner.

The Company has expedited Banpu Transformation according to the Greener & Smarter strategy to adapt to changing business scenarios in a timely manner and establish an energy ecosystem to drive its mission of delivering Smarter Energy for Sustainability. This involves preparing technology and innovation as follows:

- Restructuring the energy portfolio by shifting to greener and smarter energy. Banpu is working toward achieving its CO2 reduction target through various initiatives, such as Barnett Zero, a Carbon Capture, Utilization and Sequestration (CCUS) project in the U.S., which has begun its first injection, marking another crucial step forward in achieving sustainable natural gas delivery worldwide. Additionally, Banpu has invested in the Cotton Cove and High West projects, aimed at reducing CO2 emissions from its upstream and operating projects. These projects will be prototypes for future projects, reinforcing Banpu's standpoint in delivering "Smarter Energy for Sustainability."
- Establishing a Corporate Venture Capital (CVC) unit to explore new investment opportunities, focusing on investments in funds and startups utilizing advanced technologies, having long-term competitive advantages, and generating sustainable favorable returns

- Expanding investment into the battery business by acquiring an additional stake in Durapower, partnering with SVOLT Thailand, a manufacturer and distributor of lithium-ion batteries for electric cars, which are regarded as the heart of electric vehicles, and investing in a large-scale battery farm project, Iwate Tono
- Implementing Digital Transformation to increase competitiveness by establishing the Digital and Innovation unit to promote the utilization of digital technology and agile working for work process development, e.g., developing Mine Operation Collaboration Application (MOCA) to improve the contractor evaluation process using a digital checklist, enabling involved employees to submit a daily status report to relevant parties and promptly request solutions for problems at work sites
- Deploying high-efficiency, low-emissions technologies in the production process, e.g., the Combined Cycle Gas Turbines (CCGT) at Temple I and Temple II power plants in the U.S. and the Integrated Gasification Combined Cycle (IGCC) at the Nakoso IGCC power plant in Japan, to improve fuel efficiency and reduce emissions; emphasizing investments in cleaner energy and energy technology to satisfy future demands for greener and smarter energy with cutting-edge technologies
- Regularly providing skills and knowledge development about energy technology and digital technologies; cultivating a work environment based on 'Banpu Heart' corporate culture, which fosters experimentation, learning, resilience, and continuous improvement; recruiting more digital staff who are experts and specialists to work in the Digital Capability Center (DCC) in various countries to enhance collaboration across business units and encourage innovation in the workplace.

### 1.6 Supply Chain Risk

Risk Management for ESG Development in the aspects of:



International conflicts, economic volatility, exchange rate and interest rate fluctuations, as well as policy changes, can pose a significant impact on the supply chain within a country and across borders. They may affect investment, employment, and the manufacturing of business units, prompting companies to adapt their operations to these uncertain situations.

Banpu is aware of the importance of supply chain risk management and has implemented supplier management according to the Sustainable Supply Chain Policy to achieve its goal of creating sustainable value across the supply chain. Targets in safety, occupational health, environment, social, and corporate governance operations are integrated into supply chain management strategy and relevant policies. The Company has constantly sought to improve the supply chain and mitigate potential risks.

The Company closely monitors local and international political and economic situations, assessing the potential risks and impacts of each incident. It ensures the availability of production inputs by adequately and properly stocking critical spare parts. Moreover, it entered into long-term coal purchase contracts to secure coal supply for power generation and maintain adequate coal stocks for its power plants. To meet customer demands, the Company has adjusted the power plants' operating system to be flexible, suitable, and consistent with the demands. It maintains good customer relationship management and seeks opportunities to attract new customers and invest in new businesses to increase sustainability and align with the Greener & Smarter strategy. In addition, the Company addresses supply chain risk by utilizing oil swaps as a derivative instrument to mitigate the impact on production costs. It closely monitors and assesses the coal market situation and price trends to determine the most opportune time to settle sales contracts with contract customers, taking into account the appropriate proportion of coal under fixed price and index-linked contracts to suit market conditions.



## 2. Financial Risks

### 2.1 Exchange Rate Risk

Risk Management for ESG Development in the aspects of:



Governance

The Company follows the risk mitigation plan to mitigate the impact of exchange rate fluctuations at both the corporate and group levels in all countries of operations. The Financial Management Committee convenes to deliberate and choose the suitable financial instruments for each situation. There are measures to balance incoming and outgoing cash flows in foreign currencies as well as adjust foreign currency forward contracts based on estimated revenues, expenses, and debenture repayments.

As of 31 December 2023, 53% of the Company's denominated debt was in Thai Baht, 42% in US Dollar, 4% in Australian Dollar, and 1% in Chinese Yuan Renminbi. This included capital raised in US Dollar or an amount converted into other foreign currencies to accommodate overseas investments.

### 2.2 Interest Rate Risk

Risk Management for ESG Development in the aspects of:



Governance

The US Federal Reserve's implementation of a monetary policy in 2023 has increased interest rates. Consequently, Banpu sought long-term loans for its operations in the form of debentures with fixed interest rates and financial institution loans with both fixed and floating interest rates. The Company manages interest rate risk by constantly monitoring interest rates in each country where it operates. It also prevents interest rate risk by converting the floating rate to an appropriate fixed rate and manages the ratio of debts with fixed and floating interests to be appropriate to the nature of the Company's business.

### 2.3 Taxation Risk

Risk Management for ESG Development in the aspects of:



Governance

Banpu pays taxes within the period specified by law to mitigate taxation risks. The Company has created tax guidelines and prepared complete and sufficient documents for settling tax payments. The investment structure was regularly reviewed. Additionally, all executives in each country are assigned to closely monitor changes in rules and policies of their respective countries, both at the central and local government levels. It includes hiring local legal consulting firms to advise on legal compliance practices.

In the event of taxation disputes with a government agency, the Company would provide the agency with accurate tax information in relation to its business. The Company would also hire expert tax consultants to provide advice and handle disputes when necessary.

### 2.4 Funding Risk

Risk Management for ESG Development in the aspects of:



Governance

The Company has investment plans to continuously expand its business in line with the Greener & Smarter strategy, which involves a number of financial obligations. Moreover, financial institutions have become stricter with financing, considering ESG factors in loan approval. This requires close and constant monitoring and risk management, as well as prudent investment plans. To obtain funding at a fair cost, the Company has created a financial forecast as a financial management tool, estimating and analyzing various financial ratios that will occur in the future to ensure that key financial ratios are at appropriate levels. The Company oversees corporate governance to ensure alignment with the ESG principles and monitors factors affecting financing to acquire funding as planned at reasonable costs.

## 3. Operational Risk

### 3.1 Risk from Volatility in Coal, Oil, Natural Gas and Electricity Prices

Risk Management for ESG Development in the aspects of:



Governance

Due to the ongoing volatility in coal, oil, and natural gas prices and its impact on the Company's operating results, Banpu has appointed the Commodity Risk Management Committee (CRMC) to manage the risk. The CRMC analyzes coal, oil, and natural gas price trends and manages the risk by utilizing financial derivatives – coal swap, oil swap, and gas collar option. The Company also closely monitors and assesses the coal market situation and price trends to seek the most opportune time to settle sales contracts with contract customers while taking into account the appropriate proportion of coal under fixed and index-linked prices to suit the market conditions at that time.

To mitigate risks in the merchant power market, the Company has formulated a Hedging Risk Management Policy and employed appropriate instruments to mitigate risks within the specified scope while ensuring accurate electricity demand forecasting at different periods of time.

### 3.2 Production Risk

Risk Management for ESG Development in the aspects of:



Governance

The Company stresses mitigating the risk arising from production uncertainty, which is a crucial factor affecting business operations in both the short and long terms. The Company has implemented the following risk mitigation measures to maintain stability and ensure production efficiency and reliability.

- Establishing an operational excellence framework that ensures efficiency, production continuity, and machine and operator safety and supports preventative maintenance.

- Developing the transportation system to support production and sales in line with the long-term business plan, both in terms of operational efficiency and management flexibility. Examples include the expansion of stockpile areas, the increase of loading capacity at Bunyut Loading Port, and the increase of barge unloading capacity using a barge crane at Bontang Port.
- Deploying digital technology systems to increase efficiency as follows:
  - Developing automation technology for coal mine management and operations to reduce errors in manual systems, lower production costs, improve productivity and control production quality.
  - Developing Mine Operation Collaboration Application (MOCA) to improve the process of contractor evaluation by using a digital checklist so that involved operators can submit a daily status report to relevant parties and request problem-solving at work sites in a timely manner
  - Developing the IMM Port Logistic Optimization platform that systematically analyzes and processes port logistics data to mitigate the risk of being charged a penalty for shipping delays
  - Developing the Port Operation and Maintenance Management (POMM) system to ensure port readiness to satisfy diverse customer needs and the capacity to continuously operate with maximum efficiency
  - Integrating the automation system, data analytics, and lean operation into managing a large number of natural gas wells to enhance productivity and reduce production costs
- Performing root cause to improve operational systems in terms of plant reliability and plant efficiency. Several support systems, such as risk-based inspection and predictive maintenance

systems, have been put in place at the power plants, with adequate and appropriate critical spare parts. Advanced Leakage Monitoring and Alerting Software (ALMA) was also developed to assist advanced maintenance planning to reduce loss of income from unplanned downtime.

- Regularly organizing staff training to enhance their knowledge and competency and promoting knowledge sharing across departments or companies in Banpu Group
- Procuring necessary insurance, such as property damage insurance and business interruption insurance, to prepare for possible incidents

### 3.3 Occupational Health and Safety Risk

Risk Management for ESG Development in the aspects of:



The Company is committed to providing a healthy and safe work environment for all employees and related people working for the Company, as improper health and safety management can lead to disruptions in production and supply chain. Therefore, to ensure that all Banpu work areas are safe and work environment complies with the principles of occupational health and safety, the Company has implemented occupational health and safety risk management measures as follows:

- Announcing Occupational Health and Safety Policy and the 3-Zero targets: Zero Incident, Zero Repeat of incidents, and Zero Compromise to non-compliance with occupational health and safety standards or legal requirements
- Adopting the ISO 45001 Occupational Health and Safety standard as a guideline of occupational health and safety management as well as the framework of safety culture with emphasis on safety system, safety competencies, and safety behaviors of employees in Banpu Group and its subsidiaries

- Establishing an occupational health and safety unit to oversee compliance of occupational health and safety with local laws in each host country and Banpu's standards. The effectiveness of each country's occupational health and safety operations is reviewed on a monthly, quarterly, and annual basis.
- Deploying a hazard and risk identification process that covers both routine and non-routine tasks. The Company has established risk mitigation measures according to the hierarchy of controls, communication plans, and risk surveillance and monitoring.
- Monitoring the work environment through regular assessment according to each operating area's risk factors, such as air quality, noise levels, concentrations of hazardous chemicals, and light intensity, to ensure full compliance with laws
- Establishing occupational health and safety performance as part of the KPIs of Banpu's Chief Executive Officer, including senior executives of all business units and subsidiaries
- Administering health checks for employees and contractors based on their risk factors while maintaining the confidentiality of employee medical information to comply with the Personal Data Protection Act (PDPA). In addition, mobile medical units are prepared for emergencies occurring in the workplace, and medical evacuations are provided for international workers through the International SOS Service.
- Encouraging employees at all levels to get involved in improving safety by voicing their opinions through various channels, e.g., the Safety Perception Survey, the Safety Committee, cross-country knowledge-sharing forumssuch as Sustainability Family meetings and the ESG Summit. The information gained will be regularly reviewed and formulated into short and long-term improvement plans.
- Developing a business continuity management system based on international standards such

as ISO 22301. Every key business unit must have a business continuity plan and conduct an emergency drill annually. The Company monitors

and reviews the performance of the system through internal audits, external audits, and annual management reviews.

### 3.4 Environmental Risk

Risk Management for ESG Development in the aspects of:



Banpu formulated the Environmental Policy and related policies, the Greener & Smarter strategy, and short- and long-term sustainable development goals to drive the Company toward achieving the UN's Sustainable Development Goals (SDGs). In the environmental aspect, the Company adheres to environmental standards and focuses on effective resource utilization to conserve natural resources and minimize direct and indirect environmental impacts. It has implemented measures for climate change management, waste management, land utilization, biodiversity conservation, and water resources utilization.

In 2023, the Company implemented the following environmental measures.

Issue	Key Risk Mitigation Measures
<b>Climate Change</b>	<ul style="list-style-type: none"> <li>• Established policies and goals for greenhouse gas management to improve energy efficiency, including the selection of technologies that reduce greenhouse gas emissions</li> <li>• Set up the Climate Change Committee and including climate change management as one of the key performance indicators for the CEO and senior management in all relevant business units</li> <li>• Set up a Task Force on Climate-related Financial Disclosure (TCFD)</li> </ul>
<b>Production Waste Management</b>	<ul style="list-style-type: none"> <li>• Announced the Waste Management Policy as practice guidelines for all business units</li> <li>• Focused on waste minimization by conserving, reducing, reusing, recycling, recovering waste, and using waste as fuel to reduce the amount of waste going to incineration or landfills</li> <li>• Established waste management standards in line with international practices and the requirements of each operating country</li> </ul>

Issue	Key Risk Mitigation Measures
<p><b>Land Utilization and Biodiversity</b></p>	<ul style="list-style-type: none"> <li>Announced the Biodiversity Policy</li> <li>Developed a mining plan carefully to minimize the impacts on geographic conditions, biodiversity, and ecosystems by including a mine closure plan from the beginning of the project</li> <li>Conducted biodiversity risk assessment annually and using the results as input for rehabilitation planning to minimize the biodiversity impacts</li> <li>Developed a biodiversity management plan for all mines with high biodiversity risk to achieve a target of net positive impact on biodiversity upon closure of the mine by 2025</li> </ul>
<p><b>Water Resources Utilization</b></p>	<ul style="list-style-type: none"> <li>Developed a water management plan that covers water withdrawal, water use for production, and water discharge, as well as extending the scope of water management to the river basin level</li> <li>Measured water quality before discharge into the environment both by the Company and external entities</li> <li>Assessed water shortage risk in the operating locations based on the data of World Resources Institute's Aqueduct Water Risk Atlas to develop plans and policies to prevent the impacts on the environment and communities in the operational areas and establish community collaboration in managing such risk</li> <li>Organized a project to reduce water utilization in the production process, reuse water, and separate surface water to prevent contamination with wastewater</li> </ul>

### 3.5 Social and Community Risk

**Risk Management for ESG Development in the aspects of:**



Social

The Company has carried out community development activities in every location where it operates, stressing collaboration with its stakeholders, namely communities, government agencies, and other related parties. It has also formulated the Community Development Policy, set management standards, and established strategies and targets for community development activities based on the local government's regulations and relevant international standards such as the UN's Sustainable Development Goals (SDGs). Working with its stakeholders, the Company has carried out community development activities in six key areas: economy, education, hygiene and primary health care, environmental conservation, social and cultural promotion, and infrastructure development. Moreover, the Company has adopted the social return on investment (SROI) framework to measure the social impacts of its community development projects to maximize the efficiency of its operations in line with its Sustainability Policy.

The Company has implemented the community complaint management system in all business units to ensure systematic management of potential risks. The system includes indigenous people management and resettlement management where relocation of communities is necessary. In addition, the Company requires that all operating locations conduct the community perception survey as a standard practice to gather information on community perception and acceptance as well as community concerns and suggestions, which will be used as input for further improvement. A community satisfaction survey is also required to gather data on quality-of-life enhancement projects, and the results are used to improve the operations for the benefit and satisfaction of the community. Moreover, the Company implemented

a quality assurance review assessed by employees not involved in community development activities to ensure the highest transparency and efficiency.

Apart from that, in 2023, the Company conducted a human rights impact assessment through Human Rights Due Diligence for its renewable power generation business in Vietnam and its joint venture thermal power generation business in Thailand. The assessment results of impacts and risk control measures revealed that most human rights issues are at an acceptable level, and the Company has implemented management measures to mitigate risk impacts.

### 3.6 Climate Change and Natural Disaster Risks

**Risk Management for ESG Development in the aspects of:**



Environmental



Governance

Natural disasters triggered by climate change have become more frequent, prompting all parties in Thailand and abroad to become more concerned about climate change and its pervasive impacts. The 28th Conference of the Parties to the UN Framework Convention on Climate Change (COP 28) in 2023 emphasized the goal of limiting global temperature increases to 1.5 degrees Celsius and recognized the need to reduce global greenhouse gas emissions by 43% by 2030 and 60% by 2035. Consequently, Banpu has considered climate change risks and opportunities and identified key risks and opportunities, both physical and transition risks, following the framework of the Task Force on Climate-related Financial Disclosures (TCFD) to devise a strategic plan, action plans and mitigation measures in response to these risks as follows:

- Establishing a policy and long-term targets for GHG management since 2010 to increase efficiency in energy consumption and to deploy clean energy technologies



- Setting the 2025 target to reduce GHG emission intensity by 7% against the BAU level from its mining business and 20% against the BAU level from its power business, both thermal and renewable power businesses. The Company is collecting data to set medium- and long-term GHG reduction targets.
- Closely monitoring rules and regulations for GHG emissions and accommodating changing business environment, including the Conference of the Parties to the United Nations Framework Convention on Climate Change, energy policies, and GHG reduction requirements in all countries where the Company has invested
- Formulating climate strategy and practices focusing on four key areas: mitigation of GHG emissions, adaptation to climate change, being a part of a low-carbon society, and participation in the climate change community. The Company set out approaches, timelines, and responsible units to achieve the highest efficiency in strategic plan implementation. Measures taken to reduce GHG emissions are as follows:

- Setting up the Climate Change Committee to drive and monitor climate-related management
- Considering project development costs by incorporating carbon prices and natural disaster risks of the projects that the Company is investing in so that the management can use the information in making investment decisions; seeking investment opportunities in renewables and other alternative energy sources to minimize GHG emissions and meet the demands of a low-carbon society in order to achieve its GHG emission targets under the Greener & Smarter Strategy

- Assessing climate-related risks, including the risk and likelihood of natural disasters, forecasting the impact on the Company's assets and operations to prepare risk management measures for potential disaster situations to be submitted to the ESG Committee
- Including disaster risk in its business continuity plan and testing the business continuity plan in various scenarios at different severity levels, as well as purchasing property insurance and business interruption insurance to cushion the impact of potential incidents
- Setting up a Task Force on Climate-related Financial Disclosures (TCFD). The Company disclosed its first climate-related information based on the TCFD framework in 2023. The Company also set appropriate short- and long-term targets to align with the Paris Agreement.

### 3.7 Cyber Threat and Personal Data Protection Risks

Risk Management for ESG Development in the aspects of:



Digital technology and the Internet of Things (IoT) have become indispensable tools for enhancing the efficiency of contemporary business operations and facilitating interorganizational communication, online meetings, cloud storage, and hybrid working. Nevertheless, these trends also pose potential cyber threats to the Company, leading to data breaches or production disruptions, which can impact business continuity, as well as the Company's credibility, brand image, and reputation. To address these risks, the Company has implemented the following risk mitigation measures.

- Announcing the Information and Cybersecurity Policy as practice guidelines for employees and educating employees on cyber threats as well as practices and prevention against cyber threats
- Setting up the Security Operation Center to increase the timeliness of threat detection and alerting
- Appointing a Global Information Security Officer (GISO) to oversee the management of personal data protection and information system, with support from the IT unit that is set up at each business unit in all countries
- Activating the Two-Factor Authentication (2FA) for accessing the Company's e-mail and internal work systems
- Rehearsing cyber-incident response and information technology disaster recovery plans annually to enable timely response and mitigate potential impact or damage to the Company's operations
- Raising employees' awareness of various cybersecurity threats, such as practices and preventive measures related to employees; conducting phishing tests to build employees' phishing awareness when using information systems
- Obtaining an ISO 27001 certification, which is the international standard for information security management systems (ISMS)
- Establishing a PDPA policy that explicitly specifies the purpose of collection and disclosure of personal data and guidelines for data protection to ensure customers, trading partners, and employees who share personal data with the Company that their privacy is protected and secure

## 4. Regulatory Change and Compliance Risk

Risk Management for ESG Development in the aspects of:



Compliance risk may arise from various factors, for instance, legal complexities, frequent legal changes, misinterpretations of practices, and the foreign language in which a law is written. These can lead to wrong practices and affect the Company's finance and operations, resulting in such penalties as fines and suspension or expulsion of permits. On top of that, the Company's reputation and image can be damaged. Banpu thus prioritizes the management of compliance risk and has entrusted the Corporate Compliance Department with duties to supervise the legal compliance of all units in Banpu Group to ensure strict compliance with applicable laws. Furthermore, the Company manages the risk of policy and regulatory changes in each country by setting up a legal division and/or designating legal consultants in each country to handle legal matters. The Company has also developed the Laws In-Hand application to track and report regulatory changes as well as to alert and communicate with internal departments about newly issued or amended laws to make them aware of potential effects and know what they are supposed to do.

Emphasizing the pre-caution against the corruption risk, Banpu has joined the Thai private sector's Collective Action Against Corruption (CAC), conducted a risk assessment, and established corruption risk management guidelines. Furthermore, the Company has set up the Personal Data Protection Act (PDPA) Working Group to design a system and procedures to comply with the Personal Data Protection Act (2019) in order to ensure efficient collection, use, and disclosure of personal data. The Company also communicated and educated its employees about these issues. Additionally, the Company has announced the Non-Discrimination and Anti-Harassment Policy to foster a work environment of mutual respect, where diversity reigns, without any form of discrimination and harassment.

## 5. Emerging Risks

### 5.1 Geopolitical Risk and Goeconomic Confrontations

Risk Management for  
ESG Development  
in the aspects of:



Governance

Challenges from international conflicts and geopolitical issues including tensions between the world's top two economic superpowers adopting protectionist policies in various forms such as changing international order, which is ongoing and intensifying, along with stricter environmental measures enforced globally and potential regulatory changes following general elections in various countries may directly or indirectly impact the Company's operations as these changes could lead to fluctuations in coal, oil, and natural gas prices and supply chain disruptions. The Company has devised strategies to manage these risks as follows:

- Closely monitoring political and economic situations and regulatory changes in each country and identifying key risk indicators
- Analyzing and studying the clean energy industry and new technologies related to the Company's portfolio, such as the Carbon Capture, Utilization and Sequestration (CCUS) project and the feasibility of hydrogen technology. The Company reviews its business strategic plan annually to evaluate the business environment, including new business opportunities, to cope with changes. It also considers and assesses potential risks for selecting domestic investment projects, setting goals, and developing appropriate exit strategies.
- Requiring each business unit to develop Trigger Action Response Plans (TARP) to proactively address the volatility in the prices of coal, oil, and natural gas in the global market. These fluctuations have a direct impact on the Company's revenue and costs. This strategic initiative aims to prepare for and manage the risks arising from such market conditions. In the fiscal year 2566, the Company implemented cost-cutting measures, engaged in energy hedging contracts, and diversified its supplier and buyer base to mitigate potential disruptions in the supply chain. A comprehensive operational performance report will be prepared for the quarterly meeting to provide insights into the outcomes of these strategic actions.
- Implementing an investment strategy to create business partnerships and expand the portfolio to cover businesses from upstream to downstream to enhance the Company's potential and strengthen the business ecosystem while improving competitive advantage. For example, the Company partnered with Durapower to establish a lithium-ion assembly battery plant in Thailand and partnered with SVOLT Thailand to run a battery manufacturing plant in Sri Racha District, Chonburi Province.

### 5.2 Insufficient Ready Identified Talents for Business Operations and Growth

Risk management for  
ESG development  
in the aspects of:



Social

Banpu has expanded its investment portfolio across various businesses, both domestically and internationally, encompassing the entire value chain from upstream to downstream. It has also ventured into new businesses to drive the transition to greener energy by integrating cutting-edge technologies and innovations to add business value. To achieve its goal, Banpu requires personnel who possess comprehensive skills, knowledge, experience, and expertise. However, attracting and recruiting top talent poses a challenge since the Company has to compete with other companies in the same industry sharing the same goal of transitioning to cleaner energy businesses. In addition, the project location may be a factor influencing decision-making of prospective employees, which could lead to employment crises in certain countries. The Company mitigates this risk with the following approaches.

- Focusing on building a corporate culture and positive brand reputation according to the Company's vision and mission, including implementing the flexible working-hour policy to attract high-potential staff in the labor market
- Recruiting employees with knowledge, competencies, experience, and expertise that the Company currently lacks and cannot develop to work for the Company to facilitate rapid and efficient business expansion
- Developing the "people strategy" plan and action plans aligning with the business direction by coordinating with the Human Resources Department in each country to gain insights on appropriate compensation and benefits from inside and outside of the organization
- Establishing Banpu Academy Department as a key driver of Banpu toward a learning organization that helps employees realize their potential, upgrading new skills and ideas required for sustainable business growth. Its mission includes content improvement of employee training programs to align with strategies and be responsive to future business trends.

## DRIVING BUSINESS FOR SUSTAINABILITY

### Sustainability Goals and Policy

Believing in its business credo, “An industry will be strong only when it is developed in tandem with social and environmental responsibility,” the Company adheres to corporate governance and aims to strike a sustainable balance between economy, society, and environment. The Company adopted international practices in developing its sustainability strategy to enhance business competitiveness and create value for all stakeholders.

To create sustainable values for stakeholders, the Company set up the Environment, Social, and Governance Committee (ESG Committee), of which all members are independent directors. The Committee supports the Board of Directors on the supervision of ESG topics and convenes on a quarterly basis. The Company also set up the Sustainability Committee, which comprises senior management and heads of business units in all countries where it operates. The Chairperson of the Committee is the CEO, who is also a Board member.

	Roles and Responsibilities	Performance Indicators
<b>Board of Directors</b>	<ul style="list-style-type: none"> <li>Oversee compliance with relevant laws and regulations</li> <li>Establish the KPIs for CEO and evaluate the CEO’s performance</li> <li>Review and monitor management of significant ESG risks</li> <li>Review and monitor stakeholder engagement and materiality assessment</li> </ul>	<ul style="list-style-type: none"> <li>Meeting attendance</li> <li>Performance score of the Board of Directors</li> </ul>
<b>ESG Committee</b>	<ul style="list-style-type: none"> <li>Oversee the Company’s ESG policy, management, and performance</li> <li>Review and monitor stakeholder engagement and materiality assessment to ensure that all stakeholder expectations are identified and included in the materiality assessment and are managed properly</li> <li>Review and monitor the management of significant ESG risks to ensure effective ESG management</li> <li>Oversee the Company’s ESG disclosures</li> </ul>	<ul style="list-style-type: none"> <li>Meeting attendance</li> <li>Performance score of the ESG Committee</li> <li>Comprehensiveness of material ESG topics considered</li> </ul>

	Roles and Responsibilities	Performance Indicators
<b>Chief Executive Officer (CEO)</b>	<ul style="list-style-type: none"> <li>Ensure the implementation of the Sustainability Policy and integration of ESG strategy into business operations</li> <li>Establish KPIs for senior executives and evaluate their performance</li> </ul>	<ul style="list-style-type: none"> <li>The number of material ESG topics included in the Company’s ESG goals</li> <li>The number of ESG goals set as KPIs for senior executives</li> <li>ESG performance of the Company</li> </ul>
<b>Sustainability Committee</b>	<ul style="list-style-type: none"> <li>Review ESG topics which are global concern</li> <li>Review stakeholder analysis and material topics</li> <li>Monitor and evaluate ESG or sustainability performance for the past year</li> <li>Formulate and review policy or management standards, and set goals to enhance competitiveness and ensure that the Company grows in tandem with social and environmental responsibility</li> </ul>	<ul style="list-style-type: none"> <li>Meeting attendance</li> <li>ESG performance of the Company</li> </ul>
<b>Senior Executives and Heads of Business Units</b>	<ul style="list-style-type: none"> <li>Review related policies and strategies</li> <li>Monitor the ESG performance of the business units</li> <li>Ensure the achievement of ESG goals</li> </ul>	<ul style="list-style-type: none"> <li>ESG performance of each business unit</li> </ul>

Led by its vision to become “The Asian energy company at the heart of innovation, technology, and sustainability,” Banpu strives to create sustainable value and stakeholder confidence with its responsibility for society and the world. The Company adopted sustainability principles as well as the environmental, social, and governance (ESG) practices at national and international levels in developing its Sustainability Policy by:

- Integrating the UN Sustainable Development Goals (SDGs) and the UN Global Compact Principles in determining focal areas for sustainable development
- Using the Environmental, Social, and Governance performance results assessed by external rating agencies, such as MSCI ESG Ratings Assessment and S&P Global Corporate Sustainability Assessment, as part of the Company’s performance review
- Taking the UN Guiding Principles on Business & Human Rights and Universal Declaration on Human Rights as inputs for developing the Human Resource Management Policy and the Human Rights Policy



In driving sustainability, the Company integrated significant ESG topics as part of annual KPIs for the CEO and senior executives of every business unit. The Board of Directors is in charge of establishing the CEO's KPIs, covering both financial and ESG aspects, of which ESG KPIs are accountable for 30% of the total KPIs. ESG KPIs include, for example, employee engagement level, the number of significant complaints on corporate governance topics, the number of cybersecurity incidents, the amount of GHG emissions reduced, and the number of occupational fatalities. Senior executives' KPIs are developed to align with the CEO's KPIs. The performance of the CEO is evaluated by the Board of Directors while that of senior executives is evaluated by the CEO. Meanwhile, the sustainability performance indicators are also used as part of business unit heads' performance evaluation.



To ensure smooth sustainability management, the Sustainability Committee convenes biannually to review and evaluate the ESG performance of each business unit against the goals as well as to review the stakeholder analysis and materiality assessment. The results will then be reanalyzed along with the Board's advice on policies or approaches to formulate additional policies, management standards, or practices in order to enhance sustainability and maximize stakeholder value in the following year.

The Company has disclosed its sustainability strategies and performance, covering significant ESG topics, to stakeholders through a sustainability report since 2011. The previous sustainability reports are available both in hard copy and online versions, of which the latter can be accessed via the Company's website. The Company prepares its sustainability report based on the GRI Standards and has the report and sustainability performance information verified by a third party agency to ensure that the reporting is in accordance with the GRI Standards and the performance information meets all the mandated requirements.

With a long-term commitment to ESG in its business operations, Banpu has been recognized by leading sustainability rating organizations both nationally and globally as follows:

Global Recognition



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



The Company received a rating of A (on a scale of AAA-CCC) in the MSCI ESG Ratings Assessment since 2019

National Recognition



The Company received a rating of AAA in the SET ESG Ratings from the Stock Exchange of Thailand.



The Company received Sustainability Awards of Honor in Sustainability Excellence from the Stock Exchange of Thailand since 2017.



The Company remains one of the top listed companies with excellent corporate governance scoring according to the Corporate Governance Report of Thai Listed Companies since 2017



The Company received a 5-coin rating in the Annual General Meeting (AGM) Checklist from the Thai Investors Association (TIA).

# MANAGEMENT OF STAKEHOLDER IMPACTS IN BUSINESS VALUE CHAIN




## Business Value Chain

Banpu operates businesses in Asia-Pacific region, harnessing the ecosystem in which 3 core business groups, namely energy resources, energy generation, and energy technology.

- Energy Resources Group** consists of open-pit and underground coal mines based in Indonesia, Australia, and China to respond to customers in the industrial sectors and the power plants in Asia and Europe, and shale gas business based in the U.S. The produced gas will be collected and transmitted through pipelines for distribution to power plants and households in the U.S.
- Energy Generation Group** consists of thermal power generation business deploying High Efficiency, Low Emissions (HELE) technologies to strengthen energy security of industrial sectors and households. The production bases are in China, Thailand, Japan, the U.S., and Lao PDR. The Company also operates renewable power generation from solar and wind energy
- Energy Technology Group** comprises rooftop and floating solar power generation businesses which are in Thailand, China, Vietnam and Indonesia; energy storage system business with manufacturing plants based in China and Thailand and a lithium-ion battery assembly plant in Thailand in response to industrial sector's energy demand; energy trading business through a digital platform to effectively respond to future electricity consumption; e-Mobility business for transportation systems according to the Mobility-as-a-Service (MaaS) concept; smart city & energy management business connecting clean energy utilization and energy optimization.

to meet the demand for clean energy. Currently, the production bases are in China, Japan, Australia, and Vietnam.

**Banpu is well-positioned as “an International Versatile Energy Provider.”**

<p><b>Energy Resources Group</b></p>	<ul style="list-style-type: none"> <li>• Mining</li> <li>• Gas</li> </ul>	
<p><b>Energy Generation Group</b></p>	<ul style="list-style-type: none"> <li>• Thermal (High Efficiency, Low Emissions: HELE)</li> <li>• Renewable</li> </ul>	
<p><b>Energy Technology Group</b></p>	<ul style="list-style-type: none"> <li>• Solar Rooftop and Floating</li> <li>• Energy Storage System</li> <li>• Energy Trading</li> <li>• E-Mobility</li> <li>• Smart City &amp; Energy Management</li> </ul>	

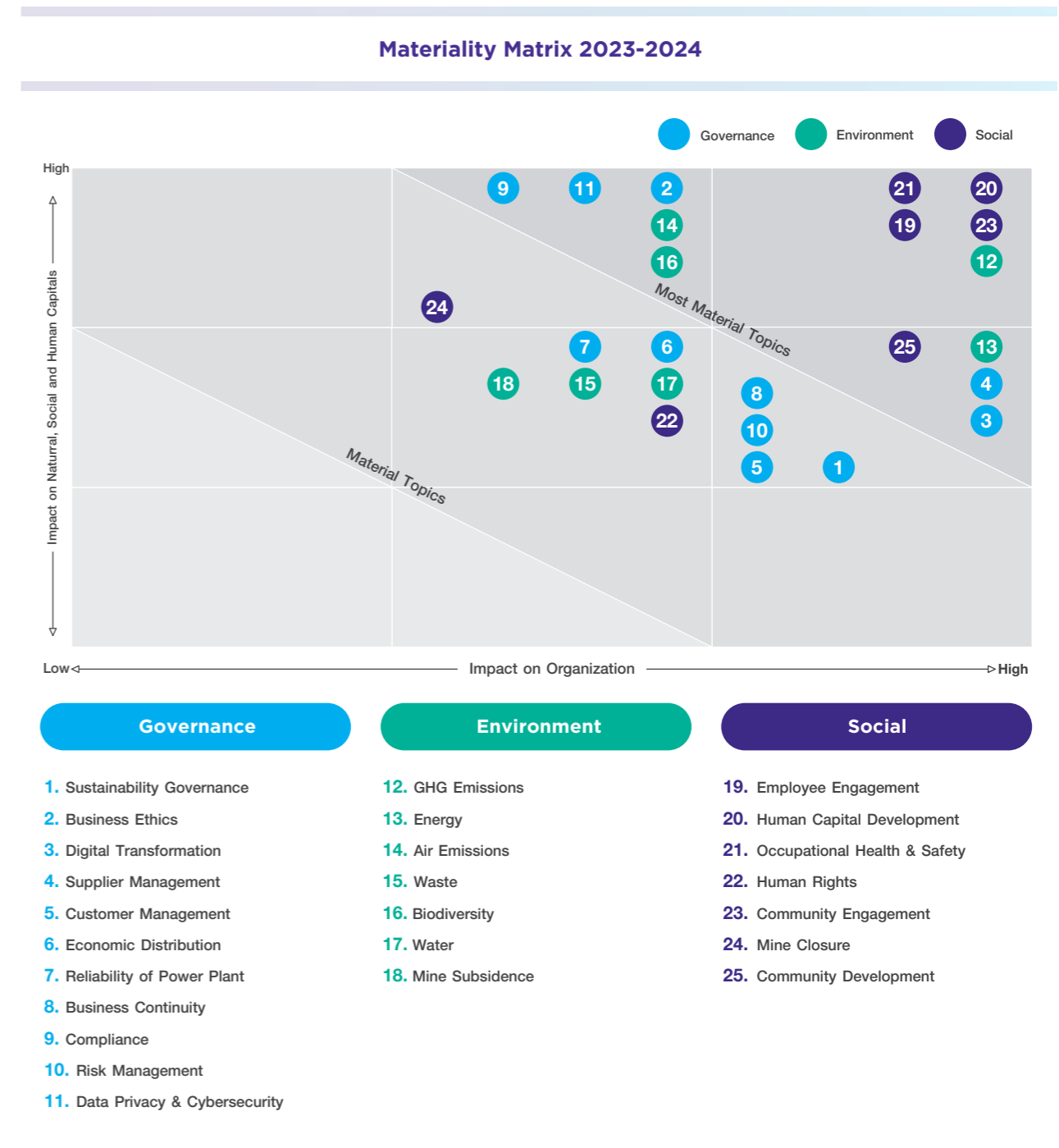
## Stakeholder Analysis in Business Value Chain

The Company implemented Stakeholder Analysis in accordance with AA1000 Stakeholder Engagement Standard (AA1000SES) with three key principles of stakeholder inclusivity, materiality, and responsiveness. Each business unit is responsible for stakeholder analysis in relevant areas to its operation. The results will be gathered and reanalyzed at the organizational level under the supervision of the Sustainability Committee.

Stakeholder	Engagement Channel	Stakeholder's Issue
<b>Employee</b>	<ul style="list-style-type: none"> <li>• Internal communication between Human Resources Department and employee</li> <li>• Opportunities for employee involvement in committee establishment</li> <li>• Whistleblower channel</li> <li>• Survey on the level of alignment between employee behavior and the corporate culture</li> <li>• Employee engagement survey</li> <li>• Townhall meeting</li> <li>• Internal communications through Corporate Communications Department</li> </ul>	<ul style="list-style-type: none"> <li>• The Company's business direction</li> <li>• Business ethics and responsibility to employees</li> <li>• Happiness in the workplace</li> <li>• Fair compensation, welfare, and benefits</li> <li>• Opportunity for career growth and security</li> <li>• Capability development</li> <li>• Safety in the workplace</li> </ul>
<b>Community</b>	<ul style="list-style-type: none"> <li>• Community Consultative Committee (CCC)</li> <li>• Community satisfaction survey</li> <li>• Whistleblower channel</li> <li>• Communication through community development officers</li> <li>• Publishing information on the website</li> </ul>	<ul style="list-style-type: none"> <li>• Social and environmental impact from the Company's activities</li> <li>• Safety in life and residence</li> <li>• Respect for community rights</li> <li>• Improvement of quality of life and income generation for the community</li> </ul>
<b>Customer</b>	<ul style="list-style-type: none"> <li>• Customer satisfaction survey</li> <li>• Whistleblower channel</li> <li>• Visit on various occasions</li> <li>• Response to requests for data disclosure</li> <li>• Report on the annual maintenance plan and emergency drill</li> </ul>	<ul style="list-style-type: none"> <li>• Quality and price of products</li> <li>• On-time product delivery</li> <li>• Social and environmental impact from the use of products</li> <li>• Availability of products and services</li> <li>• Personal data breaches</li> <li>• Collection and use of customer data</li> </ul>
<b>Government &amp; Regulator</b>	<ul style="list-style-type: none"> <li>• Visit on various occasions</li> <li>• Participation and promotion of activities organized by the government sector</li> <li>• Response to requests for data disclosure</li> <li>• Publication of annual report and sustainability report</li> <li>• Publishing information on the website</li> </ul>	<ul style="list-style-type: none"> <li>• Value creation for economy and society</li> <li>• Business ethics</li> <li>• Data transparency and disclosure</li> <li>• Legal and regulatory compliance</li> <li>• Natural resources optimization</li> <li>• Supply chain management</li> <li>• Potential social and environmental impact from the Company's activities</li> <li>• Driving SDGs into practices</li> </ul>

Stakeholder	Engagement Channel	Stakeholder's Issue
<b>Supplier</b>	<ul style="list-style-type: none"> <li>Regular meeting with suppliers</li> </ul>	<ul style="list-style-type: none"> <li>Transparent procurement process and fair compensation</li> <li>Future opportunity to work with the Company</li> <li>Personal data breaches</li> </ul>
<b>Contractor</b>	<ul style="list-style-type: none"> <li>Regular meeting with contractors</li> <li>Annual contractor meeting</li> </ul>	<ul style="list-style-type: none"> <li>Transparent procurement process and fair compensation</li> <li>Safety in the workplace</li> <li>Energy reduction in the production process</li> <li>Future opportunity to work with the Company</li> </ul>
<b>Financial Institution</b>	<ul style="list-style-type: none"> <li>Analyst meeting</li> <li>Publication of annual report and sustainability report</li> </ul>	<ul style="list-style-type: none"> <li>Business transparency</li> <li>Operating results and business growth</li> </ul>
<b>Business Partner</b>	<ul style="list-style-type: none"> <li>Board meeting at subsidiaries and associated companies</li> <li>Publication of annual report and sustainability report</li> <li>Report on annual maintenance plan and emergency drill</li> </ul>	<ul style="list-style-type: none"> <li>Business transparency</li> <li>Operating results and business growth</li> <li>Business continuity</li> </ul>
<b>Shareholder</b>	<ul style="list-style-type: none"> <li>Annual general meeting of shareholders</li> <li>Publication of annual report and sustainability report</li> <li>Whistleblower channel</li> <li>Publishing information on the website</li> </ul>	<ul style="list-style-type: none"> <li>Qualifications of Board of Directors and the management</li> <li>Business transparency</li> <li>Risk and opportunity and management</li> <li>Research &amp; development to enhance competitiveness</li> <li>Operating results and business growth</li> </ul>
<b>Investor</b>	<ul style="list-style-type: none"> <li>Investor roadshow</li> <li>Presentation on Opportunity Day organized by the Stock Exchange of Thailand</li> <li>Publication of one report and sustainability report</li> <li>Publishing information on the website</li> </ul>	<ul style="list-style-type: none"> <li>Qualifications of Board of Directors and the management</li> <li>Business transparency</li> <li>Value creation for economy, society, and environment</li> <li>Risk and opportunity and management</li> <li>Operating results and business growth</li> </ul>
<b>Media and NGOs</b>	<ul style="list-style-type: none"> <li>Response to requests for data disclosure</li> <li>Fact sheet summary</li> <li>Publishing information on the website</li> <li>Communications through related media relations activities such as press conference, interview, press release, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Economic and social value creation</li> <li>Business ethics</li> <li>Transparency and information disclosure</li> <li>Legal and regulatory compliance</li> <li>Potential social and environmental impact from the Company's activities</li> </ul>

The assessment and prioritization of material topics are carried out according to the management standard developed consistent with the Global Reporting Initiative (GRI) Standards and AA1000 AccountAbility Principles Standard (AA1000APS), while taking into consideration the impacts on the Company, environment, human resources and society, covering the aspects of ESG (Environmental, Social and Governance) or interests of the Company's stakeholder. The material topics are annually reviewed and approved by the Environment, Social and Governance (ESG) Committee.





## SUSTAINABILITY MANAGEMENT - ENVIRONMENTAL ASPECT

### Environmental Policy and Practices

Banpu is committed to business sustainability and has integrated the Environmental, Social, and Governance (ESG) principles into its business operations. The environment (E) aspect is one of the Company's top priorities as it is fully aware of potential environmental impacts caused by its business. Hence, the Company strives to manage the environment with an aim to maximize benefits for all involved parties, for instance, strict environmental legal compliance, continuous commitment to mitigation of environmental impacts, regular assessment and monitoring of environmental risks, environmental impact management, environmental conservation and natural resources optimization, improvement of environmental performance, and environmental reporting to stakeholders.



For complete information on "Environment policy and practices",

[Please scan the QR Code or click on 'CLICK HERE'](#)

The Company has established the Environmental Policy and other related policies, the Greener & Smarter strategy, as well as short and long-term sustainable development goals to drive the Company toward the UN Sustainable Development Goals (SDGs). The environmental aspects that the Company focuses on covering Goal 6: Clean water and sanitation, Goal 12: Responsible consumption and production, Goal 13: Climate action, and Goal 15: Life on land. This is to ensure that the Company can sustainably generate added value for stakeholders. In the past year, the Company conducted an assessment of climate change and water risks at all business units. It also has a plan to continuously expand the assessment to cover other environmental aspects.

Climate change risk is one of the risks the Company has reviewed and prioritized; therefore, climate change management is set as one of the KPIs of the Chief Executive Officer and senior management in all involved business units. The Company set up a Climate Change Committee to implement climate change management, emphasizing four measures, namely, reduction of GHG emissions, adaptation, being part of a low-carbon society, and joining efforts with other organizations to combat climate change. In 2021, the Company

announced the target to reduce greenhouse gas (GHG) emissions of each business group and integrated the energy management plan into its GHG management plan. In addition, the Company declared its support for the Task Force on Climate-related Financial Disclosure (TCFD) in 2020. It also set up the TCFD Working Group to assess climate-related risks and financial impacts of the Company. The Company has disclosed its first "Report on Climate Change" in 2023. Moreover, the Company has established appropriate medium-term and long-term targets which aligned with the Paris Agreement.

In addition, the Company places importance on limiting and controlling the emissions of other air emissions such as particulate matter, sulfur dioxide (SO<sub>2</sub>), and nitrogen oxides (NO<sub>x</sub>) from its business, realizing they can impact the environment and the health of local people in the surrounding communities. For its power business, the Company controls air emissions at their sources using engineering control, such as circulating fluidized beds, improving the air quality control system at its power plants, and deploying state-of-the-art and efficient technologies such as technology for trapping sulfur dioxide and nitrogen oxides at stacks and electrostatic precipitators for dust trapping. Continuous emission monitoring systems were installed at stacks and

in surrounding communities to ensure that the ambient air quality always meets legal standards. In its mining business, the Company prevents and reduces emissions by regularly maintaining power generators to prevent incomplete combustion. It also emphasizes pollution control at the source by various methods, such as using conveyors instead of trucks to transport coal, spraying roads and coal stockpile areas with water, regular maintenance of motor vehicles, and limiting the speed of vehicles in mining areas. Technology is deployed to manage traffic flow and water spraying to improve the efficiency of dust control. Apart from that, the Company regularly monitors the ambient air quality in the mining areas and surrounding communities.

Banpu conserves and manages its limited water resources, a major raw material for the Company's operations. Therefore, the Company has developed a water management plan covering diverting water from water sources, water utilization in operation process, and discharging water into the environment. In order to achieve its long-term target of reducing product water footprint, the Company has expanded the scope of water management to include river basins, starting from analyzing water balance, updating the standard practices for water management, conducting a product water footprint assessment of each business unit. The Company has continuously assessed the locations of its business unit whether they are in areas of water stress, according to the World Resources Institute's (WRI) Aqueduct Water Risk Atlas. In addition, The Company also has measures to assess the quality of water conducted by Banpu itself and external agencies before discharging it into natural water bodies to ensure that the discharged water meets legal requirements.

Meanwhile, the Company focuses on waste reduction by means of prevention and minimization, reuse, recycling, and other recovery, aiming to reduce waste disposed into landfills or by incineration. The Company has set standard practice manual of waste management to

comply with international practices and laws and regulations of each country where the Company operates. It also prepared process flow diagrams covering the entire value chain to illustrate waste generated and waste management as well as be a reference for gathering waste information and monitoring waste management. For certain wastes in particular businesses, such as overburden and tailings from mining, the Company has set control measures through the preliminary risk assessment carried out prior to the beginning of operations. In addition, the Company prepared a standard practice manual of mineral waste management to cover the stage prior to mining operations until mine closure.

Realizing the impact on the ecosystem and biodiversity caused by open-pit mining, the Company established a management system consisting of four approaches, namely avoidance, reduction, restoration, and offsets, which is in line with the concept of the International Union for Conservation of Nature (IUCN). The Company also conducted a preliminary biodiversity risk assessment in all business units before introducing any production activities. The assessment considered whether the areas were protected areas or had high biodiversity. The Company also surveyed the species in these areas to help preserve the native species as well as the species on the IUCN Red List. In case a business unit experiences high biodiversity risk, the Company will evaluate the biodiversity value using standards compliant to the Convention on Biological Diversity and develop a biodiversity management plan to achieve its target, which states that from 2025 every mine with high biodiversity risk must achieve a net positive impact upon mine closure.

Additionally, the Company integrated mine subsidence into underground mine planning in the areas prone to mine subsidence from mining. The Company submitted the mining plan, including mine subsidence management, to the government agencies for approval before starting operations and regularly monitors mine subsidence and its impacts.

## Environmental Performance

In 2023, the Company formulated operational strategies to achieve its environmental targets in each area. It disclosed environmental performance data, whose accuracy and reliability were verified by third-party auditors from Lloyd's Register International (Thailand) Co., Ltd. The Company adopted a verification and reporting approach based on the GRI Standards at the core, with additional indicators: G4 Mining and Metals Sector Disclosures and G4 Electric Utilities Sector Disclosures. They consist of the Company's and subsidiaries' GHG emissions (Scope 1-3), energy consumption, air emission, water management, and waste management. The Company disclosed all the above environmental performance data in the Sustainability Report 2023

## Climate Change

Banpu implemented climate change management corporate-wide and included it as one of the key performance indicators for the CEO and senior executives of all related business units. It also established the Climate Change Committee to implement GHG management strategies. In addition, the Company has set up ESG Committee, consisting of three independent directors, who will be accountable to the Board of Directors for the oversight of ESG aspects and driving ESG performance to achieve its goals with the highest efficiency. By 2025, the Company has set a target to reduce GHG emissions intensity by 7% from business as usual for mining and by 20% for thermal and renewable power. In addition, Banpu is gathering information to set medium-term and long-term targets of GHGs emission.

## Energy Consumption

The Company has integrated the energy management plan with the GHG management plan to optimize energy consumption. In 2023, it maintained the proportion of

alternative energy consumption (B30 biodiesel) at Indonesian mines and installed equipment to increase the energy efficiency of its combined heat and power plants in China.

## Air Emissions

The Company has reported air emissions data from two sources: point sources and non-point sources. As for point sources, the Company has constantly implemented measures to control air emissions at the source. In 2023, the Company replaced the De-NOx Catalyst in the air emission control system at the combined heat and power plants in China, resulting in a consistent efficiency of the system. The Company has also set explicit water spaying plans at mine sites in Indonesia to improve dust control efficiency, and reduce potential complaints from adjacent communities. Moreover, ambient air quality at mining sites and in communities is regularly monitored by a third party to ensure that the air quality meets legal standards

## Water Management

The Company has developed a database for water consumption and water balance in each business unit. It also updated the Standard Practice Manual: Water Management, which applied a water management hierarchy encompassing elimination, reduction, and reuse and recycling to reduce environmental impacts from the use of water from natural sources. The Company has conducted a product footprint assessment in each business unit to be used as a database for more efficient internal water management. In addition, the Company cooperated with external agencies involved with basin management and continuously assessed the locations of its business units, whether they are in areas of water stress, according to the World Resources Institute's (WRI) Aqueduct Water Risk Atlas, to assist water management planning in the production process. The assessment in 2023 revealed that 37% of its business units are located in

water-stressed areas. At the same time, the Company also engaged stakeholders in reducing the potential impacts of water shortage and sufficiently preserving the water resource for the consumption in all sectors, for example, by encouraging key suppliers to assess water-related risks and formulate annual prevention and mitigation measures.

## Waste Management

The Company strictly complies with the waste management laws of each country where it operates. It also applies the waste management hierarchy, which encompasses prevention and minimization, reuse, recycling, and other recovery, to mitigate the environmental impact of waste disposal. In 2023, the Company implemented waste management in the production process according to the Waste Management Policy and Manual to minimize waste generated in the production process and promoted the reuse and recycling of waste through various projects. For example, the Company introduced a project to utilize coal spillage by blending it with coal in the most optimal and appropriate proportion in order to sell to customers without any impact on the quality of coal. This operation helps reduce the coal spillage volume to landfill and conserve the natural coal. In addition, the Company has developed the process flow diagrams covering the entire value chain of the renewable power business in Vietnam to assist in waste management planning and monitoring as well as data collection.

## Environmental Incidents

In 2023, no significant environmental incident occurred in the Company. This is the result of the establishment of policies and operational strategies aimed at achieving goals and continuously reduce environmental impacts, together with regular evaluation and monitoring of environmental-related risks, and management of environmental impacts that have occurred or may occur in the future.

In addition, the Company also places importance on land management. It has set targets and monitored operations on related issues, including post-mining management, biodiversity, and mine subsidence.



CLICK HERE

For more information on "Environment Performance", please read the Sustainability Report 2023 from Company's website **by scanning the QR Code or clicking on 'CLICK HERE'**

## SUSTAINABILITY MANAGEMENT - SOCIETY ASPECT

### Social Policy and Practices

#### Community Policy and Practices

The Company adheres to the business credo that “an industry will be strong only when it is developed in tandem with society and environmental responsibility.” Accordingly, the Company promotes “community participation through engagement activities” among relevant stakeholders, including communities, government authorities, and involved organizations. This implementation is in line with the Company’s Community Development Policy, whose primary aim is to improve the quality of life and well-being of local communities, empower the communities to become self-reliant in the long run and gain community acceptance.



For complete information on “Community Development Policy”  
**Please scan the QR Code**  
or clicking on ‘CLICK HERE’

To align all community engagement activities in the same direction, the Company established the Community Development Policy and standard practices. It also devised strategies and set targets for the community engagement activities based on the local government’s regulations and international standards, such as the UN’s Sustainable Development Goals (SDGs). Under the collaboration of communities, the community engagement activities are carried out in six major areas: economy, education, sanitation and primary health care, environmental conservation, social and cultural promotion, and infrastructure development. Moreover, the Company has employed the Social Return on Investment (SROI) framework in evaluating the social impacts of community development activities to maximize the efficiency of its operation in line with its Sustainability Policy.

#### • Community Engagement Implementation

The Company has formulated the Community Engagement Standard Practice Manual, which includes the guidelines on the development of local communities’ quality of life and the mitigation of social and community impacts. The manual provides community engagement officers with clear operational guidelines of the same standards for all areas of operations. In addition, the guidelines are regularly reviewed and updated to properly respond to changing situations.



#### • Community Baseline Data Collection

The Company has determined to collect baseline community data during the early stages of business operations and to update it on a regular basis in order to study and better understand the environment, way of life, and well-being of the community. Then, the matter will be brought up for community consultation through the Community Consultative Committee (CCC) in order to develop a specific community engagement plan as the community needs are identified and mutual benefit objectives are established.

#### • Application of Social Impact Assessment

The Company gives great importance to the impact that will occur on the community and, therefore, has established a social impact assessment in all business units prior to the commencement of the project. The information obtained from the assessment will be used to design activities that respond to community needs by mainly reducing or avoiding impact on the community, including comparing the relief from the impact before leaving the operating area at the end of the concession. Furthermore, if the project specifies changes during the process, the Company will schedule a new social impact assessment to align with the modified production activities.

#### • Promotion of Community Engagement

The Company places importance on community engagement at every stage of development, pre-development, development, and post-development, emphasizing the engagement of community members for community activity design, implementation, monitoring, and review, including evaluation, e.g. drawing up the community engagement plan that meets community needs and is consistent with the government’s development plan. The Company and the community jointly established a Community Consultative Committee (CCC), which consists of representatives from the local communities, local government, and the Company. The committee collaboratively works on project planning, monitoring progress, and solving problems for the greatest benefit to society.

#### • Building Collaboration in the Community

The Company has cooperated with contractors on community development work as many of them have been carrying out community development implementations. The Company has worked with them to conduct the development project from the planning process, budget allocation, staff allocation, and knowledge, expertise, and information exchange. The cooperation enhances efficiency and widely benefits local communities while reducing redundancies of its social development management.

#### • Community Complaint Management

The Company has devised the Community Complaint Management System to enable systematic management of community complaints in every business. This approach covers indigenous peoples management and local community restoration under resettlement management. Also, the Company has specified that the outcomes of community complaint management be reported on a regular basis to the sustainability committee and the Company’s ESG committee.

#### • Community Perception and Satisfaction Surveys

The Company has held the community perception survey as a common practice in all areas of operations to measure the community’s levels of awareness and acceptance, community concerns, and suggestions from communities. The survey results will be used to improve the operations for the benefit and overall satisfaction of the community. In Indonesia, a community satisfaction survey on community development program is performed annually for Banpu subsidiaries; the results enable the Company to understand their satisfaction levels and how to efficiently enhance community engagement initiatives.

#### • Quality Assurance Review

The Company employs quality assurance review for its community development programs. Employees not directly involved in community development work conduct the quality assurance review to ensure the highest transparency and efficiency. The annual review helps the Company identify areas for improvement so that it can improve the efficiency of the community engagement implementation.

### Community Performance

In 2023, the Company convened 27 Community Consultative Committee meetings with all villages in its operational areas in Indonesia and 21 mining group-level subcommittee meetings in Australia. The result from the meetings showed that most communities in Indonesia concerned about economic improvement and operational impact such as river diversion in Jorong mine, while communities in



Australia concerned about the potential impact on licensed ground water users, ongoing employment, and energy security. Consequently, the Company brought these findings to prioritize the community development implementations.

In addition, the Company has applied the Community Complaint Management Standard across all business units to ensure systematic management of community complaints, encompassing both indigenous peoples and individuals affected by resettlement activities. In 2023, however, the Company did not receive any significant community complaint issues from any business unit. Focusing on the resolution of the pending 2022 community complaints, the Company has resolved all the 2 pending issues.

- 1) In response to the ventilator noise complaint issue at Mandalong mine in Australia, the Company performed engineering works, and the action was completed in October 2023. At present, the Company does not received any complaint reports on this issue.
- 2) For Vietnam, the complaint about oil leakage from wind turbines into shrimp farms has been resolved. The Company completed its engineering work and improved its maintenance process. Furthermore, with the Company coordinating with the insurance company, compensation for the loss of benefits from the incident has been successfully completed. At present, there is no pending issue in our management system.

The Company commits to dealing with community complaints to achieve transparency and fairness. The outcomes of community complaint management will be reported on a regular basis to the sustainability committee and the Company's ESG committee.

Apart from that, the Company conducted community satisfaction surveys covering 13 community development programs of five Indonesian mines. The average satisfaction rating was 82.92% or at the "Satisfactory" level. For other mines, the Company will proceed according to the plan for the next year to better understand the level of community acceptance. The Company also conducted community perception surveys in Indonesia and Australia to measure community acceptance. In Indonesia, a community perception survey was conducted at the communities surrounding Embalut mine, which is entering the closure period. The result presented the community perception at "Low" level as they worried about their economic condition and quality of life, especially during the post-closure period. The Company therefore integrates this result into its Embalut community engagement strategy, which is focused on community participation and aims to achieve sustainability objectives. In Australia, the survey has been conducted at mining group-level subcommittee meetings, and in 2023, the improvement strategies were reviewed and applied to the implementation in order to maintain the local perception standard at the "Satisfactory" level.

Moreover, the Company has employed the Social Return on Investment (SROI) framework to measure the social impacts of community engagement activities and improve the performance of each business unit's community engagement projects. In 2023, the SROI evaluation was conducted on 6 community development programs at 5 mine sites in Indonesia. In addition to that, the Company applies a sustainability tool called, "Maturity Measurement" to evaluate the sustainability of community engagement programs. The tool focuses on 6 aspects – change, inclusion, organization, cooperation, influence, and sustainability. In 2023, the Company chose community engagement projects and conducted sustainability measures in Indonesia that reached 100% of the area.

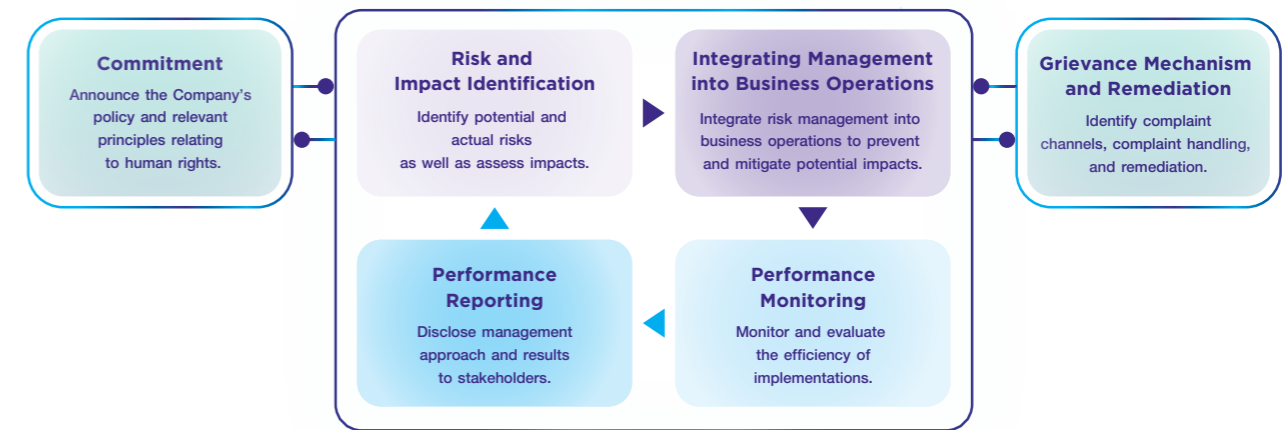
### Human Rights Policy and Practices

Banpu strives to conduct business with adherence to international practices such as the Universal Declaration on Human Rights, the UN Guiding Principle on Business and Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, the United Nations Global Compact (UNG), including applicable labor laws of all countries where it operates. The Company observes the principles of liberty, equality, and human dignity without discrimination on gender, ethnicity, religion, or skin color to avoid and prevent human rights violations on employees, suppliers, customers, contractors, communities, and vulnerable groups such as children, women, disabled persons, indigenous peoples, immigrant workers, and elderly persons. The Company has also developed the "Human Rights Due Diligence Manual" to be used as a management approach for human rights issues, covering key risks throughout Banpu's value chain.



For complete information on "Human Rights Management Approach" **Please scan the QR Code or clicking on 'CLICK HERE'**

### Human Rights Due Diligence



The complaint mechanisms vary depending on issues or related stakeholders. For instance, there are specific whistleblowing channels and compliance investigation procedures for governance issues. To handle community complaints, each business unit has its own complaint channels and management measures.



For more information on "Community Performance", please read the Sustainability Report 2023 from Company's website **Please scan the QR Code or clicking on 'CLICK HERE'**

### Human Rights Performance

In 2023, the Company conducted a human rights impact assessment as part of a human rights due diligence for a renewable power business in Vietnam and a joint-ventured for thermal power business in Thailand. The Company collected data from interviews with rights holders, comprising employees, contractors, subcontractors, security guards, and local communities, as well as vulnerable groups, such as women and pregnant women. Based on the impact assessment results and consideration of risk control measures, most human rights issues posed low to medium risks. However, there were six high-impact risks, which included working conditions and equal remuneration, labor recruitment, forced labor, occupational health and safety in workplace, violence, or harassment, and internal grievance mechanisms.

Human Rights	Human Rights Issue	Rights Holder	Mitigation Plan
<b>Labor Rights</b>	<ul style="list-style-type: none"> <li>Working conditions and equal remuneration</li> <li>Labor recruitment</li> <li>Forced labor</li> <li>Occupational health and safety</li> </ul>	Contractors and subcontractors	<ul style="list-style-type: none"> <li>Communicate to contractors about the Supplier Code of Conduct.</li> <li>Organize training and publicize the Corporate Governance &amp; Business Code of Conduct Handbook and related policies, such as the Human Rights Policy, Non-Discrimination and Anti-Harassment Policy, and Compensation Policy.</li> <li>Incorporate ESG criteria into supplier selection.</li> </ul>
<b>Employee Discrimination</b>	<ul style="list-style-type: none"> <li>Violence or harassment</li> </ul>	Employees	<ul style="list-style-type: none"> <li>Communicate to employees about Non-Discrimination and Anti-Harassment Policy.</li> <li>Communicate complaint channels to employees.</li> <li>Organize training on human rights for employees.</li> </ul>
<b>Grievance Mechanism &amp; Access to Remedy</b>	<ul style="list-style-type: none"> <li>Internal grievance mechanisms</li> </ul>	Employees	<ul style="list-style-type: none"> <li>Communicate complaint channels to employees.</li> <li>Organize training on human rights for employees.</li> </ul>

### Occupational Health and Safety Policy and Practices

Banpu is committed to taking good care of employees and all related people who work for the Company by creating safe and healthy working environment. The Company announced Occupational Health and Safety Policy and the 3-Zero targets as follows:

- Zero Incident
- Zero Repeat of incidents
- Zero Compromise to safety standards and legal requirements



For complete information on "Occupational Health and Safety Policy" **Please scan the QR Code or clicking on 'CLICK HERE'**

Moreover, the occupational health and safety performance is one of the key performance indicators of the Chief Executive Officer and senior management of all business groups and subsidiary companies. The Company established the Occupational Health and Safety Division to ensure that its safety operations comply with Banpu Group's regulations and standards as well as applicable local laws. In addition, the ISO 45001 standard has been introduced as guidelines for the occupational health and safety management system. The safety culture framework has been adopted focusing on the safety system, safety knowledge, and safety behaviors in Banpu group and its subsidiaries.

To achieve the 3-Zero targets and continual improvements, the Company has evaluated the effectiveness of occupational health and safety management at all operational country's offices on monthly, quarterly, and annual basis. There are safety culture evaluation, ESG Committee meeting of independent directors, meetings of Sustainability Committee, chaired by the Chief Executive Officer to review and monitor occupational health and safety policy implementation, targets, strategies, incident records, and legal compliance.

#### • Hazard Identification, Risk Assessment, and Incident Reporting and Investigation

Banpu has implemented hazard identification and risk assessment processes that cover both routine and non-routine tasks using various hazard identification tools, such as Job Safety Environment Analysis (JSEA), Green Card/Yellow Card, Safety Health Environment Accountability Program (SHEAP), and Hazard Identification, Risk Assessment and Determining Control (HIRADC) have been implemented at the mining business in Indonesia, while SLAMs (Stop, Look, Assess and Manage) is used in Australia. Thermal power plants in China deploy Safety Walk Down Program and Safety Double Control. At the Bangkok office, the SOS application is used to report and record both unsafe actions and unsafe working environments.

Following risk assessment, the Company has developed an occupational health and safety work plan to reduce

and control risks to acceptable levels. This includes monitoring work plans, reviewing hazard identification, risk assessments, and identifying opportunities for improvements at least once a year or upon a material change in safety. The Company has identified a hierarchy of controls for safety, including developing communication and risk monitoring plans by managers who have the knowledge and capability to assess risks and communicate as appropriate to operators before the start of work. Should hazard or safety risks be detected, workers have the right to refuse work or cease operation until the problem has been investigated and addressed. This will not be considered a disciplinary offence, and it is encouraged for workers to report observations of unsafe situations and practices.

In case of accidents during operation, employees or witnesses must report to their supervisors to assess the situation's severity and report it to concerned parties. For severe situations, the Company will convene a working team of experts to investigate and uncover the root cause of the situation. This will lead to the identification of preventive measures, including indication of future risks. Incident investigation reports, including corrective action approaches, will be routinely reported to the monthly management meetings.

• Occupational Health Services

The Company monitors working environments through regular measurements according to the risk factors of each operational area, such as air quality, noise level at work, the concentration of hazardous chemicals, and light intensity, to ensure that they are fully compliant with the applicable law. External assessment agencies with acceptable standard carry out those measurements to ensure that all employees and contractors have a proper working environment without health-threatening hazards.

At any work locations with potential impacts to the health and safety of employees and contractors, the Company will conduct health and risk assessments and schedule health medical checks based on relevant risk factors for employees and contractors who are exposed to those risks. Employees' health information is kept confidential. The Company also complies with Personal Data Protection Act (PDPA) and has the policy to protect employees' personal information to prevent disclosure without their consent.

The company provides first aid kits and basic emergency medical supplies, as well as a list of corporate hospitals

for convenient access, and employees have accessible and quick access to telemedicine services. In the remote working area, the company has established a medical service center with doctors and specialists to provide treatments and advice on occupational health problems to workers at all hours. They also offer services to contractors and individuals entering the areas and prepare mobile medical units to provide assistance in the event of an emergency during working hours, including transporting emergency patients via the International SOS service. The Company has selected the contractors that meet its standards and ensures that the contractors' occupational health services are good and meet specified standards by systematically managing and controlling.

• Employee Engagement, Consultation, and Communication

The Company engages employees at all levels in safety operations from the development phase, providing suggestions in all areas, including the safety system, safety knowledge and capability, and safety behaviors. Employees in all countries can voice their concerns and suggestions through different channels, such as the Hazard Identification and Risk Assessment, Safety Perception Survey through Safety Committee, on quarterly forums on safety issues. The Sustainability Family meeting. This meeting brings together representatives from sustainability-related departments in countries where Banpu operates to present operational results from the previous year and discuss plans for the upcoming year. The ESG Summit is also an international knowledge-sharing event where all information is constantly reviewed and formulated into short and long-term improvement plans.

Occupational Health and Safety Performance

	2023	Target 2023	Target 2025
Number of occupational fatalities - Employees	0	0	0
Number of occupational fatalities - Contractors	1	0	0
Lost time injury frequency rate - Employees	1.56	≤2.35	≤1.99
Lost time injury frequency rate - Contractors	0.22	≤0.16	≤0.14
Total recordable injury frequency rate - Employees	15.65	≤12.92	≤10.93
Total recordable injury frequency rate - Contractors	0.65	≤0.62	≤0.53

In 2023, a contractor had a fatal accident. After investigation, the accident happened because a contractor rode his private vehicle on hauling road, which is a dangerous area. To prevent incidents reoccurrence, the Company established additional prevention and mitigation measures as follows:

- Improving hauling road by improving waiting lines at intersections, cleaning spoils, and installing "No Overtaking Signs"
- Providing transportation vehicles for working in Mining Area
- Communicating Safety Rules and Regulations for vehicle in Mining Area, by prohibiting the use of mobilized vehicles without permission and supervision

The Lost Time Injury Frequency Rate (LTIFR) for employees was 1.56 that below the target and for contractors was 0.22 that over the target. The Total Recordable Injury Frequency Rate (TRIFR) for employees was 15.65 and for contractors was 0.65 that over the target.

In this regard, the Company analyzed types of injuries that occurred among employees and found that the majority were muscle and ligament injuries, injuries from impact, and open wound as for contractors were the injuries from impact, graze or open wound, and muscle and ligament injuries. There was also an analysis of the causes of injuries. Most of the causes of injuries are tripping, slipping, falling, being pinched, or pulled by objects, and overexertion.

Based on the Company's safety risk assessment, there are three high-risk activities, for which the Company prepared appropriate preventive measures to mitigate the risks as follows:



High-Risk Activities	Prevention Measures
<b>Working in Dangerous Area</b>	<ul style="list-style-type: none"> <li>Improving hauling road by improving waiting lines at intersections, cleaning spoils, and installing "No Overtaking Signs"</li> <li>Providing transportation vehicles for working in Mining Area</li> <li>Communicating Safety Rules and Regulations for vehicle in Mining Area, by prohibiting the use of mobilized vehicles without permission and supervision</li> </ul>
<b>Hit by Heavy Object</b>	<ul style="list-style-type: none"> <li>Providing sufficient tools/equipment</li> <li>Providing safety training and communicating risk to operators</li> <li>Conducting daily inspection by supervisor</li> </ul>
<b>Operating Moving Machinery</b>	<ul style="list-style-type: none"> <li>Improving the machine by installing safety guards and an alarm</li> <li>Developing a fatigue management program to monitor and control</li> <li>Providing basic safety training to operators</li> <li>Reviewing high-risk jobs and communicating risk to operators</li> </ul>

Since 2018, the Company has continuously assessed Safety Culture Maturity by issuing survey based on the United Kingdom Health and Safety Executive (UK HSE) Safety Culture Maturity Model. The model sets out a series of 5 iterative levels of safety culture development.

- Level 1: Emerging – Safety focus is on technical, and compliance with regulations
- Level 2: Managing – Management is committed and dedicated to accident prevention
- Level 3: Involving – Employee involvement is essential for safety improvement
- Level 4: Co-operating – Engage all staff to develop co-operation and commitment to improving safety
- Level 5: Continually Improving – Develop consistency and fight complacency

The action plans will be developed after the results of those surveys, whether it is active management engagement, development of new procedures,

provision of appropriate personal protective equipment, or training to improve safety culture.

This year, one solar power plant based in China and two business unit of Banpu NEXT based in Thailand performed the first safety culture assessment and two combined heat and power plants in China performed safety culture re-assessment.

The evaluation results from both business groups conclude in 'Involving level' for the solar power plant based in China and the business units of Banpu NEXT based in Thailand, while the two CHP plants in China are in 'Co-operating level'. Because of continuous safety improvement operations, the mentioned developments raise the number of operations assessed for level of excellence to 24 business units in 4 countries, inclusive of China, Australia, Indonesia, and Thailand. Further plans to expand assessment coverage are in line with safety culture enhancement, an initiative to prevent any incidents and accidents occurrence in the future.

## CORPORATE SOCIAL RESPONSIBILITY (CSR)

### CSR Activities in 2023

#### Thailand

Banpu has consistently undertaken Corporate Social Responsibility (CSR) activities that align with environmental and social issues. In 2023, the Company pursued its efforts to develop corporate social responsibility activities, aiming to create positive changes and sustainable development to respond to the rapidly changing business landscape and social conditions. The activities cover Educational Development, Youth Capacity Development, Community Development, and Environmental Development. Significant activities carried out in 2023 are as follows:



#### Educational Development Banpu Education for Sustainability

Banpu has continued the "Banpu Education for Sustainability" project for the past 20 years with an aim to develop education – the country's cornerstone of sustainable development. The Company has supported integrated learning for six schools in Lamphun, Lampang, and Phayao – the provinces where Banpu formerly operated. The Company focuses on the development of schools in three dimensions: turning the schools into sustainable community learning centers, enhancing teacher capacity, and fostering students learning.

In 2023, Banpu continued financial support to provide Native English teachers for the improvement of English communication skills among teachers and students at Banpu-sponsored schools. The Company also sponsored the hiring of Thai teachers to address the shortage of teachers in English, Chinese, Science and Technology, Mathematics, Home Economics, Music, and Arts classes. Over the past 20 years, Banpu has provided support under the Banpu Education for Sustainability program for a total of THB 50.7 million.





### Partnership School

The Partnership School Project is an initiative aimed at fostering educational collaboration between the Ministry of Education and various sectors, including companies, foundations, and academic institutions. Its goal is to enhance school administrations so that it can elevate academic achievement and better prepare students for the future. The Company has supported three schools, namely Non Sa-at Phitthaya School in Khon Kaen Province, Chumchon Phon Ngam Phon Sawang School in Maha Sarakham Province and Rong Kham Hong Thong Witthaya School in Roi Et Province. Throughout 2023, these schools have continued to enhance their educational standards, serving as exemplary models for others while meeting parental expectations and fostering community pride. Additionally, a school continuity plan has been devised to ensure the long-term maintenance of these high standards. The significant progress made in 2023 is summarized as follows:

#### 1. Elevating Academic Quality and Innovation

The project has continued its support for the “1 Classroom 1 Innovation” initiative and has seen the effectiveness of the Active Learning approach, as evidenced by the prizes won in student arts and crafts competitions.

#### 2. Improving Technology and Information Technology

The Company has encouraged the integration of information technology into educational processes and school data management, such as the adoption of digital platforms and applications to facilitate online and onsite teaching as well as introducing robotics classes for students.

#### 3. Enhancing English Language Skills

The Company has sponsored the hiring of English teachers and provided English lessons starting at the kindergarten level. It also extended English learning hours for elementary school students and encouraged schools to organize activities to enhance students’ English skills.

#### 4. Developing Vocational and Life Skills

The Company supported 11 vocational training activities, including barbering, food and merchandise sales, artificial flower making, ornamental plant propagation, hydroponic farming, soil mixture preparation, mushroom



farming, floral arrangement for events, souvenir making, cooperative shop management, and sports and folk music skills development.

#### 5. Creating a Learning Community

The Company has become a role model for other schools by sharing teaching techniques and experiences with teachers from neighboring schools. In 2023, 40 teachers from 15 schools participated in training sessions on the Active Learning approach. Furthermore, in collaboration with government agencies, the Company provided training on artificial flower making to help generate additional income for the community.

#### 6. Developing School Continuity Plans

All three partnership schools have developed continuity plans focusing on school management, teaching quality, career and life skills, school revenue generation, and network creation.



### Youth Capacity Development Banpu Champions for Change

The “Banpu Champions for Change” (BC4C) project is a collaboration between Banpu and ChangeFusion Institute, a non-profit organization under the Rural Restoration Foundation of Thailand under the Royal Patronage. The project has been operational since 2011, with a mandate to support young social entrepreneurs who demonstrate creativity and potential for driving social change. These social entrepreneurs are encouraged to develop business ideas that not only generate income but also have a positive impact on society, communities, and the environment. The project aims to promote learning and understanding of social enterprise (SE), morales and ethics, and sustainability principles (ESG) in business. It builds an environment conducive to the growth of social enterprise while expanding SE networks and SE ecosystem in Thailand which in turn will create a quality society and lay a strong and sustainable foundation for the country’s economy.



### The 12<sup>th</sup> Banpu Champions for Change – Incubation Program



The incubation program is the main activity of the project. The program is open to youths aged 20-35 years nationwide to apply as a team of up to four members. Each team will propose a social enterprise project plan based on their competencies and interests to address social, community, or environmental issues, aiming to seek funding from the project. Selected teams in each phase receive incubation and mentoring support. Additionally, participants will take part in workshops led by experts and mentors from diverse fields, such as management, finance, and social and environmental impact measurement, to enhance their capabilities. Each selected team will also receive an initial funding of THB 80,000 to kickstart business development and test operations in the real market for three months. The three finalists will further receive a grant of THB 250,000 to expand their businesses. In 2023, the three finalists are Khiri Farm, Termnaam, and Sex-O-Phone: a safe sexual health hotline for youth.

The following social enterprises were selected to participate in the Incubation Program activities in 2023:

#### Career and Community Development



##### Khiri Farm:

an enterprise that utilizes leftover “rice straw” after the harvest season to grow mushrooms. It has developed a learning platform for producing mushrooms in substrate bags, which creates opportunities and improves the quality of life for people in the community, including building networks among members of agricultural groups in Kalasin Province.

##### SoMuch:

a “mushroom farm” platform for Thai farmers – a comprehensive platform that provides consultation on mushroom cultivation and harvesting techniques. It enables farmers to increase their yields and facilitates connections to markets for farmers within the network.

#### Health



##### OYU Natural:

an enterprise engaged in manufacturing and selling of OYU Thai Genmaicha, a nutritious brown rice tea. It focuses on developing a community tourist destination and improving the quality of life of the elderly in the Sri Prachan Old Market Community, Suphan Buri Province.

##### Sex-O-Phone: a safe sexual health hotline for youth:

A safe space that allows teenagers to ask questions or seek advice from medical personnel about their sexual health, aiming to prevent unplanned pregnancies among students.



**Environment**

**Termnaam:**



an enterprise that develops and distributes “cleaning powder” that is environmentally friendly, user-friendly, chemical-free, and convenient for portability.

**M2Care:**

an enterprise that transforms fabric scraps into handicrafts, aiming to reduce waste from the textile industry while providing income for unemployed skilled workers within the community.

**Social**

**Kensent: a “Bai Sri”**



**comprehensive sourcing platform**

a platform that will source all components for Thai blessing ceremonies aiming to preserve local wisdom.

**Banpu Champions for Change: Acceleration Program #2**

Banpu supports the Acceleration Program for social enterprises that have been operational for some time and aim to expand further, through intensive activities designed to advance their enterprises. The program offers consultation and business data analysis by a team of experts, advice on developing a business profile, and technical assistance tailored to the unique needs of each social enterprise. It also organizes activities to bridge social entrepreneurs with businesspeople, connecting them with investor networks, business partners, and government agencies to create opportunities for SEs to access knowledge and funding sources.



**In 2023, the following six social enterprises participated in the Acceleration Program:**

**Social Inclusion**



**GO MAMMA, a taxi service for the elderly:**

a taxi pick-up and drop-off service application to provide assistance for the elderly. It encourages the creation of a senior-friendly ecosystem.

**STEPS, a platform to promote employment opportunities for people with disabilities:**

an enterprise that addresses social issues through the empowerment of people with disabilities to help them generate income and improve the quality of life for themselves and their families.

**Sandbox Air: an enterprise that creates job opportunities for people with hearing impairments.**

It helps them in becoming air conditioning cleaning technicians and providers of appliance cleaning services for residential homes, companies, or factories.

**Circular Economy**



**Loopers – a marketplace for secondhand clothes:**

a comprehensive second-hand clothing sales platform that offers services in communication, marketing planning, and promotion in an effort to reduce waste generated by fast fashion trends.

**Orgafeed:**

an enterprise specializing in upcycling organic waste by repurposing leftover fruits and vegetables from department stores into dog treats. It utilizes black soldier flies (BFS) to decompose organic waste into high-protein, nutritious dog feed, which adds value to organic waste and reduces greenhouse gas emissions.

**BetterFly:**

a business that produces agricultural products from organic waste, particularly animal feed protein, using black soldier flies. This approach helps reduce costs for farmers.

In February 2023, Banpu Champions for Change hosted the “SE Skill Share”, an online event to facilitate the exchange of knowledge and experiences, with the topic “Opening the World of Financial Resources for Society.” The event featured four speakers: Ms. Nattaya Boonpakdee from the Thai Health Promotion Foundation, Ms. Athicha Choosut from the National Innovation Agency (NIA), Mr. Thanawut Supangkaratana from the Office of Social Enterprise Promotion (OSEP), and Ms. Phailin Santichaivekin from the Disrupt Impact Fund.

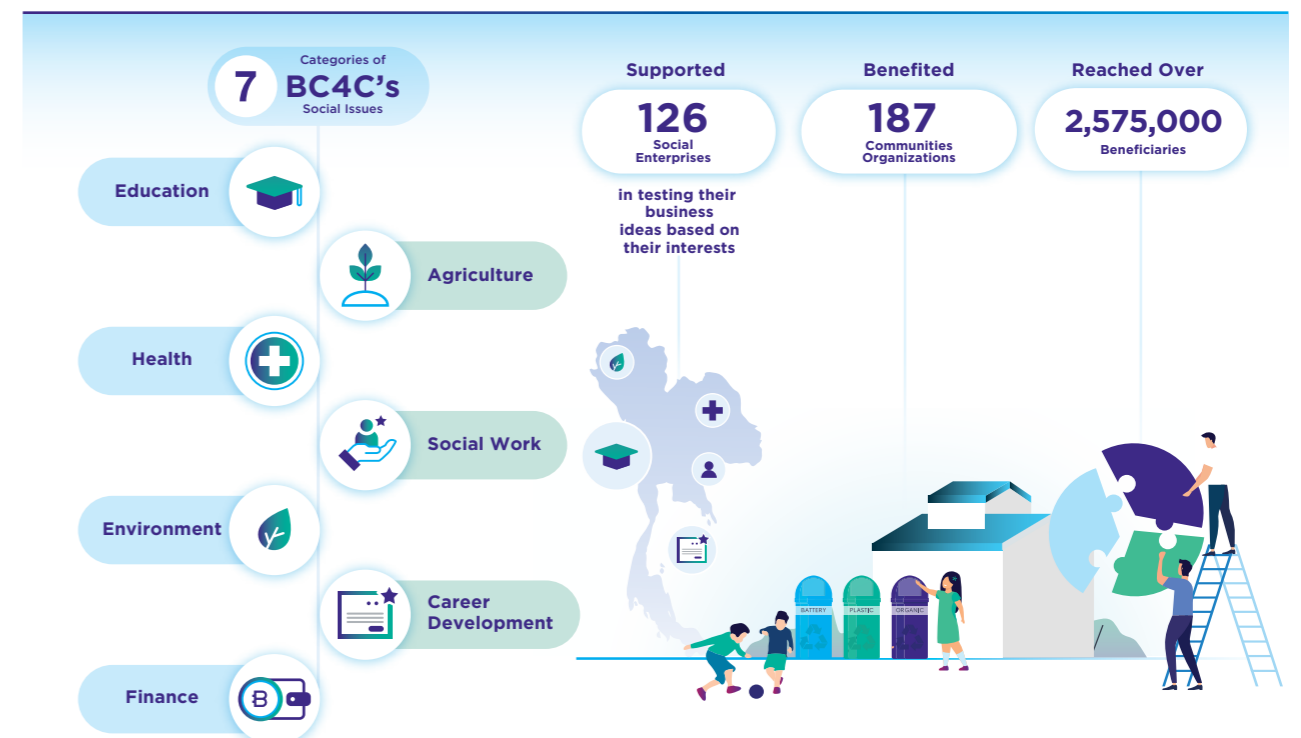


Furthermore, in November 2023, the project organized an event, “Impact Day 2023: Where Tourism Meets Social Good.” This occasion aimed to provide over 20 social enterprises associated with the tourism industry an opportunity to expand their market reach by setting up a business introduction booth and offering products or services for sale to the general public at the heart of

Siam Square. In addition, there was a panel discussion titled “The Future of Social enterprise and SE Ecosystem in Thailand” aimed at exploring the future trends in promoting Thai social enterprises to an international level. The panelists included representatives from Banpu, ChangeFusion, the Department of Industrial Promotion (DIP), the Ministry of Industry, and Local Alike Company Limited.

In 2023, the Company continued the development of the SE.school website, Thailand’s first social enterprise online learning platform. The website regularly shares information, updates, and achievements of BC4C activities. Additionally, educational materials have been developed to enhance understanding of the operations of social enterprises. The SE.school website reflects the project’s commitment to establishing a knowledge repository and ecosystem that support the expansion of social enterprises.

**BC4C’s Social Impact since Project Inception**





### Banpu Table Tennis Club

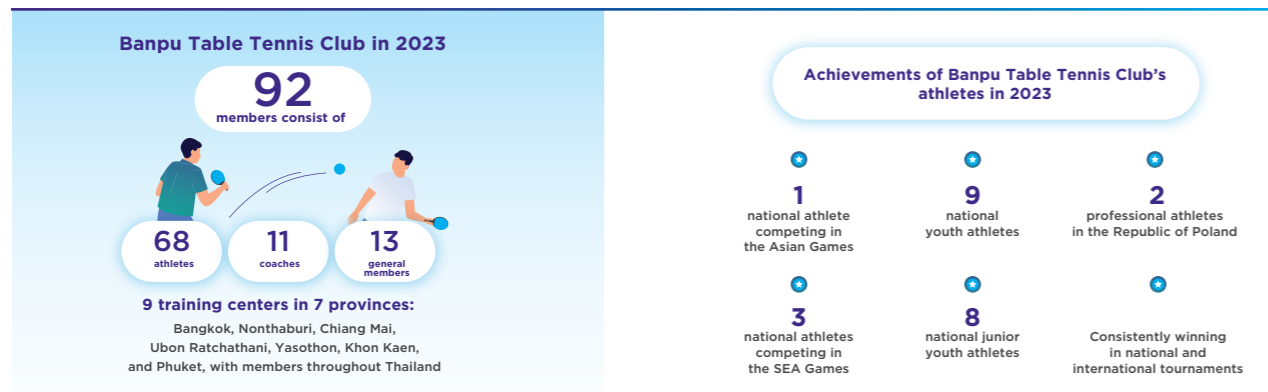
Established in early 2008, Banpu Table Tennis Club (BTTC) started from Banpu's subsidiary in China, which supported a national table tennis training center in Zhengding County. From there, Banpu has capitalized on the existing network to help transfer China's table tennis skills and techniques to Thai youth players. Over the past 15 years, BTTC has been committed to developing Thai table tennis players by providing daily training support, sponsoring participation in national and international tournaments, and organizing various activities to cultivate morality, ethics, discipline, harmony, and volunteer spirit of the club's members. In 2023, in addition to sending athletes to compete in nine competitions and events nationwide, the Club organized the "Table Tennis Youth Camp: Building Dreams and Breaking Free from Drugs" camp in Uttaradit Province. Seven BTTC members, including coaches with international experience and BTTC's volunteer athletes, provided coaching to 30 coaches and 65 young participants from Uttaradit and neighboring provinces. Since 2014, BTTC has organized 11 camps with a firm belief that this activity



will inspire and equip young players with standard skills for both rookies players and provincial youth and junior athletes.

In addition, the Club hosted the "BTTC Communication Day", which serves as a gathering for members to foster relationships and communicate the club's policies. The Club regularly communicates its movements through the "Facebook fan page: Banpu Table Tennis Club", allowing both members and general public to participate with the club's activities

### Banpu Table Tennis Club in 2023



### Support for a Young Tennis Athlete

Since 2015, Banpu has supported Mr. Songrit David Chanbubpha, a high-potential tennis player, in pursuing his dream of becoming the world's top-ranked player by sponsoring sports equipment, physical fitness training courses, and daily training. In addition, the Company has supported his participation in competitions both in Thailand and abroad, providing him with valuable tournament experience and helping him enhance his life skills while improving his professional athletic discipline.

In 2023, Mr. Chanbubpha was ranked 33rd by the Lawn Tennis Association of Thailand Under His Majesty's Patronage (LTAT).

### Environmental Development

#### Power Green Camp: An Environmental Science Camp for Youths

Since 2006, Banpu has collaborated with the Faculty of Environment and Resource Studies, Mahidol University, to host the "Power Green Camp" under the concept of "Envi-Science Learning Through Actions." This initiative aims to enhance knowledge and understanding of environmental science and natural resources, as well as to raise environmental awareness among young people. The camp encourages participants to systematically apply scientific knowledge to solve environmental problems. Additionally, it establishes an environmental network of youth who play a significant role in driving protection, restoration, and participation in addressing environmental issues at local, national, and international levels.



The 18<sup>th</sup> Power Green Camp was organized between 15-21 October 2023, under the theme of "Waste Warriors, a Mission to Protect the World with Green Cloud – Green Tech – Green Influencer". This year, 335 high-school students in all fields of study from 181 schools in 63 provinces across the country applied to join the "Power Green Camp." Among them, 50 students from 48 schools in 30 provinces were selected to participate. The camp activities included both theoretical and practical knowledge acquisition on managing diverse waste problems from source to their final disposal, as well as instruction on how to utilize Green Cloud Computing and Green Technology to aid in the sustainable management of waste problems. Moreover, it enhanced communication skills and transformed young participants into Green Influencers capable of compellingly presenting environmental concerns across diverse communication platforms.

The 18<sup>th</sup> Power Green Camp focused on designing learning activities that tailored to the needs of the participants and aligned with educational trends and environmental issues. This included promoting the use of digital technology as a crucial tool in solving environmental challenges. Additionally, the camp provided participants with opportunities to explore environmental issues and solutions in diverse contexts through hands-on activities. The activities included

- 1) learning the life cycle of products for waste management
- 2) practicing using Geographic Information Systems (GIS) to study data for waste management in Thailand, with a focus on evaluating spatial data for efficient waste management
- 3) practicing using "Google Collaboratory," a Green Cloud Computing technology, as a data analytics tool for effective waste management
- 4) developing communication skills and learning how to prepare materials to present environmental content as a Green Influencer



- 5) joining a boat trip to collect and separate waste in the Khlong Lat Phrao community area,
- 6) studying the technology and production process of high-quality food-grade recycled plastic resin in Rayong Province
- 7) learning about organic waste management using black soldier flies with “Betterfly,” a social enterprise from the 10<sup>th</sup> Banpu Champions for Change (BC4C) project, on Ko Si Chang, Chonburi Province
- 8) participating in beach cleanup activities to understand plastic waste contamination on Koh Si Chang, Chonburi Province. These learning activities not only provided the young participants with tangible insights into environmental issues but also facilitated exchanges of perspectives and ideas in addressing the problems with local residents.

Furthermore, towards the end of the camp, young participants utilized the knowledge gained from the camp activities to develop an environmental science group project to present to the camp committee and the public through an online channel. The project awarded first place was the “GREENDER & BANKUNG” project, which aimed to develop an application to assist users in proper waste management within the community. The second-place project was “Cellulose Biodegradable Seedling Tray from Banana Peels,” proposing the creation of seedling trays from food waste (banana peels) to reduce organic waste and the use of plastic in the agricultural industry. Finally, the third-place prize was awarded to the “BioBoneBlend Bioplastic from Bones” project, which aimed to convert food bones into biodegradable plastics

**Marine Debris Management Project in collaboration with the Government sectors and relevant Local administrative organizations for the River Basin Area**

Banpu has participated in the Marine Debris Management Project initiated by the Ministry of Natural Resources and Environment, which is aimed at reducing ocean debris and mitigating environmental impacts. The Company’s responsible area is the lower Bang Pakong River Basin, covering Mueang District, Ban Pho District, and Bang Pakong District in Chachoengsao Province. The collaborative project spans a period of four years, from 2023 to 2026.



In 2023, Banpu also received strong collaboration from various stakeholders, including the Department of Marine and Coastal Resources, the Ministry of Natural Resources and Environment, the Chachoengsao Provincial Government, and municipalities and communities within its operational area. Activities undertaken included discussions with municipalities to enhance waste management practices, a study trip to Rayong Municipality for municipal administrators and community waste bank to learn about waste management, surveys of Bang Pakong District to identify potential locations for waste trap installations, and waste clean-ups where Banpu employees and community members volunteered to collect waste in a canal and along the Bang Pakong riverbanks. Additionally, a total of 2,513 kilograms of waste were trapped and collected through waste traps installed at two locations along the canal. Without effective management, this waste would have been carried into the Bang Pakong River and, subsequently, into the Gulf of Thailand.

**Disaster Relief**

**Mitr Phol - Banpu Solidarity to Aid Thailand on COVID-19 Confrontation Endowment**

Banpu established the “Mitr Phol - Banpu Solidarity to Aid Thailand on COVID-19 Confrontation Endowment” with an initial budget of THB 500 million in March 2020, and an additional THB 500 million was allocated in 2021, bringing the total to THB 1,000 million. This initiative represents a collaboration between Banpu Public Company Limited and the Mitr Phol Group, both private organizations committed to upholding corporate governance principles and social responsibility in their business operations. Since 2021, the Endowment has designated seven categories of aid to address the major challenges faced by Thai society during the COVID-19 crisis, namely

- 1) Aid for people affected by the pandemic in terms of burden of economy and livelihood
- 2) Support on medical equipment for hospitals and public health agencies
- 3) Support on proactive health service
- 4) Support on prevention work and funeral activities for COVID-19 patients
- 5) Support to medical personnel and related people
- 6) Aid in terms of mental health problems
- 7) Support on other related purposes



The Endowment’s support for the COVID-19 epidemic control mission, including the relief for Thai people suffering the impacts, is considered a significant contribution to helping the Thai people overcome the crisis and resume normalcy

After the Ministry of Public Health removed COVID-19 from the list of hazardous communicable diseases in 2022 and the pandemic situation improved in 2023, aid to alleviate the impact of COVID-19 was no longer provided. However, the Company continued to provide aid and assistance to mitigate the impact of catastrophic events affecting the wider society.

**Banpu’s Winter Relief Program**

In response to the severe cold that affected the northern region in January 2023, Banpu partnered with local government agencies and the “Help Keeper Group – Volunteer People” to delivered 2,000 sweaters worth a total of THB 500,000 to people in Tha Song Yang District in Tak Province, and Fang District, and Mae Chaem District in Chiang Mai Province.





## Republic of Indonesia

PT. Indo Tambangraya Megah Tbk (ITM), a subsidiary of Banpu in the Republic of Indonesia, places a strong emphasis on its Corporate Social Responsibility (CSR) and community development activities.

Based on Banpu's policy and implementation guidelines, ITM conducts CSR activities with the aim of promoting education, community development, environmental preservation as well as improving the well-being of communities surrounding ITM's five mine sites on Kalimantan Island, namely Indominco Mandiri (IMM), Trubaindo Coal Mining (TCM), Bharinto Ekatama (BEK), Kitadin (KTD), and Jorong Barutama Greston (JBG). Significant activities carried out in 2023 are as follows:

### Educational Development

Education plays a pivotal role in enhancing the overall well-being of community members. ITM has carried out various educational programs, aiming to support underprivileged students to pursue higher education in order to help them improve their quality of life in the future. ITM's support for educational development includes:

#### Community Learning Center (CLC) Non-Formal Education



The CLC development was initiated to improve literacy and reduce high dropout rates, which can lead to social problems. ITM has implemented the Community Learning Center program (Pusat Kegiatan Belajar Masyarakat: PKBM) through IMM, its subsidiary, for three communities: namely PKBM Malahing, PKBM Damai Mandiri, and PKBM Salaka. Since 2011, these three PKBMs have provided teaching curriculums equivalent to formal schooling along with 93 life skills training courses, resulting in increased literacy rates within the communities. Furthermore, Trubaindo Coal Mining (TCM), a subsidiary of ITM, has supported the development of computer courses for the CITRA Mandiri community. Altogether, these PKBMs have benefited 1,909 people since their inception.

#### Scholarships

ITM also provides continuous support to the education sector by granting scholarships to students from elementary to university levels in the communities surrounding ITM's mines. In 2023, ITM granted scholarships to 687 students from the surrounding communities of its mines on Kalimantan Island: Indominco (IMM), Trubaindo Coal Mining (TCM), Bharinto Ekatama (BEK), and Jorong Barutama Greston (JBG), with a total value of IDR 1.8 billion.

#### Support for Learning Activities of Higher Education Students

ITM has supported university students' learning activities by offering internship opportunities, providing information for research, and serving as guest lecturers in the fields of mining, technology, environment, social responsibility, and sustainable development. In 2023, ITM supported learning activities for students at 17 universities. Furthermore, ITM is dedicated to assisting students with disabilities in enhancing their life skills. As part of this commitment, two hard-of-hearing students were offered internships in different departments. Additionally, the Company has organized sign language training for its staff to facilitate effective communication with these interns.



## Community Development

### Economic Development

In 2023, ITM continued to foster community economic development through the operations of its subsidiaries as listed below:

- PT. Jorong Barutama Greston (JBG), a subsidiary of ITM, has been supporting the Sasirangan Small Business Group since 2018 to promote businesses related to the traditional South Kalimantan fabric known as Sasirangan. JBG has empowered unemployed and underprivileged people in Karang Rejo and Jorong Villages to produce and design various Sasirangan handcrafted products, including Sasirangan batik, clothing, masks, and bags. Currently, more than 6,000 craft products have been created, generating an income of IDR 370 million. In 2023, JBG and the Calap Baimbai Handicraft Community Enterprise Group signed a memorandum of understanding (MoU) to protect "Eucalyptus," the indigenous plant species, and designate it as a symbol of Jorong. The MoU also allows local communities to use eucalyptus as a natural fabric dye.
- Since 2021, PT. Bharinto Ekatama (BEK), a subsidiary of ITM, has been supporting the Bina Usaha farmer group in Tewehe Timur in organizing the Hybrid Corn Cultivation Program. In 2023, BEK advised the farmer groups to start layer chicken farming to generate additional income. The company provided farmers with 1,000 layer chickens, with 89% egg yield. BEK also plans to expand the project by adding more cages and breeding facilities to cater to local markets in East Tewehe.
- Providing financial aid to improve the quality of life for different groups of people on various occasions, for instance, donating money to support affected people of the 2022 earthquake in

Cianjur, West Java Province, during the holy month of Ramadan; offering financial support to underprivileged individuals residing beneath bridges in Jakarta during Easter; and providing financial aid to an orphanage in Bekasi, West Java Province, during Christmas

### Enhancement of Public Health

ITM has been promoting health and sanitation development for the communities, focusing on maternal, child, and elderly health promotion as part of its strategy to enhance the quality of life for local residents as follows:

- Maintaining the 6-kWh solar power generation system installed on the roof of the Benangin Health Service Center in East Tewehe District, Central Kalimantan Province, which is a community health center (Puskesmas) providing 24-hour health services to residents in the Bharinto mining site
- Supporting free healthcare services and physical examinations at the Community Health Center (Posyandu) for babies and toddlers and offering prenatal health examinations to expectant mothers. In 2023, this initiative provided physical examination services and promoted proper nutrition to prevent malnutrition among young children in 34 villages, benefiting 3,002 service recipients.
- Supplying clean water to 3,574 households in 19 villages surrounding ITM's four mining sites on Kalimantan Island, namely Indominco (IMM), Trubaindo Coal Mining (TCM), Bharinto Ekatama (BEK), and Jorong Barutama Greston (JBG)





## Environmental Conservation

In 2023, ITM has supported the following environmental preservation initiatives:

- To celebrate World Environment Day, ITM, in connection with the local government, and the local community co-hosted activities to raise environmental awareness. These activities included restoring and conserving nature through forest cultivation with the community, as well as organizing beach cleaning competitions.
- The Company has participated as a partner in the Kutai National Park (TNK) Conservation Project for the third consecutive year. ITM has contributed to the TNK conservation initiative through a wide range of activities, including the conservation of park facilities such as shelter pavilions, signposts, and national park gateways. The Company also raises awareness of the importance of the park and improves the well-being of the surrounding communities.
- ITM has collaborated with the government in Indonesia's Climate Village Program (PROKLIM) to enhance community resilience, problem-solving, and adaptation capabilities in the face of climate change by facilitating the organization of community-based activities and promoting knowledge integration for sustainable community development.
- ITM has collaborated with the National Research and Innovation Agency (BRIN) to conduct a study on fruit tree species in an urban community as part of a cultivation development project for the NPR mining initiative in Central Kalimantan Province.
- IMM, a subsidiary of ITM, implemented a waste management project in collaboration with the Community Learning Center (CLC) in Damai Mandiri and Suka Damai. In 2023, six waste banks were established near the Indominco (IMM) mine for community members to collect and sort household waste, which would then be sold to the project.
- ITM aimed to promote the status of women and advance gender equality. As a result, it launched the Female Green Camp initiative. This initiative provided five young women with the opportunity



to engage in environmental activities and receive training, including mangrove forest and beach preservation, as well as community waste management. Additionally, participants conducted environmental research on various topics, such as microplastic waste management, coastal resource studies, and the role of women in coastal conservation. By 2023, about 200 participants across three cities on Java Island have benefited from the project. The Female Green Camp initiative is considered one of ITM's achievements, inspiring younger generations, especially women, to create more opportunities for women to play influential roles in environmental protection, restoration, and sustainable problem-solving.

## Public Infrastructure Development

In 2023, ITM completed the following infrastructure development activities:

- Installation of water supply pipes to provide clean water to the Danau Redan community in East Kalimantan Province
- Road maintenance in the villages of Santan Tengah, Batalang, Empakuq, Muara Bunyut, and Besiq in East Kalimantan Province and the construction of a 3,000-meter water tunnel connecting the villages of Lotaq and Begai
- Maintenance of irrigation and drainage systems in two villages, Santan Ilir and Santan Tengah, to prevent flooding

## People's Republic of China

Banpu Investment (China) Ltd., or BIC, a subsidiary of Banpu in the People's Republic of China, supports and promotes social activities, community development, and environmental conservation.

This includes efforts to continuously encourage investment in the provinces where the Company operates in accordance with Chinese government policy. These efforts have created a positive relationship and aligned BIC's business operations with the Banpu Group's social responsibility policy. BIC is also committed to being a good corporate citizen in all locations where the Company operates. Significant activities carried out in 2023 are as follows:

## Educational Development

Tangshan Banpu Heat & Power Co., Ltd., a subsidiary of BIC, has provided financial assistance to students with physical disabilities at Luannan-Banpu Special Education School for the sixteenth consecutive year. In 2023, the Company provided two sets of portable brain and art training equipment for children with autism and 90 sets of school uniforms with a total value of CNY 60,000 to facilitate teaching and learning and improve the quality of life for students.

Furthermore, in an effort to facilitate the innovation and modernization of teaching and learning, Shanxi Gaohe Energy Co., Ltd., a subsidiary of BIC, donated 40 sets of electronic displays worth CNY 200,000 in total to Changzhi No.15 Middle School in Shanxi Province.



## Sport Development

Shijiazhuang Chengfeng Cogen Co., Ltd., a subsidiary of BIC, has been supporting the Hebei-Banpu Fitness Club (formerly Banpu Table Tennis Club) for 20 consecutive years. This year, the power plant provided a fund of CNY 150,000 to sponsor the training and competition of the club's athletes.





## Community Development

### Economic Development

Jixin Solar Power Plant has contributed a total of CNY 400,000 to enhance the economic development and living standards of Zhengwei Village residents. This support includes providing employment opportunities and vocational training, including tasks like cleaning solar panels and weeding.

### Elderly Support Initiative

In January 2023, Xingyu Solar Power Plant provided essential supplies, including flour and cooking oil, with a total value of CNY 10,000, to support 80 elderly people living alone in remote areas of Huangtuling and Niujiazhuang Villages. This donation demonstrates the Company's commitment to caring for the elderly in the local community and reinforces positive company-community relations.

Furthermore, in August, Jinhu Solar Power Plant donated CNY 5,000 to the Jinhu County Charity Federation. This contribution aimed to aid elderly people living alone, orphans, disadvantaged students, and people facing severe illnesses or accidents in Huai'an City, Jiangsu Province.



## Japan

Banpu Japan K.K. or BJP, a subsidiary of Banpu Group managed by Banpu NEXT Co., Ltd., operates renewable power generation and energy technology businesses in Japan. BJP is committed to being a good corporate citizen in all locations where it operates and also values social and environmental responsibility.

Significant activities carried out in 2023 are as follows:

### Community Development

- BJP paid hometown tax to Aizuwakamatsu City and Tono City, where Banpu Group's businesses are located, in the total amount of JPY 2 million, aiming to strengthen the Company's relationship with local communities, support public services, and bridge the gap between urban and rural areas through direct donations to the local regions.



### Educational Development

- BJP held an exhibition at the Fukushima Future Expo to educate attendees about the Sustainable Development Goals (SDGs) and disaster prevention.
- BJP contributed JPY 100,000 to support the Yabuki Frontier Festival held by the Yabuki Frontier Festival Executive Committee, aiming to preserve Yabuki City's historical celebration activities.

## Vietnam

Since the start of its operations in Vietnam, Banpu has consistently supported social engagement and community development initiatives, striving to create a balance between business growth and community and environmental development.

Significant activities carried out in 2023 are as follows:

### Children and Youth Development

Employees of Banpu Vietnam LLC (BPVT) hosted performances and recreational activities to entertain children at Hung Dong Center for Disabled Children in Binh Thuan Province.

### Community Development

The El Wind Mui Dinh wind power plant donated VND 10 million to the Vietnam Fatherland Front's poverty relief fund in Thuan Nam District, Ninh Thuan Province.

## Mongolia

Hunnu Coal Limited (Hunnu), a subsidiary of Banpu in Mongolia, consistently pursues community engagement through strategic initiatives that prioritize sustainability and the preservation of a unique cultural legacy in accordance with the Mongolian government's plans and strategies. Significant activities carried out in 2023 are as follows:

### Educational Support

#### Scholarship Program

Hunnu has awarded scholarships to three government officers from the Governor's Office in Bayan-Ovoo sub-district, Bayankhongor Province, who possess professional knowledge and skills to attend public administration and accounting training programs. Additionally, Hunnu has granted four university students from Ulziit Sub Province full scholarships. Upon completing their studies, they will work on a five-year contract for Hunnu's administrative agency.



## United States of America

BKV Corporation (BKV), a subsidiary of Banpu in the United States of America, is committed to being a force for good in society and fostering positive and sincere relationships with stakeholders. In the areas where it operates, BKV promotes community development and actively engages with local stakeholders, allowing BKV to better understand the interests and concerns of community members.

The highlighted activity in 2023 is as follow.

### Community Engagement

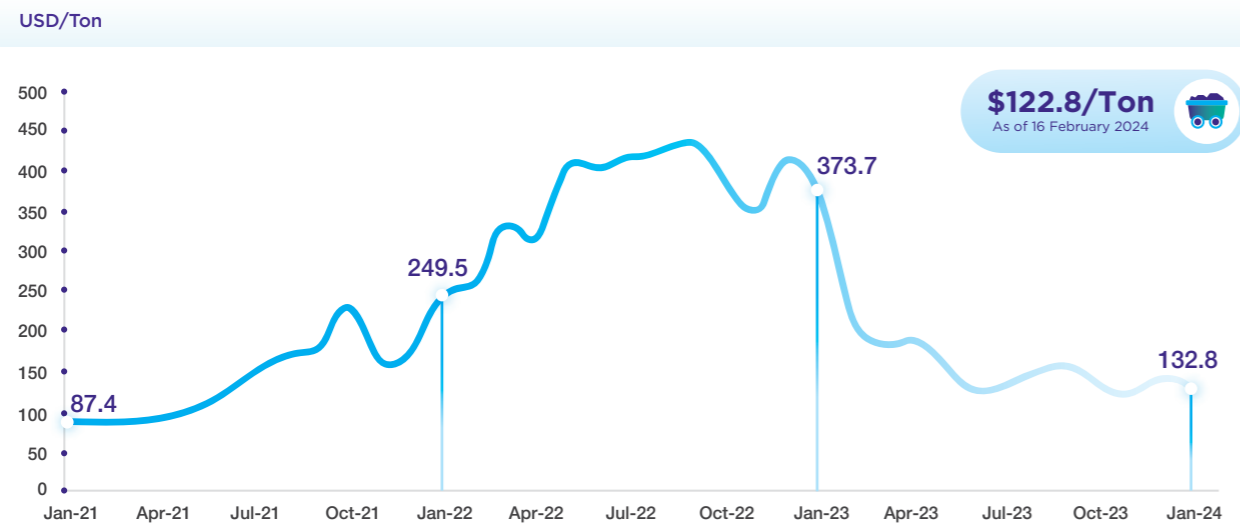
In 2023, BKV launched the first BKV First Responder Grant Program to assist Local First Responders in Texas and Northeastern Pennsylvania. The Company organized various activities to build positive relationships with local agencies by sharing information about security operations. Additionally, the Company awarded eight grants to first responders, totaling over USD 30,000.

# MANAGEMENT'S DISCUSSION AND ANALYSIS 2023

## 1. Energy Commodity Price Index

The market thermal coal and natural gas price since January 2021 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 2021 - February 2024**



**Average Henry Hub Natural Gas Price for January 2021 - February 2024**



## 2. Management Discussion and Analysis

Throughout the year 2023, global energy market experienced volatility, driven by various factors affecting demand and supply, resulting in adjustments to achieve normalization, and a slowdown in energy consumption, leading to a decrease in both coal and natural gas prices. Banpu therefore, conducted its business with a focus on enhancing operational efficiency and prudent cost management. These measures supported the company in maintaining stability and achieving FY 2023 net profit of USD 160 million. Banpu is committed to consistently implementing these strategies, with a particular focus on cost reduction while maintaining efficiency in response to the evolving energy market, seamlessly and sustainably.

The group's EBITDA was reported at USD 1,562 million, a decrease of 60% compared to the previous year. This performance was driven by Coal business reported an EBITDA of USD 914 million, down by 66%YoY; Gas business reported an EBITDA of USD 162 million, down by 85%YoY; Power business reported an EBITDA of USD 482 million, significantly increase by 108%YoY; and Energy Technology business reported an EBITDA of USD 4 million.

In the **Energy Resources business**, Banpu emphasizes the importance of operational flexibility optimizing efficiency throughout processes, allowing to proactively response to evolving market trends. This involves maintaining a competitive edge effectively over the long term.

**The Coal businesses** maintained a strong average selling price (ASP) of USD 110.70/ton, declined by 34% compared to previous year. Despite a slight 3% decrease YoY in total coal sales volume to 29.90 million tons, the average gross profit margin from coal business remains strong at 34%.

Indonesia coal business reported ASP of 113.92 USD/ton, down by 41% compared to previous year. The sales volume of 20.95 million tons, increase of 11% compared to previous year, primarily supported by favorable dry weather conditions with lower rainfalls. The efforts from efficiency improvement and cost management in response to market conditions help us reduced average production cost down to USD 61.97 USD/ton or a 5% decrease compared to previous year, result in healthy gross profit margin of 46%

Australia coal business reported ASP of AUD 173.56/ton, 19% decline compared to previous year. The export price remained strong at AUD 296.38/ton, while domestic price was significantly improved to AUD 123.39/ton, increased of 43% compared to AUD 86.41/ton in previous year. The sales volume was 6.98 million tons, down by 18% compared to previous, primarily due to difficult geology, coupled with rising inflation impact to increase in labor cost, consequently the cost of sales increases to AUD 172.47/ton. However, various policies and measures are implemented to focus on productivity, aiming to improve production to a satisfactory level in the coming years.

China coal business continue to report strong share of profit of USD 154.35 million, supported by strong Chinese domestic coal price driven by consistent demand for both industrial and residential sectors.

**The Gas business** in the US reported a sale volume of 313.73 billion Cubic Feet (Bcf), marking a 12% increase from previous year. However, the average local price was 2.41 USD/Mcf, decreased by 58% compared to previous year. The decline in gas prices resulted from lower-than-expected domestic utilization and an extended shut down for maintenance of the Freeport LNG export terminal located in Texas, leading to high natural gas reserves in the country. Banpu therefore, has recalibrated its operational plan with a focus on production plan flexibility and tightly managing costs to ensure continuous cash flow from operations.



Banpu's **Energy Generation business** upheld stability and efficiency across its power plant assets, prioritizing operational optimization to drive value and mitigate risks. The Temple I & Temple II US gas-fired power plant reported recorded outstanding performance from the continuing high demand and also ability to capture the peak electricity price during heatwave in Texas, so it reported operating profit of USD 73 million. HPC power plant generates share of profit of USD 87.53 million, with consistently strong annual EAF of 85%, BLCP reported significant improvement in its operational performance with share of profit increased to USD 30.20 million, from its consistent operation with reported annual EAF of 88%. Additionally, BLCP also benefited from additional 861 hours of operations outside of contracted availability hours (CAH) after fulfilled electricity dispatch ahead of schedule. The performance of CHPs (Combined Heat and Power) plants in China generated operating profit of RMB 45 million, largely due to effective cost control measures. Furthermore, government initiatives aimed at regulating coal prices for power plant fuel played a crucial role in driving down domestic coal costs to an average of RMB 1,035 per ton, marking a 13% decrease from the previous year. Shanxi Lu Guang (SLG) power plant in China also experienced positive outcomes from these policies, achieving a profit sharing of USD 3.5 million. However, Nakoso power plant in Japan reported loss sharing of USD 3.11 million, primarily stemming from planned yearly maintenance activities aimed at ensuring long-term efficiency and stability.

For the renewable business, Solar farms in China reported net profit of RMB 49 million, Solar farms in Japan reported TK dividend distribution of JPY 1,825 million. However, solar farm and wind farm in Vietnam, reported net loss of USD 0.1 million and the solar farms in Australia reported net loss of AUD 4.1 million

**Energy Technology business** has been focused on expanding its customer base and growing its energy storage business by increasing strategic investment to strengthen business value chain. For instance,

Banpu NEXT acquired a 40% stake in SVOLT Energy Technology (Thailand) Co., Ltd, a manufacturer and distributor of lithium-ion batteries for electric vehicles located in Chonburi province, with a production capacity of approximately 2 GWh, expected for deliveries in the 1st quarter of 2024. The increased shareholding in Dura Power Holdings Limited to 65.1% and a joint investment for a battery assembly facility in Chonburi province with capacity of 1 GWh, expected to commence commercial operations in the latter half of 2024. Moreover, there have been investments in several leading companies operating in the energy storage value chain. For example, a 4.51% stake in Green Li-ion, a Singapore-based company providing technology services for recycled lithium-ion batteries, and a 15.91% stake in Oyika, a Singapore-based startup offering battery swap solutions for electric motorcycles. Additionally, there are developments of new innovative projects, such as the Iwate Tono battery farm project in Japan, with a total electricity storage capacity of 58 MW, which is currently under construction and expected to commence commercial operations in 2025. Furthermore, for smart energy management solutions, BNSP Smart Tech Co., Ltd, a joint venture company between Banpu NEXT and SP Group, a leading Singaporean utilities company in Asia Pacific was awarded to design, develop, and manage a District Cooling System for the Government Complex Center Zone C, with commercial operations expected to begin in August 2024.

Additionally, Banpu established a Corporate Venture Capital (CVC) unit to oversee investments in New S-Curve businesses, accelerating growth in line with the Greener & Smarter strategy, and strengthening the existing businesses and ecosystem of the Banpu Group. This initiative emphasizes synergistic value creation with existing businesses, prioritizing advanced technology ventures, long-term competitive advantage, and sustainable returns. These developments across all business units reflect Banpu's commitment to driving continuous transformation and achieving the goal of becoming a sustainable energy provider.

### 3. Group Performance Analysis

The analysis and explanation of Banpu Group performance for the year ended 31 December 2023 and 2022 as follows:

#### Consolidated Statement of Income for the year ended 31 December 2023 and 2022

Consolidated financial performance (Unit: Million USD)	2023	2022	Change	
			Amount	%
Sales and service income	5,159	7,693	(2,534)	-33%
Cost of sales and services	(3,666)	(3,616)	(50)	-1%
<b>Gross profit</b>	<b>1,493</b>	<b>4,077</b>	<b>(2,584)</b>	<b>-63%</b>
Selling expenses	(168)	(229)	61	27%
Administrative expenses	(388)	(445)	57	13%
Royalty fee	(379)	(592)	213	36%
Share of profit from joint ventures and associates	268	339	(71)	-21%
Impairment loss on assets	-	(375)	375	-100%
Other income (expenses)	49	(366)	415	113%
Finance cost	(384)	(265)	(119)	-45%
<b>Profit before income taxes</b>	<b>491</b>	<b>2,144</b>	<b>(1,653)</b>	<b>-77%</b>
Income taxes	(119)	(521)	402	77%
<b>Profit for the year</b>	<b>372</b>	<b>1,623</b>	<b>(1,251)</b>	<b>-77%</b>
<b>Owners of the parent</b>	160	1,162	(1,002)	-86%
<b>Non-controlling interests</b>	212	461	(249)	-54%
Earnings (losses) per share (Unit: USD)	0.018	0.162	(0.144)	-89%
Diluted earnings (losses) per share (Unit: USD)	0.018	0.148	(0.130)	-88%

Banpu group performance for 2023 reported net profit at \$160 million, decreased by \$1,002 million or 86% compared to 2022. This was primary due to a decrease in natural gas and coal price compared to the previous year, resulting in a decrease in royalty fees and a decrease in loss on financial derivatives as well. In addition, the group invested in Temple

II gas-fired power plant in USA that has already achieved commercial operation date and immediately generated income and cashflows. The group has strategically managed its cost and expense, allowing the group to navigate the uncertainties of the energy market and maintain a consistent cash flow stream.

The Group performance for 2023 were describe as details follows:

### Sales and Cost of Sales

Unit: Million USD	Revenue			Cost of Sales		
	2023	2022	Inc.(Dec.)	2023	2022	Inc.(Dec.)
Coal Business	3,310	5,190	-36%	2,196	2,242	-2%
Natural Gas Business	735	1,658	-56%	715	639	12%
Power & Steam Business	932	746	25%	581	659	-12%
Others	182	99	84%	174	76	129%
<b>Total</b>	<b>5,159</b>	<b>7,693</b>	<b>-33%</b>	<b>3,666</b>	<b>3,616</b>	<b>1%</b>

### Sales

Sales reported at \$5,159 million (equivalent to THB 179,619 million), decreased by \$2,534 million compared to 2023, that derived from a decrease from coal businesses \$1,880 million, natural gas business \$923 million, while an increase in power and steam business \$186 million and other businesses \$83 million. Details were described as follows:

- Sales from coal business of \$3,310 million or 64% of total revenue separated by source of coal as below:
  - Indonesia coal mines of \$2,386 million
  - Australia coal mines of \$805 million
  - Coal trading business of \$119 million
- Sales from natural gas business in USA of \$735 million or 14% of total revenue.
- Sales from power and steam of \$932 million or 18% of total revenue derived from Combined Heat and Power (CHP) plants and solar power plants in China, solar power plants in Australia, wind power plant and solar power plant in Vietnam and gas-fired power plants in USA.
- Others of \$182 million or 4% was mainly from energy trading business in Japan and battery business in Singapore.

### 1. Coal Business

Coal Business		2023	2022	Inc.(Dec.)
Sales Volume	Million Tonnes	29.90	30.95	-3%
Average selling price	\$/Tonne	110.70	167.66	-34%
Average Cost of sales	\$/Tonne	73.45	72.42	1%

Coal sales of \$3,310 million, decreased by \$1,880 million or 36%, was a result of a decrease in average selling price by \$56.96 per tonne or 34%, a decrease in sales volume by 1.05 million tonnes or 3% and an increase in average cost of sales \$1.03 per tonne or 3% compared to 2022 as following details:

Indonesia Mines		2023	2022	Inc.(Dec.)
Sales Volume	Million Tonnes	20.95	18.93	11%
Average selling price	\$/Tonne	113.92	192.69	-41%
Average Cost of sales	\$/Tonne	61.97	64.90	-5%

### Coal Business in Indonesia

- Sales volume  
Coal sales volume was 20.95 million tonnes, increased by 2.02 million tonnes or 11% compared to 2022.
- Average selling price  
Average selling price per tonne was \$113.92, decreased by \$78.77 or 41%, resulting from coal price decreased compared to the prior year.
- Average cost of sales  
Average cost of sales per tonne was \$61.97, decreased by \$2.93 or 5% compared to 2022, primarily from an increase in coal production volume net with overburden expenditure. The group has been focusing on cost management to cope with volatility in global coal market price, while still maintaining coal quality, including quality development to meet customer demand and retain in the long run. Moreover, the group emphasized more efficiency in fuel used for production. This included a favor outcome from the cost reduction program that was implemented across the group.

Australia Mines		2023	2022	Inc.(Dec.)
Sales Volume	Million Tonnes	6.98	8.55	-18%
Average selling price	A\$/Tonne	173.56	213.06	-19%
Average Cost of sales	A\$/Tonne	172.47	131.56	31%

### Coal Business in Australia

- Sales volume  
Coal sales volume was 6.98 million tonnes, decreased by 1.57 million tonnes or 18% compared to 2022, derived from a decrease in both domestic and export sales due to a decrease in production volume from Mandalong mine, resulting from longwall relocation, and from Clarence mine that encountering with geological challenge.
- Average selling price  
Average selling price per tonne was A\$173.56, decreased by A\$39.50 or 19% compared to 2022 as the following details:

Australia Mines	Sales Volume (Unit: Million Tonnes)			Avg. Price/Tonne (A\$/Tonne)		
	2023	2022	Inc. (Dec.)	2023	2022	Inc. (Dec.)
Domestic	4.95	5.53	-10%	123.39	86.41	43%
Export	2.03	3.02	-33%	296.38	444.96	-33%
<b>Total</b>	<b>6.98</b>	<b>8.55</b>	<b>-18%</b>			

- Average selling price of domestic and export sales  
Average domestic selling price per tonne was A\$123.39, increased by A\$ 36.98 or 43%. This was due to higher domestic selling prices according to sales contracts. The average export selling price per ton was A\$296.38, decreased by A\$148.58 per tonne, or 33% driven by coal price decreased compared to 2022 despite of a depreciation of AUD currency against USD currency that impacted to higher export sales from currency conversion. The average AUD/USD in 2023 was 0.6645 (2022: 0.6941).
- Average cost of sales  
Average cost of sales per tonne was A\$172.47, increased by A\$40.91 or 31%. This was a result from a decrease in coal production as mentioned above, also from encountering geological challenge over the past.

## 2. Natural Gas Business

Natural Gas Business		2023	2022	Inc.(Dec.)
Sales Volume	Bcef **	313.73	279.91	12%
Average Local Price	\$/Mcf	2.41	5.72	-58%
Average Cost of Gathering, processing & tran	\$/Mcf	0.95	1.00	-5%
Average Cost*	\$/Mcf	1.48	1.54	-4%

\* Avg Cost excluded Cost of Gathering, processing & transportation

\*\* Bcf - Billion Cubic Feet

### Natural Gas Business in USA

Sales from natural gas business in 2023 reported at \$735 million, decreased by \$923 million or 56% compared to 2022. Details were as follows:

- Sales Volume  
Natural gas sale volume was 313.73 billion cubic feet, increased by 33.82 billion cubic feet compared to 2022. This was due to a full year revenue recognition from XTO Barnett that the group invested during 3Q2022.

- Average Local Price  
Refer to lower Henry Hub index price compared to 2022, the average local price per Mcf. in this quarter was \$2.41, decreased by \$3.31 per Mcf or 58% from 2022. This was a result from Henry Hub natural gas price and West Texas Intermediate (WTI) price that remained high last year due to consequential affects from banning imports and sale of oil and natural gas from Russia. As a result, there is an increased demand for liquefied natural gas (LNG) from other alternative sources, such as the United States. This incremental demand has influenced natural gas prices in the United States, causing them to adjust accordingly.
- Average cost of Gathering, processing & transportation  
Average cost of Gathering, processing & transportation per Mcf was \$0.95, decreased by \$0.05 or 5% compared to 2022, resulting from a decrease in gathering, processing and transportation cost from XTO Barnett that reduced outsourcing of midstream system from third party.
- Average Cost of Sale  
Average cost of sales (excluding gathering, processing & transportation cost) per Mcf was \$1.48, decreased by \$0.06 or 4% compared to 2022 from decrease in production tax per unit that was in line with the average Henry Hub price during the year.

## 3. Power Business

Sales from Power and Steam of \$932 million or 18% of total revenue was from sales from CHP plants \$186 million, solar power plants in China of \$26 million, solar power plants in Australia of \$13 million, wind power plant and solar power plant in Vietnam of \$13 million and gas-fired power plants in USA of \$694 million.

Details of sales from CHP plants, solar power plants in China and gas -fired power plants in USA were described as follows:

Power Business		Combined Heat & Power Plants (CHP)			Solar Power Plants			Gas-fired Power Plant		
		2023	2022	Inc.(Dec.)	2023	2022	Inc.(Dec.)	2023	2022	Inc.(Dec.)
Power sold Volume	GWh	989.95	1,089.42	-9%	229.54	227.35	1%	5,415.74	3,810.30	42%
Steam Volume	Million Tonnes	6.43	6.08	6%	-	-	-	-	-	-
Average PowerTariff	Unit/kwh	0.40	0.42	-5%	0.81	0.81	0%	69.65	74.71	-7%
Average Steam Price	RMB/Tonne	140.72	132.27	6%	-	-	-	-	-	-



### Combined Heat and Power (CHP) Plants in China

Sales from power and steam from 3 CHP plants in China of \$186 million, decreased by \$14 million or 7% compared to 2022, was mainly from a decrease in sales volume of power as details below:

- Sales Volume**  
 Sales volume of 989.95 GWh, decreased by 99.47 GWh or 9% compared to 2022 was result from a decrease in power demand from key customers. Steam sales volume of 6.43 million tonnes, increased by 0.35 million tonnes or 6%, mainly was from Luannan power plant due to an increase in demand from industrial customers.
- Average Selling Price**  
 Average power tariff was RMB 0.40 per kWh, decreased by RMB 0.02 per kWh compared to 2022. Average steam price per tonne was RMB 140.72, increased by 8.45 or 6% from 2022. This was because a part of steam price was adjusted under the new agreement.
- Cost of Sale**  
 Cost of sale was \$175 million, decreased by \$34 million or 16% due to a decrease of average coal price per ton. The average coal cost per ton was 1,035 RMB (2022: 1,184 RMB), decreased by 149 RMB or 13% decreased compared to 2022.

### Solar Power Plants in China

Sales from solar power plants in China reported at \$26 million, decreased by \$1.24 million or 4% compared to 2022. Details of sales volume, average power tariff and cos of sales were as follows:

- Sales Volume**  
 Sales volume of 229.54 GWh, increased by 2.19 GWh or 1% compared to 2022 due to an increase in production volume resulting from favorable weather conditions compared to 2022.
- Average Power Tariff**  
 Average power tariff was RMB 0.81, same as previous year.
- Cost of Sale**  
 Cost of sale was \$9.13 million, decreased by \$1.20 million or 12% compared to 2022.

### Gas- Fired Power Plants (Temple I & II) in USA

Sales from gas -fired power plants reported at \$694 million, increased by \$195 million or 39% compared to 2022. This was mainly from the acquisition of Tempel II gas-fired power plant during the year.

- Sales Volume**  
 Sales volume was 5,415.74 GWh, increased by 1,605.44 GWh or 42%, resulting from the acquisition of Temple II gas-fired power plant during the year.

- Average Power Tariff**  
 Average power tariff was \$69.65 per kWh, decreased by \$5.06 or 7% from unusually high temperature weather and a decrease in natural gas price compared to previous year.
- Cost of Sale**  
 Cost of sale was \$381.72 million, decreased by \$41.62 or 10% was mainly from a decrease in natural gas price compared to 2022.

### Administrative Expense

Administrative expenses reported at \$388 million decreased by \$57 million or 13%. This was a result from effective cost reduction program that the group carefully managed expenses i.e., consulting fee and administration expense. Whereas an increase in expense related to business expansion in USA and from business acquisition in the past.

### Royalty Fees

Royalty fees reported at \$379 million, decreased by \$213 million or 36%. The fee comprised of royalty fees from Indonesia mines \$332 million, decreased by \$182 million, and royalty fees from Australia mines that was \$47 million, decreased by \$31 million. This was a result from a decrease in coal quantity and selling price compared to 2022.

Profit Sharing (Unit: Million USD)	2023	2022	Inc.(Dec.)	
			Amount	%
BLCP	30	16	14	88%
Hongsa & Phufai Mining	88	105	(17)	-17%
Shanxi Luguang	4	(9)	13	-144%
Coal business in China	155	229	(74)	-32%
Holding companies in renewable and energy technology businesses	(9)	(2)	(7)	-350%
<b>Total</b>	<b>268</b>	<b>339</b>	<b>(71)</b>	<b>-21%</b>

### Share of Profit from Joint Ventures and Associates

Profit sharing from joint ventures and associates reported at \$268 million, decreased by \$71 million or 21% compared to 2022 mainly due to details described as below:

- Recognition of profit sharing from BLCP of \$30 million increased by \$14 million. This was mainly due to an increase in operating profit of \$9 million, a decrease in deferred tax expense recognition and loss on exchange rate translation total of \$5 million.

2. Recognition of profit sharing from Hongsa power plant and PhuFai mining in Laos of \$88 million, decreased by \$17 million from the plan and unplan maintenance shutdown and gain on foreign exchange rate translation of \$1 million.
3. Recognition of profit sharing from SLG power plant of \$4 million, increased by \$13 million from better performance resulting from higher sales volume and from entering a long-term coal supply contract with favorable price compared to 2022.
4. Recognition of shares of profit from coal business in China of \$155 million, decreased by \$74 million. This was from a decrease in coal price compared to 2022.

### Other Income

Other income of \$49 million comprised of:

1. Net gain on foreign exchange rate of \$2 million was mainly from unrealized gain on foreign exchange rate translation of asset in IDR currency due to an appreciation of IDR currency against USD currency compared to 2023. Average exchange rate of USD/IDR as of 31 Dec 2023 was IDR 15,416 (2022: IDR 15,731). Netting with unrealized gain on foreign exchange rate translation of loan in THB currency from an appreciation of THB against USD. Average exchange rate of USD/THB as of 31 Dec 2023 was THB 34.2233 (2022: THB 34.5624).
2. Net loss from financial derivatives of \$164 million comprised of:
  - Realized loss from financial derivatives of \$107 million derived from natural gas swap contracts of \$35 million, electricity swaption of \$94 million, foreign exchange rate forward contract \$18 million. Whereas gain on cross currency swap and interest rate swap of \$6 million, coal swap contract of \$11 million, fuel swap contract of \$7 million and interest rate swap contract of \$16 million.
  - Unrealized loss on fair value remeasurement of financial derivatives at the end of year of \$57 million comprised of electricity swaption of \$11 million, electricity call option \$44 million and foreign exchange rate forward contract \$2 million.
  - Loss from fair value remeasurement of investment in equity instruments and debt instruments measured fair value through profit and loss of \$0.46 million.
3. Management fee income and others of \$211 million was from:
  - Interest income of \$48 million.
  - Management fee income charged to related parties and joint ventures of \$2 million.

- Dividend income of \$13 million, was mainly from profit sharing from solar power business in Japan under TK (TOKUMEI KUMIAI) agreement.
- Bargain purchase on business combination of \$89 million. This was derived from gain on fair value remeasurement its previously held equity interest from business combination achieved in stage of \$79 million, resulting from additional investment in a battery business that was a former associate to be a subsidiary, also gain on acquisition of remaining interests in a mine business in Australia of \$10 million.
- Others of \$59 million. Those were steaming connection fee income from new residential steam customers from CHP plants in China, sales of ashes, slag and scraps from mines and power plants, warehouse management fee income, tax redemption receipts and others.

### Income Tax

Income tax of \$119 million, decreased by \$402 million or 77% compared to 2022 was mainly from:

1. A decrease in corporate income tax of \$202 million, aligned with a decrease in operating profits.
2. An increase in withholding tax of \$8 million, due to an increase in dividends during the year.
3. A decrease in deferred tax expense of \$208 million, resulting from recognition of deferred tax asset on operating loss.

### 4. Statements of Consolidated Financial Position

Statements of Consolidated Financial Position as of 31 December 2023 in comparison with the Statements of Consolidated Financial Position as of 31 December 2022.

Financial Position (Unit: Million USD)	31-Dec-23	31-Dec-22	Inc.(Dec.)	
			Amount	%
Assets	13,000	12,638	362	3%
Liabilities	8,172	8,229	(57)	-1%
Equity	4,828	4,409	419	10%

4.1 Total assets of \$13,000 million, increased by \$362 million compared to total assets as of 31 December 2023 with details described as below:

Financial Position (Unit: Million USD)	Assets		Inc.(Dec.)	
	31-Dec-23	31-Dec-22	Amount	%
Cash and Cash equivalent	1,575	2,154	(579)	-27%
Investment in debt instruments measured at fair value through profit or loss	24	12	12	100%
Trade accounts receivable and note receivables, net	529	668	(139)	-21%
Inventory net	244	196	48	24%
Current portion of dividend receivables from related parties	-	28	(28)	-100%
Current portion of deferred exploration/stripping costs, net	119	131	(12)	-9%
Financial derivative assets due in one year	114	14	100	714%
Other current assets	470	483	(13)	-3%
<b>Total Current Assets</b>	<b>3,075</b>	<b>3,686</b>	<b>(611)</b>	<b>-17%</b>
Dividend receivables from related parties	-	3	(3)	-100%
Investments in joint ventures and associates	1,972	1,784	188	11%
Investment in debt instruments measured at FVPL	209	178	31	17%
Investment in debt instrument measured at amortised cost	60	-	60	100%
Investment in equity instrument measured at FVPL	16	7	9	129%
Investments in equity instruments measured at FVOCI	167	159	8	5%
Property, plant and equipment, net	4,602	4,190	412	10%
Deferred exploration/stripping costs, net	789	740	49	7%
Mining property rights, net	863	876	(13)	-1%
Goodwill	485	394	91	23%
Right of use assets	56	77	(21)	-27%
Financial derivative assets	50	51	(1)	-2%
Other non- current assets	656	493	163	33%
<b>Total Non-Current Assets</b>	<b>9,925</b>	<b>8,952</b>	<b>973</b>	<b>11%</b>
<b>Total Assets</b>	<b>13,000</b>	<b>12,638</b>	<b>362</b>	<b>3%</b>

- Cash and cash equivalents of \$1,575 million decreased by \$579 million. (As explanation in no.5 Consolidated Statement of Cash Flows).
- Investment in debt instrument measured at fair value through profit or loss of \$24 million, increased by \$12 million from additions of \$42 million, reclassification from non-current part of \$12 million, net with redemptions of \$42 million.
- Account receivables and note receivable of \$529 million, decreased by \$139 million, mostly from gas business in USA of \$101 million and coal business in Indonesia of \$97 million. This was due to a decrease in sales price compared to the previous year, whereas an increase in account receivable from consolidation of a battery business in Singapore of \$19 million that was changed from an associate to be a subsidiary during 1Q2023, and from other business of \$40 million.
- Current portion and non-current portion of dividend receivable from related parties reported at nil, decreased by \$31 million. This was a net result of:
  - 1) An increase from an additional declared dividend of \$81 million.
  - 2) A decrease from dividend received of \$112 million, net withholding tax.
- Other current assets of \$470 million decreased by \$13 million. A decrease was from short term loan to joint ventures and associates of \$49 million, prepaid expense, i.e., insurance and office rental of \$7 million, restricted deposit for bank guarantee from a subsidiary in Australia of \$128 million. Whereas an increase was from restricted deposit from business in USA of \$140 million, also from advance to account payable, suppliers, revenue department receivable and others of \$31 million that was mainly from business in Indonesia, Australia and China.
- Investment in joint ventures and associates at equity method of \$1,972 million, increased by \$188 million or 11% was from:
  - 1) An increase from addition of investment in battery business in Singapore and others of \$37 million.
  - 2) An increase from recognition of profit sharing from joint ventures and associates by \$268 million.
  - 3) A decrease from change of investment type in battery business from an associate to a subsidiary of \$31 million.
  - 4) An increase from recognition of other comprehensive income from investment in joint ventures and associates of \$4 million.
  - 5) A decrease from dividend recognition during the year of \$81 million.
  - 6) A decrease in the effects of foreign exchange rate translation at the end of year and others of \$9 million.



- Current portion and non-current portion of deferred exploration and development expenditure, net of \$119 million and \$789 million, respectively, totaling of \$908 million, increased by 37 million or 4%. This was a result of additions of \$764 million, net with amortization of \$697 million and the effects of foreign exchange rate translation at end of the year of \$30 million.
- Investment in debt instrument measured at fair value through profit or loss of \$209 million, increased by \$31 million, or 17% was primary from investment in funds in USA and Singapore during the year total of \$47 million, while decrease from reclassification to be non-current part \$12 million and the effect from fair value remeasurement at the end of the year of \$3 million and a decrease in the effects of foreign exchange rate translation at the end of the year of \$1 million.
- Investment in debt instrument measured at amortized cost of \$60 million was investment in government bond of a subsidiary.
- Investment in equity instruments measured at fair value through other comprehensive income of \$167 million, increased by \$8 million. This was due to:
  - 1) An increase from the impact of fair value remeasurement of investment at the end of the year of \$14 million.
  - 2) An increase from investment in solar business in Japan of \$17 million.
  - 3) A decrease from sales and reclassification to be investment in associate and joint venture of \$16 million.
  - 4) A decrease from the effects of foreign exchange rate translation at the end of the year and others of \$7 million.
- Property plant and equipment of \$4,602 million, increased by \$412 million or 10% derived from:
  - 1) An increase from additions of machine and equipment of coal business, natural gas business and power business total of \$381 million.
  - 2) An increase from additions of investment in battery business in Singapore, solar power business in Japan and Temple II gas-fired power plant in USA totaling of \$496 million.
  - 3) A decrease from fair value remeasurement of contingent liability from asset acquisition of \$25 million.
  - 4) An increase from fair value remeasurement of previously held equity interest of \$11 million.
  - 5) A decrease from sales and write-off of \$28 million.
  - 6) A decrease from depreciation of \$409 million.
  - 7) A decrease from the effects of foreign exchange rate translation at the end of the year and others of \$14 million.

- Mining property rights, net of \$863 million, decreased by \$13 million or 1%, resulting from amortization during the year of \$23 million and the effects of foreign exchange rate translation at the end of the year of \$10 million.
- Goodwill of \$485 million, increased by \$91 million or 23%. This was derived from additional investment in battery business in Singapore of \$86 million and from the effects of foreign exchange rate translation at the end of the year of \$5 million.
- Right of use assets of \$56 million decreased by \$21 million or 27%. This was from additions of \$8 million net with write off \$1 million, an increase from remeasurement of \$3 million, amortization of \$30 million and the effects of foreign exchange rate translation at the end of the year of \$1 million.
- Current portion and non-current portion of financial derivative assets of \$114 million and \$50 million, respectively, totaling \$164 million. This was a result from fair value remeasurement of financial derivative at the end of the year, which comprised of interest rate swap of \$11 million, electricity swaption of \$37 million, coal swap of \$10 million, foreign exchange rate forward contract of \$3 million, and natural gas swap and option of \$103 million.
- Other non-current assets of \$656 million increased by \$163 million. This was mainly from prepaid income tax in Indonesia of \$45 million, restricted deposits in Indonesia and Australia of \$6 million, and vat receivable of \$65 million, intangible assets of \$69 million from additional investment in battery business in Singapore and deposits of \$3 million whereas a decrease in right to operate power plant of \$4 million and others of \$21 million.

4.2 Total liabilities of \$8,172 million, decreased by \$57 million compared to total liabilities as of 31 December 2023 with movement details as described below:

Financial Position (Unit: Million USD)	Liabilities		Inc.(Dec.)	
	31-Dec-23	31-Dec-22	Amount	%
Short-term loans from financial institutions	727	451	276	61%
Trade accounts payable	140	123	17	14%
Current portion of long-term borrowings, net	885	667	218	33%
Current portion of debenture, net	204	251	(47)	-19%
Accrued overburden and coal transportation costs	89	113	(24)	-21%
Financial derivative liabilities due in one year	78	66	12	18%
Other current liabilities	636	1,112	(476)	-43%
<b>Total current liabilities</b>	<b>2,759</b>	<b>2,783</b>	<b>(24)</b>	<b>-1%</b>
Long-term loans from financial institutions	2,252	2,262	(10)	0%
Debentures, net	2,431	2,372	59	2%
Financial derivative liabilities, net	5	4	1	25%
Provision for decommissioning and reserve for environment reclamation	278	263	15	6%
Other liabilities	447	545	(98)	-18%
<b>Total non-current liabilities</b>	<b>5,413</b>	<b>5,446</b>	<b>(33)</b>	<b>-1%</b>
<b>Total liabilities</b>	<b>8,172</b>	<b>8,229</b>	<b>(57)</b>	<b>-1%</b>

- Short-term loans from financial institutions of \$727 million, increased by \$276 million or 61%, was from additions of \$2,150 million, business combination of \$18 million, while repayment of \$1,901 million and the effects of foreign exchange rate translation at the end of the year of \$9 million.
- Current portions of long-term loans from financial institutions of \$885 million, increased by \$218 million or 33%. This was a net result from a reclassification from non-current portion of \$829 million, additions of \$20 million and business combination of \$2 million, repayment of \$633 million, an increase from amortization of deferred finance charge of \$1 million, and a decrease from the effects of foreign exchange rate translation at the end of the year of \$1 million.

- Current portions of debenture reported of \$204 million, decreased by \$47 or 19% was from reclassification from non-current portion of \$215 million, fully redemption as duration of \$251 million and from the effects of foreign exchange rate translation at the end of the year of \$11 million.
- Accrued overburden and coal transportation expenses of \$89 million, decreased by \$24 million or 21% was mainly from mining operations of subsidiaries in Indonesia.
- Other current liabilities of \$636 million decreased by 476 million. This was primary from a decrease in income tax payable of \$210 million, withholding tax payable of \$45 million, fixed asset purchase payable of \$1 million, other accrued expense i.e., small supplier services, spare parts & supplies expense and warehouse rental total of \$20 million, accrued expense from derivative contracts settlement of \$102 million, contingent liabilities from acquired XTO Barnett of \$45 million, accrued expense related to natural gas wells of \$67 and others of \$4 million whereas an increase in accrued interest expense of \$14 million and employee benefit obligations of \$4 million.
- Long-term loans of \$2,252 million, decreased by \$10 million, was a net result of:
  - 1) An increase from additional loan during the year of \$814 million.
  - 2) An increase from business acquisition of \$12 million.
  - 3) A decrease from reclassification to the current portion of \$829 million.
  - 4) A decrease from repayment of \$11 million.
  - 5) An increase from the effects of foreign exchange translation at the end of the year of \$4 million. This was a result of an appreciation of THB currency against USD currency at the end of the year that impacted on THB currency loan. Average exchange rate of USD/THB as of 31 December 2023 was 34.2233 (31 Dec 2022: 34.5624).
- Debenture of \$2,431 million, increased by \$59 million or 2%. This was from additions of \$241 million, reclassification to current portion of \$215 million, and the effects of foreign exchange rate translation at the end of the year of \$33 million due to an appreciation of THB currency against USD currency that impacted to THB currency debenture.
- Current portion and non-current portion of derivative liabilities reported at \$78 million and \$5 million, respectively, totaling \$83 million. This was a result of changes in fair value of financial derivatives at the end of the year, that consisted of cross currency swap and interest rate swap of \$6 million, natural gas swap contracts of \$21 million, electricity call option \$42 million, fuel swap contracts of \$1 million, and electricity forward contract of \$13 million.

4.3 Shareholders' equity of \$4,828 million increased by \$419 million compared to shareholders' equity as of 31 December 2022, with movement details as described below:

Financial Position (Unit: Million USD)	Equity		Inc.(Dec.)	
	31-Dec-23	31-Dec-22	Amount	%
Equity attributable to owners of the parent	3,823	3,409	414	12%
Non-controlling interests	1,005	1,000	5	1%
<b>Total equity</b>	<b>4,828</b>	<b>4,409</b>	<b>419</b>	<b>10%</b>

- An increase of \$160 million from net profits.
- An increase of \$316 million from additional paid-up share capital.
- An increase of \$7 million from reserve for share-based compensation to employees.
- An increase of \$165 million from fair value reserves for financial assets measured at fair value to other comprehensive income, cash flows hedge reserves and net investment hedge.
- An increase of \$3 million from fair value of put options over non-controlling interests.
- An increase of \$208 million from non-controlling interest.
- An increase of \$53 million from the effects of foreign exchange rate translation of subsidiaries' financial statements and others.
- A decrease of \$493 million from dividend payment.

4.4 Net debt-to-equity ratio as of 31 December 2023 reported at 0.90 times (31 December 2022: 0.74 times).

## 5. Statement of Consolidated Cash Flows

Statement of consolidated cash flows for the year ended 31 December 2023 presented a decrease of net cash flow by \$579 million (included the effect from unrealized loss on exchange rate translation at the end of the year of \$13 million). The details of consolidated cash flows activities were as follows:

Statement of Consolidated Cash Flows (Unit: Million USD)	Amount
Net Cash flows from operating activities	122
Net Cash flows used in investing activities	(913)
Net Cash flows from financing activities	225
<b>Net decrease in cash and cash equivalents</b>	<b>(566)</b>
Exchange gain on cash and cash equivalents	(13)
Cash and cash equivalents at the beginning of the year	2,154
<b>Cash and cash equivalents at end of the year</b>	<b>1,575</b>

5.1 Net cash flows from operating activities of \$122 million; with major operating items as follows:

- Collections from sales of \$4,401 million.
- Payments to contractors and suppliers of \$2,986 million.
- Interest payments of \$367 million.
- Payments of income tax of \$454 million.
- Royalty fee payments of \$384 million.
- Other payments of \$88 million.

5.2 Net cash used in investing activities of \$913 million; with major items as follows:

- Payments for machines, equipment, and project in progress of \$322 million.
- Payments for business combination of \$36 million.
- Payment for investment in debt instrument of \$60 million.
- Receipts from short term loan to related companies of \$40 million.
- Payments for financial assets measured at fair value through profit and loss of \$55 million.
- Receipts from financial assets measured at fair value through other comprehensive income of \$10 million.
- Payment for an acquisition of investment in a subsidiary of \$465 million.
- Payments for deferred exploration and development expenditure of \$165 million.
- Payments for placement of restricted deposits at banks of \$13 million.
- Receipts from dividends from joint ventures of \$108 million.
- Receipts from interest income and others of \$45 million.



5.3 Net cash flows from financing activities of \$225 million; comprised of

- Receipts from short-term and long-term loans from financial institutions and debentures of \$3,225 million.
- Repayments of short-term and long-term loans from financial institutions, debentures, and lease liabilities of \$2,826 million.
- Receipts from additional paid-up share capital of \$316 million.
- Payment for dividend of \$493 million.
- Receipts from an increase in share capital of a subsidiary from non-controlling interest of \$3 million.

## 6. Coal Reserves

The quantity of sales and remaining of coal reserves for the year ended 31 December 2023:

Coal Mine (Unit: Million Tons)	Quantity of Coal Sales and Reserves			
	Coal reserves as of 31 Dec 2022	Reserves reduce 2023	Sales volume Jan - Dec 2023	Coal reserves as of 31 Dec 2023
<b>1. Indonesia</b>				
1.1 Jorong	7.28	-	0.58	6.70
1.2 Indominco	23.54	-	6.56	16.98
1.3 Kitadin	0.12	0.12	-	-
1.4 Trubaindo	32.52	-	2.80	29.72
1.5 Bharinto	135.84	-	6.99	128.86
1.6 Graha Panca Karsa	21.50	-	-	21.50
1.7 NPR Project	77.40	-	-	77.40
<b>2. Australia</b>	252.62	-	6.46	246.16
<b>3. China</b>				
3.1 Gaohe	100.15	-	9.37	90.79
3.2 Hebi Zhongtai	12.93	-	0.90	12.04
<b>Total</b>	<b>663.91</b>	<b>0.12</b>	<b>33.64</b>	<b>630.15</b>

## 7. Natural Gas Reserves

The quantity of sales and remaining of natural gas reserves for the year ended 31 December 2023:

Quantity of Natural Gas Sales and Reserves	Natural Gas
	(Unit: Million Cubic Feet)
Natural Gas reserves as at 31 December 2022	5,785,289
1) Adjustment on reserve estimation	(321,765)
2) Production and Sales 2023	(313,800)
<b>Natural Gas reserves as at 31 December 2023</b>	<b>5,149,724</b>

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

## FINANCIAL RATIO

### Banpu Public Company Limited and Its Subsidiaries

		For the Year Ended 31 December		
		2023	2022	2021
<b>Liquidity Ratio</b>				
Current Ratio	(Times)	1.11	1.32	0.88
Quick Ratio	(Times)	0.77	1.02	0.58
Cash Flow Liquidity Ratio	(Times)	0.34	0.82	0.40
Account Receivable Turnover	(Times)	8.59	13.42	11.37
Average Collection Period	(Days)	41.91	26.82	31.66
Inventory Turnover	(Times)	22.26	27.48	21.93
Average Inventory Period	(Days)	16.17	13.10	16.42
Account Payable Turnover	(Times)	27.93	32.67	28.83
Account Payable Days	(Days)	12.89	11.02	12.49
Cash Cycle	(Days)	45.20	28.90	35.59
<b>Profitability Ratio</b>				
Gross Profit Margin	(%)	28.93	52.99	41.98
Operating Profit Margin	(%)	12.81	43.23	27.53
Cash to Profit Margin	(%)	1.43	0.69	0.91
Net Profit Margin	(%)	2.83	13.72	6.78
Returns on Equity	(%)	3.46	30.95	10.27
<b>Efficiency Ratio</b>				
Returns on Assets	(%)	1.25	9.86	2.99
Returns on Fixed Assets	(%)	16.66	47.22	26.71
Fixed Asset Turnover	(Times)	0.44	0.72	0.44
<b>Financial Ratio</b>				
Debt to Equity	(Times)	1.69	1.87	2.53
Net Debt to Equity	(Times)	0.90	0.74	1.31
Interest Coverage Ratio	(Times)	2.54	9.40	5.78
Dividend Payout	(%)	73	21	28

## OTHER REFERENCES

<b>Ordinary Share Registrar</b>	<b>Thailand Securities Depository Company Limited</b> 1 <sup>st</sup> Floor, The Securities Exchange of Thailand 93 Ratchadapisek Road, Din Daeng, Bangkok 10400 Tel. +66 2009 9000 Contact Center +66 2009 9999
<b>Debenture Registrar</b>	<b>Bangkok Bank Public Company Limited</b> 333 Silom Road, Bangrak, Bangkok 10500 Tel. +66 2626 4525
<b>Bond Representative</b>	<b>Siam Commercial Bank Public Company Limited</b> 9 Ratchadapisek Road, Jatujak, Bangkok 10900 Tel. +66 2795 7974 - 9  <b>Bangkok Bank Public Company Limited</b> 333 Silom Road, Bangrak, Bangkok 10500 Tel. +66 2230 1894
<b>Auditor</b>	Ms. Amornrat Pearmpoonvatanasuk Authorised Auditor No. 4599  <b>PricewaterhouseCoopers ABAS Company Limited</b> 15 <sup>th</sup> Floor, Bangkok City Tower 179/74-80 South Sathorn Road, Bangkok 10120 Tel. +66 2844 1000
<b>Financial Advisor</b>	-None-
<b>Advisor or Manager under Management Agreement</b>	The Company did not hire any advisors or managers under any permanent management agreement. Advisors, including financial advisors, were hired on a case-by-case basis as necessary to support its operations from time to time. The Company's management is mainly supervised by the Board of Directors.
<b>Financial Institutions</b>	The Company is regularly in contact with around 30 local and international commercial banks and financial institutions.

## SIGNIFICANT LITIGATION DURING THE YEAR

On 19 April 2022, an Indonesian subsidiary was sued for the breach of Cooperation Agreement with the other company dated 4 September 2004. The Plaintiff was claiming compensation for total losses of US Dollar 490.64 million. On 13 December 2022, the District Court dismissed the Plaintiff's claim in its entirety. The Plaintiff then appealed to the High Court the District Court's verdict, which was again dismissed on 23 February 2023. Later on, the Plaintiff filed a cassation against the Appeal Decision to the Supreme Court on 7 March 2023. On 27 September 2023, the Panel Judges at the Supreme Court decided to reject the cassation request and upheld the Verdict of the District Court.





Section  
**2**

CORPORATE GOVERNANCE



# CORPORATE GOVERNANCE POLICY

The Board of Directors of Banpu Public Company Limited has enforced the “Corporate Governance Policy and Code of Conduct” for directors, executives, and employees at all levels since 2002. The Board annually reviews the policy to ensure compliance with the business context, laws, regulations, rules, and guidelines of related agencies. The Corporate Governance and Nomination Committee is delegated by the Board to conduct a preliminary review of the policy and submit to the Board for final decision. In addition, the Board of Directors supports the organization of communication sessions to foster understanding and awareness of the Corporate Governance Policy and the Code of Conduct while promoting their implementation and continuously monitoring the results.



For complete information on the “Corporate Governance Policy and Code of Conduct,” **Please scan the QR code or click on ‘CLICK HERE’.**

The Company monitored and evaluated the effectiveness of implementing the Corporate Governance Policy and Code of Conduct in the organization based on the 2023 Corporate Culture and Employee Engagement Survey results, using the “Committed” value as an indicator. The results classified by job levels and locations were at a satisfactory level.

## Communication of Corporate Governance Policy

With a commitment to strict compliance with the Corporate Governance Policy, the Code of Conduct, and best practices in corporate governance, Banpu organized communication activities in 2023 to foster corporate culture and promote a positive attitude toward corporate governance under the concept of “CG Safeguard.” The Company enhanced employees’ knowledge and understanding of corporate governance through the following activities and communications:

### 1. Training on the Principles of Good Corporate Governance

The Company organized a session on the principles of good corporate governance (CG) and the Code of Conduct for all of Banpu’s new employees through Orientation Application as part of its employee orientation.

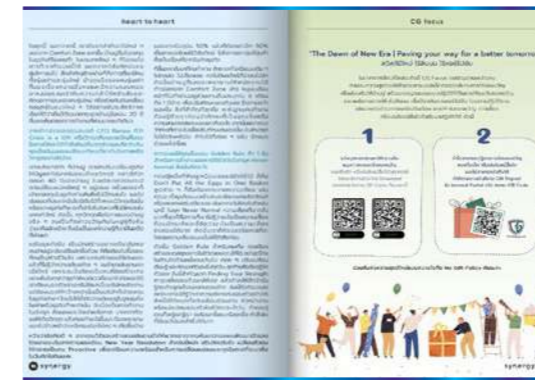
### 2. Internal Communication via “CG Safeguard”

The Company has created a series of interactive CG e-mails, called “CG Safeguard,” to disseminate information on good corporate governance practices and current CG trends.



### 3. CG Storytelling Contest: Every Story Needs to Be Told

The Company organized a CG storytelling contest for employees to share their memorable stories reflecting “Adhere to Integrity and Ethics” value. The winning story was made into a video clip and showcased to employees at the CG Day event.



### 4. CG of the Month Column in Banpu Synergy E-Magazine

This column in Banpu Synergy E-Magazine features articles on good CG practices, as well as CG trends and updates. The quarterly internal e-magazine is published online and accessible to Banpu’s employees in every country where the Company invests. The column aims to create understanding and awareness of the importance of corporate governance.



### 5. CG Day 2023

“CG Day 2023” was organized with various activities to promote compliance with Banpu’s corporate governance principles and to foster understanding and practice of the value “Adhere to Integrity and Ethics.”

### 6. Evaluating understanding of CG through CG E-learning and CG E-testing systems

The Corporate Governance Division and the Banpu Academy Department co-developed the CG E-learning and E-testing systems to assess employees’ understanding of CG and to promote learning and compliance with the CG Policy and the Code of Conduct. The e-learning is provided on the “B SUCCESS” platform, which is Banpu’s learning management system.

### 7. Anti-Corruption

In 2023, the Company conducted its annual assessment of corruption risks and established preventive measures, covering all businesses in every country where it invests, including its subsidiaries and joint ventures. The results were reported to the Risk Management Committee. Moreover, the Company continually communicated and informed its employees about relevant policies and practices to combat corruption, such as the Corporate Governance Policy, the Code of Conduct, and the Standard Practice Manual for Accepting and Offering of Gifts, Hospitality, or Other Similar Forms of Reward. All employees can access these policies through internal communication channels. In the past year, letters were sent out to directors, executives, and employees to request adherence to the No Gift Policy.



For complete information on the “Anti-corruption Policy,” **Please scan the QR code or click on ‘CLICK HERE’.**

## The Policy and Practices Related to the Board of Directors, Shareholders, and Stakeholders

The Board of Directors formulated the Corporate Governance Policy as guiding principles for directors, executives, and employees based on the Securities and Exchange Commission of Thailand (SEC)'s Corporate Governance Code 2017, comprising eight key principles as follows:

### Principle 1 Establish Clear Leadership Role and Responsibilities of the Board

Since 2009, the Board of Directors has explicitly defined the Board's duties and responsibilities in "The Practices for the Board of Directors of Banpu Public Company Limited B.E. 2552." The Practices have been periodically amended, with the most recent amendments in 2022, to align the Board's duties and responsibilities with the changing business environment, rules and regulations, and corporate governance guidelines.



For complete information on "The Practices for the Board of Directors of Banpu Public Company Limited," [Please scan the QR code](#) or [click on 'CLICK HERE'](#).

Banpu's Board of Directors is fully aware of its roles and responsibilities in leading and driving the Company forward. The Board is responsible for establishing strategies and policies for business undertaking with accountability, prudence, and integrity to ensure the Company's best interests and social responsibility through adherence to the environmental, social, and governance (ESG) principles. The Board of Directors' scope of duties and responsibilities is as follows:

1. The Board of Directors plays a significant role in establishing the vision and missions of the organization, which focuses on becoming a sustainable business. The Board monitors and supervises the Company's operations and reviews business performance yearly to make sure the goals are achieved. It also approves key performance indicators (KPIs) of finance and action plans as well as regularly oversees and monitors the management's performance against those plans. Besides, the Board requires the Company's vision and missions to be reviewed at least every five years to ensure that the Company's business operations are on track toward sustainable development as planned.
2. The Board of Directors and the executives have jointly developed a long-term business plan and strategic plan every five years for more than 20 years to ensure alignment with the Company's vision and missions. The Board of Directors appointed the Chief Executive Officer to be in charge of business management as well as strategy development and implementation. The CEO's authority and responsibilities were clearly stipulated. The CEO's authority is cascaded down through executives of lower levels in business units both in Thailand and abroad according to the Company's delegation of authority matrix.
3. The Board of Directors established the Corporate Governance Policy and Code of Conduct, which are coherent with the Company's vision and missions, business credo, values, principles, and recommended practices. This provides clear guidelines and makes it convenient for directors, executives, and employees to follow. Employees receive explicit guidance on their expected actions and those they should avoid. They are also advised of standard practices they are

expected to follow for how to treat fellow employees, shareholders, customers, partners, creditors, competitors, and society at large. Being aligned with the Corporate Governance Policy, these practices are believed to lead to more tangible practice of good governance.

The Company stipulated that all directors, executives, and employees shall acknowledge, understand, and comply with the Corporate Governance Policy and practices as defined in the Code of Conduct. The Company keeps employees, both domestic and overseas, informed of this through publications and activities organized all year round to promote understanding and awareness of the importance of compliance with the Code of Conduct. The executives of each department are responsible for creating understanding among their subordinates and promoting compliance with the Code of Conduct, while employees at all levels are expected to act as role models.

Apart from the practices prescribed in the Code of Conduct, the executives and employees have jointly built "Banpu Heart," the Company's corporate culture, to strengthen corporate shared values among employees at all levels, both in Thailand and abroad.

### Principle 2 Define Objectives that Promote Sustainable Value Creation

Based on the Board of Directors' guidance and suggestions, the management formulates and presents the business direction, a long-term strategic plan, annual work plan, annual budget, and annual workforce plan to the Board. The Board then has an open discussion with the executives to reach a mutual agreement before approval.

In 2023, the Board of Directors and the executives reviewed and approved the strategic plan and business direction for 2021-2025 to ensure that they respond to the rapidly changing business environment. The Company also conducted a risk assessment to prepare its business operations for future situations.

The Company devised business strategies and the strategic plan for the next five years based on its sustainable development plan with an emphasis on competitiveness enhancement, stakeholder value creation as well as adaptability to economic and industrial changes. To facilitate its Greener & Smarter strategy, the Company aims to increase the portfolio of cleaner energy and energy technology businesses to 50% by 2025. Performance monitoring has been included as a standing item on the agenda of the Board's monthly meeting. The Board monitored the implementation of the strategy by the executives against the annual plan and the strategic plan and provided advice or feedback on improvement where necessary.

### Principle 3 Strengthen Board Effectiveness Determination and Review of Board Structure

The Board of Directors determined and reviewed the Board structure in relation to the number of directors, the proportion of independent directors, diversity of qualifications, and specialization of each director to ensure suitability for the Company's business. Sub-committees were also set up to support the Board's duties.

#### Appointment of Board Members

##### Independent Directors,

who account for 38% of the Board, are as follows:

1. Mr. Teerana Bhongmakapat
2. Mr. Pichai Dusdeekulchai
3. Mr. Teerapat Sanguankotchakorn
4. Mr. Piriya Khempon
5. Mrs. Watanan Petersik\*
6. Mr. Suthad Setboonsarng\*\*

##### Notes:

\* Mrs. Watanan Petersik (Person No. 5) was appointed as an independent director, effective 4 April 2023, and as an Audit Committee member, effective 1 May 2023.

\*\* Mr. Suthad Setboonsarng (Person No. 6) resigned from the position of director, effective 4 April 2023.



Independent directors are an important mechanism for good corporate governance. For the Company and shareholders' best interests, there should be a sufficient number of independent directors to balance the decision-making of the Board and to share opinions independently without influence from any individual or party. An independent director serves a maximum of three terms or nine years, as stipulated in The Practices for the Board of Directors of Banpu Public Company Limited B.E. 2552, Amendment No.5 B.E. 2560, Clause 6 Term of Office and Retirement.

Banpu defined independent directors more strictly by imposing more stringent requirements than those stipulated by the SEC, particularly on the director's shareholding. Qualifications of "Independent Directors" are available on Banpu's website.



For more information about "Qualifications of Independent Directors,"  
Please scan the QR code  
or click on 'CLICK HERE'.

### Nomination of Directors and Senior Executives

The Corporate Governance and Nomination Committee is responsible for the nomination of candidates to replace directors whose terms will expire or are terminated on other reasons. The nomination procedure is as follows:

1. Review the structure and the composition of the Board in order to strengthen the Board of Directors as a whole.
2. Review general and specific qualifications as well as independent directors' qualifications and set additional criteria for candidate screening and nomination in accordance with the Company's business strategy and in compliance with the Stock Exchange of Thailand's (SET)'s rules and regulations. After the recruitment process,

the Corporate Governance and Nomination Committee will submit the proposed candidates for approval by the Board of Directors and nominate them for election at the Annual General Meeting of Shareholders (AGM).

The Corporate Governance and Nomination Committee is responsible for nominating directorial candidates to replace vacancies. The Committee considers candidates from the director pool and allows each member to nominate the candidates. The Committee determines and discloses the Board Diversity, then announces via the Company's website to invite minority shareholders to nominate qualified candidates within a specified duration and conditions. All candidates will then undergo a nomination process in which knowledge, capability, experience, general qualifications, and board skills mix contributive for board composition and collaboration are considered. The number of nominated candidates will be twice as many as the number of vacancies, and the nomination must be approved by the Board. The Shareholder's meeting will approve the appointment of directors with a minimum of 50% of the voting rights of the total shareholders attending the meeting and having the right to vote. The voting is carried out for each individual director.

The Corporate Governance and Nomination Committee regularly monitors CEO and executive succession planning. The Committee evaluates candidates based on their essential skills, experience, and specific qualifications aligned with the company's operations. This is to ensure the development of a robust succession pipeline, fostering the preparation of knowledgeable and competent executives for critical roles in the future. (For further information on this topic, please refer to the section "Succession Planning and High Potential Management" on page 263.)

### Performance Evaluation of the Board of Directors

The Company requires a performance evaluation of the Board of Directors, sub-committees, and individual directors, with details on criteria, procedures, and evaluation results disclosed in the annual report and the Corporate Governance and Nomination Committee's report. The Company also requires the Board to conduct an annual self-assessment to review its performance, problems, and obstacles in the past year to identify ways to enhance its efficiency based on good governance principles. The Secretary of the Corporate Governance and Nomination Committee is in charge of distributing the performance evaluation forms for the evaluation of the full Board and evaluation of individual directors. Upon completion, the forms will be returned to the Secretary of the Corporate Governance and Nomination Committee for tabulation and analysis. The analysis of the annual performance will then be summarized and reported to the Board of Directors as per the evaluation objective. The overall evaluation results are as follows:

#### Performance Evaluation of the Board of Directors

The evaluation form for the Board of Directors contains questions grouped into five main categories as follows:

1. Structure and composition of the Board
2. Roles, duties, and responsibilities of the Board
3. Nomination of directors
4. Remuneration of directors
5. Board meeting and performance of the Board

### Performance Evaluation of the Sub-committees

The evaluation form for the four sub-committees, namely the Audit Committee, the Compensation Committee, the Corporate Governance and Nomination Committee, and the Environment, Social, and Governance (ESG) Committee, consists of items in four major categories as follows:

1. Qualifications of the directors
2. Duties and responsibilities of the directors
3. Duties and responsibilities of each sub-committee according to the Charter
4. Meeting and reporting

#### Performance Evaluation of Individual Directors

The evaluation form consists of seven major categories as follows:

1. Structure and composition of the Board
2. Roles, duties, and responsibilities of the Board
3. Ethics and corporate governance
4. Development of directors
5. Relationship with the management
6. The Board of Directors' meetings
7. Overall performance of directors

Performance Evaluation of the Board of Directors	Average scores	Evaluation Results
<b>Full Board</b>	4.62	Excellent
<b>Individual Directors</b>	4.59	Excellent
<b>Sub-Committees</b>		
The Audit Committee	4.75	Excellent
The Corporate Governance and Nomination Committee	4.93	Excellent
The Compensation Committee	4.84	Excellent
The Environment, Social, and Governance Committee	4.61	Excellent

### Development of the Board of Directors and the Senior Executives

According to the SEC's Corporate Governance Code for Listed Companies (CG Code) 2017, "The Board of Directors should ensure that the Board and each individual director understand their roles and responsibilities as well as the nature of the business. The Board should also support all directors in updating and refreshing their skills and knowledge necessary to carry out their roles as members of the Board and Board committees."

At Banpu, the Board of Directors requires that an orientation session be held for all new directors to ensure that they are aware of what the Company expects of them in their roles, duties, and responsibilities. Through orientation, the directors also learn about the Corporate Governance Policy and practices, the nature of Banpu's business and operations, and risk management. In addition, the Company arranges site visits to different operational units for new directors to prepare them for their role as directors.

The Board of Directors has the policy to expand all directors' horizons on various topics, such as corporate governance, industrial outlook, businesses, and new technologies and innovations. Directors are encouraged to attend seminars and take useful courses held by the Thai Institute of Directors Association (IOD) and other reputable institutions to improve their performance. Apart from that, seminars led by the executive team are held for directors to transfer related technical knowledge and experience about the Company's business. Knowledge-sharing sessions regarding new technological advancements in energy are also organized for the executives so that they can share such experiences and knowledge with the Board of Directors on a regular basis. In 2023, the Board of Directors attended seminars and training programs as follows:

### Summary of the Board of Directors' Personal Development in 2023

Name	Training Course/ Seminar	Institution	Date of Training/ Seminar
<b>Mr. Chanin Vongkusolkit</b> Chairman of the Board of Directors	• Carbon Capture Utilization & Storage (CCUS) and Future Opportunity to Banpu	• Banpu Public Company Limited	7 March 2023
	• Cybersecurity & Privacy Awareness	• Banpu Public Company Limited	17 July 2023
	• Global and Thai Economic Directions	• Banpu Power Public Company Limited and Somprawin Manprasert, Ph.D.	14 October 2023
	• Cybersecurity & Privacy Awareness #2	• Banpu Public Company Limited	1 December 2023
	• ESG Risks and Trends in Power Business	• ERM Consultant	6 December 2023
<b>Mr. Teerana Bhongmakapat</b> Independent Director/ Chairman of the Audit Committee/ Member of the Compensation Committee	• Carbon Capture Utilization & Storage (CCUS) and Future Opportunity to Banpu	• Banpu Public Company Limited	7 March 2023
	• Cybersecurity & Privacy Awareness	• Banpu Public Company Limited	17 July 2023
	• ESG Summit	• Banpu Public Company Limited	10 October 2023
	• Cybersecurity & Privacy Awareness #2	• Banpu Public Company Limited	1 December 2023
<b>Mr. Piriya Khempon</b> Independent Director/ Chairman of the Environmental, Social, and Governance Committee/ Member of the Corporate Governance and Nomination Committee	• Cybersecurity & Privacy Awareness	• Banpu Public Company Limited	17 July 2023
	• ESG Risks and Trends in Power Business	• ERM Consultant	6 December 2023
<b>Mr. Anon Sirisaengtaksin</b> Director/ Chairman of the Corporate Governance and Nomination Committee	• Carbon Capture Utilization & Storage (CCUS) and Future Opportunity to Banpu	• Banpu Public Company Limited	7 March 2023
	• Cybersecurity & Privacy Awareness	• Banpu Public Company Limited	17 July 2023
	• ESG Summit	• Banpu Public Company Limited	10 October 2023
	• Cybersecurity & Privacy Awareness #2	• Banpu Public Company Limited	1 December 2023

Name	Training Course/ Seminar	Institution	Date of Training/ Seminar
<b>Mr. Buntoeng Vongkusolkit</b> Director/ Chairman of the Compensation Committee	• Executive Coaching and Mentoring Program	• John Robert Powers and Mr. Kriengsak Niratpattanasai	5 September 2023
	• Communicating Mitr Phol Purpose	• Mitr Phol Development Institute	26 September 2023
<b>Mr. Pichai Dusdeekulchai</b> Independent Director/ Member of the Audit Committee/ Member of the Environment, Social and Governance Committee	• Carbon Capture Utilization & Storage (CCUS) and Future Opportunity to Banpu	• Banpu Public Company Limited	7 March 2023
	• Cybersecurity & Privacy Awareness	• Banpu Public Company Limited	17 July 2023
	• ESG Summit	• Banpu Public Company Limited	10 October 2023
	• Cybersecurity & Privacy Awareness #2	• Banpu Public Company Limited	1 December 2023
	• ESG Risks and Trends in Power Business	• ERM Consultant	6 December 2023
<b>Mr. Teerapat Sanguankotchakorn</b> Independent Director/ Member of the Compensation Committee/ Member of the Environment, Social and Governance Committee	• Cybersecurity & Privacy Awareness	• Banpu Public Company Limited	17 July 2023
	• ESG Summit	• Banpu Public Company Limited	10 October 2023
	• Cybersecurity & Privacy Awareness #2	• Banpu Public Company Limited	1 December 2023
	• ESG Risks and Trends in Power Business	• ERM Consultant	6 December 2023
<b>Mrs. Watanan Petersik</b> Independent Director/ Member of the Audit Committee	• ESG Summit	• Banpu Public Company Limited	10 October 2023
<b>Mr. Metee Auapinyakul</b> Director	• Carbon Capture Utilization & Storage (CCUS) and Future Opportunity to Banpu	• Banpu Public Company Limited	7 March 2023
	• Cybersecurity & Privacy Awareness	• Banpu Public Company Limited	17 July 2023
	• Global and Thai Economic Directions	• Banpu Power Public Company Limited and Somprawin Manprasert, Ph.D.	14 October 2023

Name	Training Course/ Seminar	Institution	Date of Training/ Seminar
<b>Mr. Ongart Auapinyakul</b> Director	• Carbon Capture Utilization & Storage (CCUS) and Future Opportunity to Banpu	• Banpu Public Company Limited	7 March 2023
<b>Mr. Verajet Vongkusolkit</b> Director/ Member of the Corporate Governance and Nomination Committee	• Carbon Capture Utilization & Storage (CCUS) and Future Opportunity to Banpu	• Banpu Public Company Limited	7 March 2023
	• Coaching Program: CEO Coaching Skill	• Mitr Phol Group	March 2023
	• Cybersecurity & Privacy Awareness	• Banpu Public Company Limited	17 July 2023
	• Communication Mitr Phol Purpose Workshop	• Mitr Phol Group	September 2023
	• Mitr Phol OKRs Workshop	• Mitr Phol Group	September 2023
<b>Mr. Sarayuth Saengchan</b> Director/ Member of the Corporate Governance and Nomination Committee	• Corporate Innovation Summit 2023	• RISE - Corporate Innovation Powerhouse	14 November 2023
	• RISE Alpha Silicon Valley	• RISE - Corporate Innovation Powerhouse	3-7 April 2023
	• Investors Certification Course (QBAC+)	• World Business Angel Investment Forum (WBAF)	13-18 July 2023
	• Cybersecurity & Privacy Awareness	• Banpu Public Company Limited	17 July 2023
	• ESG Summit	• Banpu Public Company Limited	10 October 2023
	• Sustainability Transformation Xponential	• RISE - Corporate Innovation Powerhouse	27 October - 24 November 2023
	• Cybersecurity & Privacy Awareness #2	• Banpu Public Company Limited	1 December 2023
<b>Mrs. Somruedee Chaimongkol</b> Director/ Chief Executive Officer	• Carbon Capture Utilization & Storage (CCUS) and Future Opportunity to Banpu	• Banpu Public Company Limited	7 March 2023
	• Cybersecurity & Privacy Awareness	• Banpu Public Company Limited	17 July 2023
	• Global and Thai Economic Directions	• Banpu Power Public Company Limited and Somprawin Manprasert, Ph.D.	14 October 2023
	• Cybersecurity & Privacy Awareness #2	• Banpu Public Company Limited	1 December 2023
	• ESG Risks and Trends in Power Business	• ERM Consultant	6 December 2023



## Principle 4 of CEO Nomination and Development, and People Management

### Succession Planning Policy

The Board of Directors has devised a succession plan for the CEO and senior executives to ensure that the Company has knowledgeable and competent executives to fill critical positions in the future. The CEO is invited to report the succession plan to the Corporate Governance and Nomination Committee and the Board at least once a year. The Charter of the Corporate Governance and Nomination Committee also prescribes that the Committee has a duty to ensure that a development plan for senior executives (for vice president level and higher) is in place to prepare high-potential candidates for critical roles (for vice president level and higher) if a senior executive retires, resigns, or is unable to perform the duties.

In 2023, the Corporate Governance and Nomination Committee continuously reviewed and monitored the progress of the succession planning for the CEO and senior executive roles. Candidates are considered based on their skills, experience, and specific qualifications necessary and appropriate to Banpu's operations. This was to ensure that the Company would have a succession plan in place and prepare knowledgeable and competent executives for critical positions in the future. (For further information on this topic, please refer to the section "Succession Planning and High Potential Management" on page 263 and "Report of the Corporate Governance and Nomination Committee" on page 271.)



For further information on the "Corporate Governance and Nomination Committee Charter,"  
**Please scan the QR code or click on 'CLICK HERE'.**

## Principle 5 Nurture Innovation and Responsible Business

The Company focuses on maintaining sustainability throughout the supply chain and thus prioritizes adherence to good governance principles in business operations along with effective management of risks and opportunities. International standards are integrated into the formulation of a sustainable development strategy that encompasses economic, social, and environmental dimensions to enhance the Company's competitiveness and create value for all stakeholders through a two-tier management system as follows:

- **Strategic Integration of Sustainability:**

The Board of Directors reviews sustainability risk issues and advises the CEO on appropriate mitigation measures.

- **Operational Integration of Sustainability:**

The Sustainability Committee oversees, monitors, and evaluates sustainability performance as well as determines and reviews policies to enhance sustainable development.

The Company annually sets sustainability indicators as well as short-term and long-term performance goals for both the executives and operational employees, while integrating sustainability into the corporate culture and cultivating it in all countries where it operates. The Company also regularly discloses management processes and business performance to stakeholders through the appropriate channels.

Moreover, the Company announced an Innovation Policy to align with its vision of being an innovation-driven company, focusing on using innovations to drive all businesses of Banpu Group and serve as an integral part to advance business growth. The Innovation Policy has been implemented as follows:

- Establish an infrastructure that allows and encourages all employees to propose ideas for improvement of the Company's processes and technologies.
- Support innovation activities to continuously enhance the Company's productivity.
- Put innovative culture into practice by creating a motivation and work environment that inspires creativity and innovation.
- Develop training programs or projects specifically designed to improve creative thinking skills by including innovation as part of the programs.
- Create infrastructure that promotes innovation, keeps abreast of future trends, and develops products, services, processes, or tools that could quickly and effectively respond to future demands.

### Roles of Stakeholders

Banpu is committed to fostering fairness for all stakeholders. The Company set forth guidelines on stakeholder treatment in the Corporate Governance Policy and the Code of Conduct to be followed by directors, executives, and employees to ensure equitable treatment and interests of stakeholders. Important guidelines pertain to conflicts of interest, the responsibility to shareholders, and policies on the treatment of employees, customers, trading partners, creditors, competitors, and society at large. Directors, executives, and employees shall acknowledge, understand, and strictly comply with the guidelines in order to ensure that all stakeholders are treated fairly, and their rights are protected.

In addition, Banpu has established a whistleblower channel, allowing all groups of stakeholders to file grievances regarding breaches of corporate governance and the Code of Conduct via the



For complete information on "Whistleblower Policy and Protection of Whistleblowers,"  
**Please scan the QR code or click on 'CLICK HERE'.**



For the details of whistleblower channels,  
**Please scan the QR code or click on 'CLICK HERE'.**

Company's website on the "Whistleblowing" page under the Corporate Governance section. Grievances will be sent directly to the Chairman of the Corporate Governance and Nomination Committee at GNCchairman@banpu.co.th and/or to the Secretary of the Corporate Governance and Nomination Committee at GNCSecretariat@banpu.co.th. The Company regularly monitors those grievance cases and reports the progress to the Corporate Governance and Nomination Committee on a quarterly basis and to the Board of Directors on an annual basis. The Company keeps a record of grievance cases and outcomes as well as follow-up data in the system. Preventive measures were also established to prevent the recurrence of similar complaints. Banpu's Whistleblower Policy was formulated and has been effective since 2015 to protect whistleblowers and foster a culture of transparency. Guidelines on case investigation are as follows:

1. In case there is sufficient evidence to support the allegation of misconduct, a full investigation into the case will be carried out. The investigation pattern may vary depending on the circumstances. The investigation will be carried out under strict terms of confidentiality, and the whistleblower may be contacted for further information.
2. The investigation team will inform the whistleblowers of the investigation's results and outcomes through appropriate communication channels.
3. Senior management will decide on the actions to be taken against the wrongdoer, e.g., disciplinary punishment or any other appropriate measures.
4. The Company affirms that whistleblowers who report in good faith any wrongdoing or suspected violation of law, rules, and regulations and the Code of Conduct will not be affected.

In addition, the Company announced a “No Gift” Policy to prevent receiving gifts and other benefits from stakeholders, and informed all stakeholders via the Company’s website. The Company also requires the registration of any gifts received through the internal portal system. The Board members, executives, employees, and subsidiaries shall be aware of and comply with the policy, which has been established in accordance with the Anti-Corruption Policy. The Company has stipulated the practice of giving and receiving bribery, gifts, and business entertainment in the Code of Conduct. The practice includes the following topics as outlined in the Code of Conduct.

**Giving and Receiving Bribes**

1. Directors, executives and employees are prohibited from, either directly or indirectly, demanding solicit or receive any money, object of any value, compensation, or any other benefit from trading parties, contractors, suppliers, advisors, or those with whom the Company is conducting business.
2. Directors, executives and employees are strictly prohibited from offering any benefit to government officers, customers, labor unions, or any other external parties in an attempt to persuade them to commit a fraudulent action.

**Gifts, Gratuities, and Business Entertainment**

1. Directors, executives and employees should refrain from giving gifts or gratuities to or receiving them from any trading partner or others with whom the Company is doing business. Gifts given or received during festive occasions are excluded from this requirement, provided that they have an appropriate value allowed by law, regulations, announcement, local culture, local norm or business practices and are not related to any business commitment.

2. Directors, executives and employees should refrain from giving or receiving unusually lavish entertainment to or from those with whom the Company is doing business.

**Employees**

Banpu values employees as the cornerstone of success. Hence, the Company has formulated policies and practices toward employees in its Code of Conduct to ensure that employees of all nationalities and languages are treated fairly in terms of access to career opportunities, remunerations, appointments, transfers, capacity-building and a safe workplace for their lives and properties. Banpu has implemented adequate and appropriate Safety, Occupational Health, and Environmental measures to prevent loss from an accident as well as occupational illness or injury. The Company has announced its HR Philosophy, which is established based on the following three principles:

1. Principle of Equitability
2. Performance-based Principle
3. Competency-based Principle

Accordingly, the Company assumes responsibility for enhancing employees' adaptability to changes in the business landscape and the global economy, emphasizing flexibility, mobility, and positive creativity while prioritizing professionalism beyond the chain of command. In other words, Banpu focuses on developing “professional employees” while ensuring fair and equitable treatment of employees regardless of nationality, ethnicity, language, and gender. Moreover, with the “Banpu Heart” culture, the Company aims to create a cohesive workplace where all its people unite as one to work together under a shared vision and toward the same goals.

The Company is committed to aligning human resource management with the Company’s vision, changing business landscape, and the goal of becoming an International Versatile Energy Provider. Hence, capacity building and fostering agile working are among the Company’s top priorities as they facilitate smooth collaboration, promote reskilling and upskilling, and give employees equal opportunities to thrive across functions and countries. In 2023, Banpu continued to improve the “Banpu People Value Proposition” for more effective human resource management.

The Company has a Compensation Policy to provide bonuses and promotions according to the Company’s performance both in the short and long term. It is committed to providing employees with fair compensation in the forms of salary, welfare, and other benefits, e.g., health insurance, provident fund, and Flexi Benefits.

The Company has a fair human resource management system in which professional personnel are recruited and hired based on professional experience regardless of gender, age, ethnicity, nationality, and religion. This can be witnessed from diversity in Banpu’s workforce in terms of ethnicity, religion, language, culture, age, knowledge, perspective, and work experience both at the head office in Thailand and overseas.

Moreover, to support its employees, the Company periodically reviews its related human resource policies, regulations, and support measures for emergency situations to ensure compliance with changes in relevant laws, such as labor law, and shifts in social and environmental conditions that would affect the way of working. In this respect, the Company has carried out the following activities.

- The Company issued the Work Anywhere Policy, allowing employees to work remotely from anywhere twice a week and choose their work schedule and the working style that suits the nature of their work. They can work from the office, work from home, or from anywhere as long as the goals are met.
- The Company formulated an internship program to ensure that intern students got the most out of their internship while being paid for their work. The intern students were also given a chance to attend training programs such as presentation in English and financial planning to prepare them for the professional world.
- The Company hired disabled masseurs to support the government’s policy on the employment of persons with disabilities. Other supports included a direct donation to the Fund for Empowerment of Persons with Disabilities or hiring of persons with disabilities through government agencies to work in communities.
- Regarding employee treatment, the Company does not prevent employees from forming a labor union according to the Labor Relations Act. Although the labor union has not been organized, employees can file complaints with the Welfare Committee, who will review the complaints and subsequently report the cases to the management.
- Employees can consult or file complaints directly with their supervisor, HR Manager, or opt for an online channel if they would like to keep their identity anonymous when filing certain complaints, such as workplace concerns, conflict within their team or with the team leader, untransparent conduct, and sexual harassment. The Company has put in place procedures for investigating complaints and imposing disciplinary penalties against misconduct as stipulated in the Company’s work rules.

- In response to crisis, for instance, floods, fire, or pandemics, the Company has prepared a set of emergency aid guidelines to support its employees in the forms of allowances, temporary shelters, survival kits, vaccines, and other assistance where applicable.

The Company puts top priority on providing employees with inclusive and regular learning opportunities to enable them to realize their full potential. It has also set up a Job Evaluation Committee, an Organization Development Committee, and a Succession Plan Committee and has given full support to the Compensation Committee and the Corporate Governance and Nomination Committee in maintaining transparency and driving the workforce toward steady and sustainable growth.

In addition, the Company allows employee representatives to recommend employee benefits through the Welfare Committee on a quarterly basis. Over the past year, the Company has improved welfare and human resource management in aspects relating to employees as follows:

- Communicating with employees about career planning, focusing on three main components: career path, career aspirations, and career development through the “Design Your Own Career Workshop.” This initiative aimed to assist employees in understanding how to plan their career growth by engaging in experimental process of designing career paths and planning self-development according to their goals. The activity would foster dialogue with their supervisors and contribute to a personalized development plan that aligns with the organization’s vision and goals.

- Providing additional welfare beyond the basics to care for employees holistically, such as annual flu vaccinations, access to psychiatrist service, Health at Work online medical consultation service, Virtual One-on-One exercise sessions, office syndrome massages, flexible benefits with greater variety, onsite physical therapy and dental care. The Company also conducted general wellbeing and psychosocial assessments to be used as resources for designing activities for employees in 2024.
- Organizing the Boost Me Up Series for the third consecutive year, both onsite and online, with a focus on topics including mental health, physical health, nutrition, and financial planning. Activities included workshops such as tax planning and investing in funds, Getting Fit the Series Workshop: Sustainable Weight Loss—Let’s Make It Last, Listen to Your Heart, as well as the Tax Tricks Workshop.

Apart from that, when recruiting for business operations roles at each work site, the Company prioritizes hiring local candidates who possess relevant knowledge and skills. However, if a suitable candidate cannot be found locally, the Company will consider hiring candidates from outside the area.



For complete information on “Employees,”  
**Please scan the QR code or click on ‘CLICK HERE’.**

## Customers

Banpu endeavors to respond effectively to customers’ needs. Policy and guidelines on customer treatment are stipulated in the Code of Conduct. The Company is strictly committed to delivering quality products and services according to customers’ expectations at a fair price, timely providing customers with accurate and adequate information, and strictly complying with the terms and conditions agreed upon with customers. The Company has established a grievance process to allow customers to file complaints about the quality, volume, and safety of products and services. It also provides advice on how to effectively use its products and services in the customers’ best interests. A satisfaction survey and interview are conducted to understand customer needs and issues. In addition, the customer data is kept strictly confidential and shall never be misused.

The Company employs various approaches to create relationships with diverse customers. The approaches are tailored to suit each business as follows:

Type of Business	Customer Relationship Management Approach
<b>Mining Business</b>	<ul style="list-style-type: none"> <li>• Regular customers meetings</li> <li>• Organizing knowledge-sharing seminars</li> <li>• Quarterly performance reporting</li> <li>• Inviting customers to visit the company</li> </ul>
<b>Thermal Power Business</b>	<ul style="list-style-type: none"> <li>• Regular customer meetings</li> <li>• Technical consultations</li> </ul>
<b>Renewable Power Business</b>	<ul style="list-style-type: none"> <li>• Organizing knowledge-sharing seminars</li> <li>• Performance reporting</li> </ul>
<b>Solar Rooftop Business</b>	<ul style="list-style-type: none"> <li>• Technical consultations</li> <li>• Assessment of return on investment</li> <li>• 24-hour after-sales service</li> </ul>

## Suppliers/Creditors

The Company has the policy to treat its suppliers and/or creditors equitably and fairly by taking into consideration its best interests whilst acting on the basis of mutual benefit. The Company also ensures that conflicts of interest are avoided and contractual obligations are fulfilled, as well as providing accurate information, correct reports, and negotiates problem-solving based on business relationships. The following are Banpu’s supplier/creditor treatment guidelines:

1. The Company shall not demand, receive, or pay any improper benefits to its suppliers and/or creditors.
2. Should it become known that bribes have been demanded, or payment of any improper benefit has occurred, full information will be disclosed to the trading partners and/or creditors involved, and the Company shall collaborate with the parties concerned to resolve the problem on a fair and timely basis.
3. The Company shall strictly comply with all the terms and conditions agreed upon in a transaction. In the event that any particular condition cannot be met, the Company will inform any creditor(s) concerned beforehand and seek a mutually acceptable solution.



For complete information on “Customer & Product Stewardship,”  
**Please scan the QR code or click on ‘CLICK HERE’.**



For complete information on “Supplier Management and Supplier Code of Conduct,”  
**Please scan the QR code or click on ‘CLICK HERE’.**



### Competitors

The Company sets forth in the Code of Conduct policies and practices toward competitors in a way that complies with international practices and within a legal framework for business competition. The Company will not fraudulently infringe upon or seek to obtain the trade secrets of any competitors. The Company is also committed to fair business conduct by following the guidelines indicated in its Code of Conduct. In 2023, the Company had no disputes with competitors.

### Community and Society

The Company has the policy to conduct businesses that benefit the economy and society while maintaining a balance between business growth and community, social, and environmental development. The Company is also committed to being a good corporate citizen and to strict compliance with the relevant laws and regulations. Banpu strives to improve the quality of society, either through the Company's activities or collaboration with the government sector, communities, or non-governmental organizations.

Furthermore, the Sustainability Policy has been implemented and benchmarked against global standards, such as the reporting of greenhouse gas (GHG) emissions (ISO 14001). The Company has also developed effective safety, occupational health, and

environmental management guideline, which include the management of potential risks from its operations that may affect employees, business partners, society, the environment, and the communities where the Company operates.

The Company has developed a framework for managing stakeholder analysis by integrating it into the corporate strategy development process. In addition, the Company has standardized stakeholder engagement management and community complaint management to ensure they are aligned across all Banpu's businesses and to ensure that all complaints are properly resolved.

Banpu's commitment to human empowerment goes beyond its organization. The idea of empowerment extends to Corporate Social Responsibility (CSR) programs as the Company allocates part of its earnings to implement CSR programs at the local and corporate levels, including the CSR programs in all countries where it operates.



CLICK HERE

For complete information on "Community and Society," **Please scan the QR code or click on 'CLICK HERE'.**

### Principle 6 Strengthen Effective Risk Management and Internal Control

#### Risk Management Policy

The Board of Directors ensures that the Company has a comprehensive risk management system covering risk factors related to vision, goals, business strategies, finance, production, and other aspects. The Board is entrusted with the duty to consider the appropriateness of the Company's risk management system, risk likelihood, and level of impact. Measures for the prevention and management of risks are established, and persons to be accountable for addressing risks have been appointed. Besides, the Board has determined measures for reporting, monitoring, and evaluating risk management. The Risk Management Committee was set up at the management level to regularly present a risk management plan and performance to the Audit Committee and occasionally report them to the Board. The Committee reviews the risk management system and evaluates the performance at least once a year and when the risk level changes.

#### Internal Control Policy

The Board of Directors ensures the Company has a comprehensive internal control system, covering all aspects of its operations, including finance, operations, and compliance with applicable laws and regulations. Moreover, the Board ensures that a sufficient and effective checks and balances mechanism is in place to safeguard shareholders' interests and Company assets. Additionally, the Board clearly defines the authorization levels and responsibilities for executives and employees, incorporating the checks and balances mechanism. Operational procedures are made available in writing. The Global Internal Audit Department works independently and reports directly to the Audit Committee, who audits the operations of all functions, including core business functions and support functions, to ensure regulatory compliance.

### Governance of Subsidiary and Affiliated Companies

The Company has managed its subsidiaries and devised business procedures to ensure operational effectiveness and proficiency, as follows:

#### The Company and Its Subsidiaries' Investment Policy

1. The executives shall study and assess the preliminary findings of the Investment Committee before reporting the results and investment outlook summary to the Board of Directors. The Board then considers and approves the project which involves funding, development, and expansion, as well as the subsidiary's key policies. The Board of Directors also has the authority to approve the establishment or dissolution of a subsidiary as necessary to ensure that Banpu's portfolio can be most efficiently managed.
2. The Board of Directors shall consider and approve investments based on the criteria set by the SEC, such as connected transactions and decisions involving acquisition or disposition of assets.
3. The Board of Directors shall have a governance mechanism to oversee subsidiaries and safeguard the Company's investments. The Board is responsible for the consideration of suitable executives to serve as directors of the Company's subsidiaries to ensure that the management is aligned with the Company's policies and all transactions comply with securities and exchange laws and regulations, as well as the SET's announcements.
4. The subsidiaries shall report their performance and key business transactions. They shall also conduct sensitivity analysis, evaluate the operational performance against goals, and provide a summary review with recommendations for improvement. This process serves as the foundation for policy formulation and business enhancement to ensure the continuous growth and development of the Company's subsidiaries.

### Contact Channels

Stakeholders may submit their opinions about the Company through the following channels:

<b>Headquarters</b>	27 <sup>th</sup> Floor, Thanapoom Tower, 1550 New Petchburi Road, Makkasan, Ratchathewi, Bangkok 10400
<b>Telephone:</b>	+66 2694 6600
<b>Website</b>	www.banpu.com
<b>Company Secretary</b>	Telephone: +66 2694 6859 Email: bodsec@banpu.co.th
<b>Investor Relations</b>	Telephone: +66 2694 6684 Email: investor_relations@banpu.co.th
<b>Corporate Communications</b>	Telephone: +66 2694 6680 Email: cc@banpu.co.th

### Internal Control Policy and Group-level Management Policy

The Board of Directors and the executives require the Global Internal Audit Department to report directly to the Audit Committee to ensure independence when performing their duties. The Department is also required to report on the progress of internal audits to the Board of Directors on a quarterly basis.

Level of control over a subsidiary is proportionate to the Company's shareholding. The Board of Directors is responsible for appointing an executive to serve as a director in each subsidiary to ensure that the business direction aligns with Banpu's policies and strategies. Director selection is decided based on knowledge, relevant competencies to the subsidiary, work location (in case of a foreign subsidiary), health and readiness of the director. Director positions in Banpu's subsidiaries are reviewed at least once a year.

### Budget Policy

The preparation of the operational and investment budgets of a subsidiary must be in accordance with the budget guidelines of each subsidiary and consistent with the Company's budget guidelines. Budget preparation and review must be completed within the specified timeframe, and the corresponding information must be submitted accordingly. Any investment project valued over THB 1.5 billion or spending that exceeds the approved budget by over 15% is subject to the Board of Directors' approval.

### Principle 7 Ensure Disclosure and Financial Integrity

#### Conflict of Interest

The Company considers that it is important to prohibit directors, executives, and employees from using their positions for personal gain. As stipulated in the Code of Conduct, directors, executives, and employees are to avoid connected transactions that could lead to a conflict of interest with the Company. If necessary, the transactions are to be carried out at arm's length, and directors or employees having an interest in the transactions must not be involved in the approval process. If any transaction is considered

connected transaction under the SET's notification, rules, procedures, and announcements regarding the disclosure of connected transactions for listed companies must be strictly complied with.

The Board of Directors also stipulated that directors, executives, or employees shall be prohibited from either using any opportunity or information acquired through their position for personal gain or from engaging in any related business activities that compete with the Company, or using insider information to sell or buy the Company's shares. If an executive or an employee is to be involved in a special project, whose information has not yet been disclosed to the public, or the project is under negotiation and its information has to be kept confidential as it could affect the Company's share prices, such executive or employee is to sign a confidentiality agreement, which shall be effective until the information is disclosed to the SET and the SEC.

The Company announced the Market Sensitive Information Policy and practices since 2017. It is a duty of directors, executives, employees, consultants, and subsidiary companies to understand and follow the policy and practices as follows:

1. Establish an internal control system to prevent the leak of confidential information.
2. Embed practices of protecting confidential information in the culture of the Company and reinforce them regularly. Individuals need to be aware of their obligations to maintain the confidentiality of company information.
3. Limit the number of people with access to confidential information to the minimum number possible in the circumstance (need to know basis). Systems and controls are in place to quarantine confidential information from contractor and other service providers that share access to the company's systems.
4. Take responsible care that where market sensitive information is received or generated by staff and/or provided to a third party. The staff member and the third party are aware of their obligations in relation to the use and control of the information.

5. To have in place appropriate Information Technology security and controls.

### Disclosure of Information to Investors

The Board of Directors oversees the disclosure of information and its transparency to ensure that both financial and non-financial information relating to the Company's business and operating results is revealed in a complete, accurate, adequate, regular, and timely manner. In addition, the information must reflect the Company's actual performance and its true financial status, as well as its business outlook,

while strictly complying with the laws, rules, and regulations relating to information disclosure of both the SEC and the SET. The Company also shares the information with shareholders and investors through other communication channels. The Investor Relations Department directly communicates with shareholders, investors, and securities analysts both domestically and abroad, while the Corporate Communications Department disseminates corporate information to shareholders, investors, and the public through the local and international media.

In 2023, the Company organized the following activities to disclose information to international investors, institutional investors, retail investors, securities analysts, and the press:

Information Disclosure and Presentation	Time(s)
1. International Road Show (via virtual meeting)	3
2. Local Road Show (Company visit)	4
3. Local Road Show (via virtual meeting)	3
4. Local Road Show (onsite meeting)	3
5. Quarterly and Annual Analyst Meetings	4
6. Participation in "Opportunity Day" for listed companies to release quarterly performance to investors	4
7. Participation in "Thailand Focus 2023" to meet with local and international investors	3
8. Information session for investors via conference call	24
9. Email, LINE Official account, and phone call	3-5 times a day
10. Press conference on the Company's operating results	2
11. Press release on the Company's operating results and business strategies	9
12. Activities for the press and news releases on Corporate Social Responsibility (CSR) Programs	26

The Company's information and news are also made available and equally accessible to all stakeholders.

### Interested persons may contact or make inquiries to the Company's Investor Relations at:

Telephone: +66 2694 6684      Email: investor\_relations@banpu.co.th      Line: @banpu-ir

## Report of the Board of Directors

The Board of Directors is responsible for Banpu's and its subsidiaries' consolidated financial statements and the financial information that appears in Banpu's Annual Report. The financial statements are prepared under the Generally Accepted Accounting Principles (GAAP) in Thailand. The Company always makes sure that an appropriate accounting policy is chosen and carefully pursued on a regular basis. The Audit Committee and auditors jointly review the accounting policy related to the preparation of financial statements to ensure that it remains practical. The Board of Directors emphasizes that the team in charge carefully exercises its discretion in preparing the information and that important information is adequately disclosed in the notes to the financial statements.

The Board entrusted the Audit Committee with the responsibility to oversee the quality of financial statements and the internal control systems and to ensure that any opinions of the Audit Committee on these issues have been included in its report, which is also included in the Company's Annual Report. The Board of Directors considered that the financial statements of the Company and its subsidiaries as of 31 December 2023 are accurate, complete, adequate, and reliable.

### Policy on the Use of Internal Information

The Company places great importance on information disclosure and transparency and has established a policy and practices on information disclosure and transparency of financial statements under the Corporate Governance Policy. The Company also makes it a priority to disclose to shareholders, investors, securities analysts, and the general public the financial and non-financial information about the Company's businesses and operating results in an accurate, complete, adequate, reliable, and timely manner.

The Board of Directors is committed to strict compliance with laws and regulations relating to information disclosure and transparency. Sales or purchases of shares by any director or executive are duly reported to the SEC. The shareholding of the directors or executives are also subject to be reported to the Board of Directors' meeting on a monthly basis.

The Company's measures to prevent the use of inside information are stipulated in the Code of Conduct under the section "Conflict of Interests and Keeping Confidential Information," especially under the topic "Use of Company Information."

The Company considers that it is the responsibility of its directors, executives, and employees to strictly comply with the policy on the use of inside information, especially the inside information that has not been disclosed to the public or any data or information that may affect the Company's businesses or its share price. The Directors shall follow guidelines stated in the Practices for the Board of Directors B.E. 2552 and the Code of Conduct as follows:

1. Directors, executives and employees must not use information they receive from their directorship or employment for personal benefit or for conducting business or other activities in competition with the Company.
2. Directors, executives and employees shall not give inside information to any third party for the purpose of their dealing in the shares of the Company.
3. Business secrets shall not be disclosed to any third party especially to competitors even after a director, executive or employees member has left the Company.
4. Directors and executives that match the definition given by the SEC, including any individuals obtaining insider information that significantly affects Company's share price, shall refrain from purchasing and selling the Company's shares during the blackout periods and shall follow the following practice:
  - The Company's directors and executives (including their spouses and minor children not yet becoming sui juris), including individuals obtaining insider information that significantly affects Company's share price, shall refrain from trading the Company's shares one month before and until 24 hours after the financial statements or other information affecting the Company's share price are made public.

5. Directors and executives, as defined by the Securities and Exchange Commission, shall report their share holding and its change with the method regulated by the Securities and Exchange Commission.

Additionally, the Company stipulated in the Corporate Governance Policy that directors, executives, and employees must not exploit their relationship with the Company for personal gain, conduct business that competes with the Company, or carry out any connected transaction that which may lead to a conflict of interest with the Company. If the transaction is necessary, it should be carried out at arm's length with fairness and transparency, and directors or employees having an interest in the transactions must not be involved in the approval process. If any transaction is considered a connected transaction under the SET's notification, the rules, procedures, and announcements on the disclosure of connected information for listed companies must be strictly complied with. Besides, the Practices for the Board of Directors includes a set of guidelines for directors on the handling of information not yet disclosed to the public and requires directors and executive officers to report their holding of the Company's shares in the Board of Directors' meetings on a monthly basis.

Regarding the development of an internal control for use of inside information, the Company has deployed several IT systems to support the control, such as the external access prevention system and the role-based access control system, to safeguard the use of Company information. If an executive or an employee is to be involved in a special project, of which the information has not yet been disclosed to the public, or the project is under negotiation and its information has to be kept confidential as it could affect the Company's share prices, such executive or employee is to sign a Confidentiality, which shall be effective until the information is disclosed to the SEC and the SET.

The inside information usage control is prescribed as one of the Company's rules under the Disciplinary Action section. According to the rule, which applies to employees at all levels, any employee who fails to comply with or violates the disciplinary requirements is considered to have breached the Company's rule

and is subject to disciplinary actions and punishments according to the nature of the offense. The rule states that anyone "disclosing the Company's confidential information with an intention to jeopardize the reputation or credibility of the Company or its products, which consequently leads to a financial loss or a loss in a business opportunity for Banpu" may be subject to severe punishment up to dismissal.

In 2023, there were no reports of non-compliance with or violations of insider trading and share trading regulations stipulated by the SET and the SEC.

In addition, the Board of Directors and executives had disclosed their holding of the Company's securities on the date they were appointed and reported any changes in securities, including those of their spouses and minor children not yet becoming sui juris as well as connected persons, to the Board of Directors for acknowledgment.

## Principle 8 Ensure Engagement and Communication with Shareholders

### Shareholder's Rights

The Board of Directors emphasizes the importance of rights and equality between shareholders and institutional investors. It has been clearly specified in the Corporate Governance Policy that shareholders are entitled to receive share certificates, transfer shares, and acquire adequate information in a timely fashion and in a format conducive to decision-making. Shareholders are also entitled to attend shareholders' meetings, cast their votes to decide the Company's important policies, elect and remove directors, approve appointments of auditors, and receive their shares of profit.

At each shareholders' meeting, the Board of Directors facilitates shareholders by providing them with adequate, clear, and comprehensive information in a timely fashion. The Board encourages the shareholders to attend the meeting and cast their votes, or to appoint an individual or an independent director as their proxy to vote on their behalf in case they cannot attend the meeting. Moreover, shareholders are equally allowed to express opinions, seek explanations, or pose questions.



The 2023 Annual General Meeting of Shareholders (AGM) was convened and live-streamed on 3 April 2023 at 13.30 hours at the meeting hall of the Company's Head Office, 1550 New Petchburi Road, Makkasan, Ratchathewi, Bangkok, with full attendance of all 13 directors. The Company assigned Thailand Securities Depository Co., Ltd., its share registrar, to send invitation letters to shareholders in advance and posted the invitation on the Company's website at [www.banpu.com/AGM\\_EGM/](http://www.banpu.com/AGM_EGM/) 30 days prior to the meeting date. The minutes of the 2023 AGM were posted on the Company's website 14 days after the meeting took place so that the shareholders could propose amendments if they found the minutes to be inaccurate within the 30-day period after the minutes were posted.

The Company notified minority shareholders through the SET of the opportunities to propose agenda items to be included in the AGM and to nominate candidates to be considered for the director positions in December 2022. The procedures and methods for considering proposals were clearly stated on the Company's website ([www.banpu.com/AGM\\_EGM/](http://www.banpu.com/AGM_EGM/)). At the 2023 AGM, no shareholder proposed any additional agenda item or nominated candidates for director positions.

## Equitable Treatment of Shareholders

### Shareholders' Meeting

The Board of Directors has the policy to engage shareholders in decision-making and to ensure that shareholders receive comprehensive and adequate information for decision-making in a timely fashion. As such, Banpu sent out an invitation letter for the meeting, together with supporting documents for each agenda item, to shareholders prior to the meeting, with opinions from the Board of Directors accompanying each agenda item. A total of 13 directors attended the meeting, including the Chairman of the Audit Committee, the Chairman of the Corporate Governance and Nomination Committee, the Chairman of the Compensation Committee, and the Chairman of the Environment, Social, and Governance (ESG) Committee. The executives, the auditors, and independent observers from a law firm also attended the meeting.

The Chairman of the shareholders' meeting allowed every shareholder to review the Company's operations and submit questions on each agenda item. The Chairman also encouraged shareholders to voice their opinions and make inquiries about the Company's operations. In addition, the Board of Directors had the minutes of the meeting prepared and released on the Company's website 14 days after the meeting so that shareholders could review the minutes and if necessary, propose amendments within 30 days.

### Shareholders' Meeting Date

The 2023 Annual General Meeting of Shareholders (AGM) was convened and live-streamed on 3 April 2023 at 13.30 hours at the meeting hall of the Company's Head Office, 1550 Thanapoom Tower, New Petchburi Road, Makkasan, Ratchathewi, Bangkok. The 2023 AGM was attended by all 13 directors, 63 shareholders, and 885 proxies, bringing the total to 948 persons representing 3,226,971,365 shares, which accounted for 38.1702% of all voting shares.

## Compliance with Other Corporate Governance Principles

The Company acts in good faith to fully comply with the Corporate Governance Code for Listed Companies 2017 set forth by the SEC, with some exceptions, of which the details and reasons are provided as follows:

### 1. The Chairman of the Board should be an independent director.

The Company's practice:

At present, the Chairman of the Board is a non-executive director. However, the roles and duties of the Chairman are clearly defined by the Board of Directors, emphasizing the best interests of the Company, shareholders, and other stakeholders. In 2022, the Board passed a resolution to appoint a Lead Independent Director to jointly set the agenda of the Board meeting if the Chairman of the Board is not an independent director to promote checks and balances of power and authority.

### 2. The Nomination Committee should consist entirely of independent directors.

The Company's practice:

The present Corporate Governance and Nomination Committee consists of four members, namely one independent director and three non-executive members. The Chairman of the Committee is a non-executive member. However, the Board of Directors has clearly defined in the Charter of the Board the roles and duties of the members of the Corporate Governance and Nomination Committee, covering all aspects of corporate governance and nomination.

### 3. The Chairman of the Sub-committees shall be an independent director.

The Company's practice:

At present, the Chairman of the Corporate Governance and Nomination Committee and the Chairman of the Compensation Committee are non-executive directors. However, the Board of Directors has clearly defined the roles and duties of the Sub-committees in the respective charters, covering all aspects.

### 4. The Board should appoint an external consultant to provide advice on developing the approach and criteria for performance evaluation of the Board at least once every three years, and evaluation results should be disclosed in the annual report.

The Company's practice:

The Company conducts an annual performance evaluation of the full Board, sub-committees, and each individual director. The Corporate Governance and Nomination Committee has considered the issue and decided not to appoint an external consultant to facilitate the development of an evaluation approach or to advise on the Board's performance evaluation criteria.

### 5. The Board should set a clear office term for board members in the Corporate Governance Policy.

The Company's practice:

The Company prescribed that independent directors shall serve the term of office for up to nine years or no more than three consecutive terms. (The Practices for the Board of Directors of Banpu Public Company Limited, Article 6.2

Section 6. Term of Office and Retirement\*). Furthermore, the Company set the directors' retirement age at 72 in the Corporate Governance Policy (Article 4.7 Directors' Retirement).

\* Effective from 19 December 2014

### 6. The Board should consider the qualifications of a person to be appointed as an "Independent Director" to ensure that the appointed director is truly independent and suitable for the Company's nature. An independent director should meet the qualifications required by the SEC and the SET at the minimum. Apart from that, the maximum office term for an independent director should not be longer than nine consecutive years from the date of the person's first directorship appointment. In the event of reappointment beyond the maximum tenure, the sound reasons for that decision should be provided by the Board.

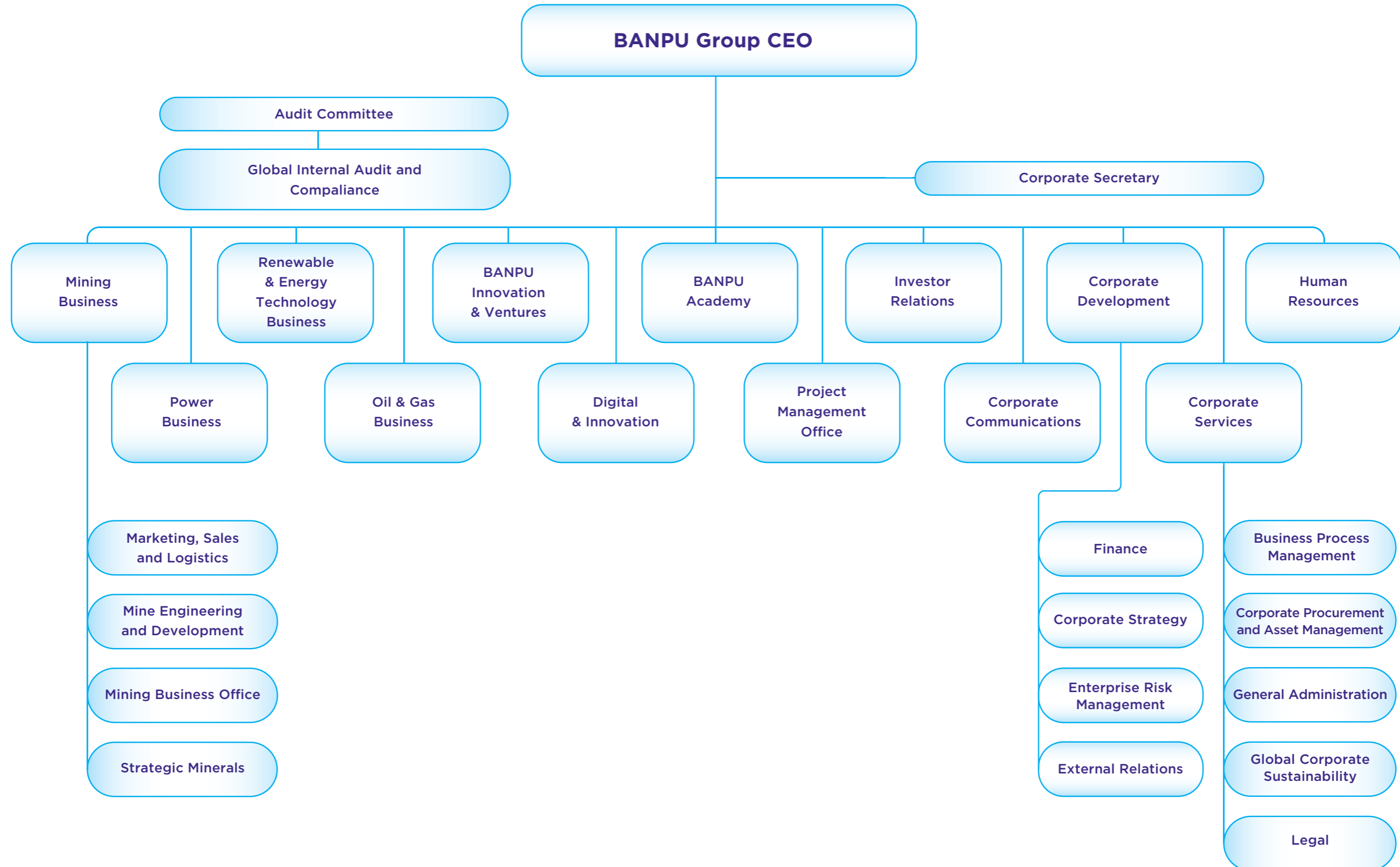
The Company's practice:

The Board has set more stringent requirements on the qualifications of an independent director than the minimum requirements of the SEC and the SET, specifically in terms of the Company's shares held by an independent director. Besides, the Company prescribed that an independent director shall serve the term of office for a maximum of nine consecutive years or no more than three consecutive terms. (The Practices for the Board of Directors of Banpu Public Company Limited Article 6.2 Section 6. Term of Office and Retirement\*). Mr. Teerana Bhongmakapat has been an independent director for eleven years, from 5 April 2012 to 2023. The Corporate Governance and Nomination Committee carefully deliberated and concluded that Mr. Teerana Bhongmakapat's qualifications match the required qualifications of independent directors. He has also been competent in performing his duties and expressing his independent views; therefore, he is suitable to serve as an independent director.

\* Effective from 19 December 2014

### 7. The Board of Directors considered and adopted the SEC's Corporate Governance Code for Listed Companies 2017 as a guideline for amending Banpu's Corporate Governance Policy, the Code of Conduct, Practices of the Board of Directors, and Charters of Sub-committees in 2023.

## Banpu Group Organizational Structure



## Structure of the Board of Directors

The Board of Directors comprises directors who are widely recognized for their knowledge and expertise. The Board plays a pivotal role in determining the Company's objectives and goals as it works with executives to devise strategies and policies for short-term and long-term operations. The Board also establishes financial policies, oversees risk management, provides guidance on overall management, and reviews significant policies and plans annually. The duties of the Board also include overseeing, monitoring, and evaluating the performance of the Company and senior executives against the plans.

## The Board of Directors

consists of

1. Mr. Chanin Vongkusolkrit	Chairman of the Board of Directors
2. Mr. Teerana Bhongmakapat	Independent Director
3. Mr. Piriya Khempon	Independent Director
4. Mr. Pichai Dusdeekulchai	Independent Director
5. Mr. Teerapat Sanguankotchakorn	Independent Director
6. Mrs. Watanan Petersik*	Independent Director
7. Mr. Anon Sirisaengtaksin	Director
8. Mr. Buntoeng Vongkusolkrit	Director
9. Mr. Metee Auapinyakul	Director
10. Mr. Ongart Auapinyakul	Director
11. Mr. Verajet Vongkusolkrit	Director
12. Mr. Sarayuth Saengchan	Director
13. Ms. Somruedee Chaimongkol	Executive Director
14. Mr. Suthad Setboonsarng**	Independent Director



### Notes:

\* Mrs. Watanan Petersik (Person No. 6) was appointed as a director, effective 4 April 2023, and as a member of the Audit Committee, effective 1 May 2023.

\*\* Mr. Suthad Setboonsarng (Person No. 14) resigned as a director, effective 4 April 2023.



For full details of the "Board of Directors",  
Please scan the QR Code  
or clicking on 'CLICK HERE'

## Board Skill Matrix

Director	Expertise										
	Finance/Accounting	Marketing/Logistics	Management	Technical/Engineering	Business Relations	Economics	Corporate Strategy/International Management	Mining	Energy	Oil and Gas	Technology
1. Mr. Chanin Vongkusolkrit	/	/	/		/	/	/	/	/		
2. Mr. Teerana Bhongmakapat	/		/	/	/	/	/				
3. Mr. Piriya Khempon			/		/	/	/				
4. Mr. Anon Sirisaengtaksin			/	/	/		/			/	
5. Mr. Buntoeng Vongkusolkrit		/	/		/		/				
6. Mr. Pichai Dusdeekulchai	/		/		/		/				
7. Mr. Teerapat Sanguankotchakorn			/	/	/						/
8. Mrs. Watanan Petersik*	/		/		/	/	/				
9. Mr. Metee Auapinyakul			/		/		/		/		
10. Mr. Ongart Auapinyakul			/	/	/		/	/			
11. Mr. Verajet Vongkusolkrit	/		/		/	/			/		
12. Mr. Sarayuth Saengchan	/		/		/	/	/				
13. Ms. Somruedee Chaimongkol	/		/		/		/	/	/		
14. Mr. Suthad Setboonsarng**			/		/	/	/				

## Board Composition

As of 31 December 2023, the Board of Directors is composed of independent directors, non-executive directors, and an executive director. Out of the 13 board members, five are independent directors, constituting 38% of the Board.

## Independent Directors

Independent directors who make up 38% of the Board, are as follows:

1. Mr. Teerana Bhongmakapat	Independent Director
2. Mr. Piriya Khempon	Independent Director
3. Mr. Pichai Dusdeekulchai	Independent Director
4. Mr. Teerapat Sanguankotchakorn	Independent Director
5. Mrs. Watanan Petersik*	Independent Director
6. Mr. Suthad Setboonsarng**	Independent Director

### Notes :

\* Mrs. Watanan Petersik was appointed as a director, effective 4 April 2023, and as a member of the Audit Committee, effective 1 May 2023.

\*\* Mr. Suthad Setboonsarng resigned as a director, effective 4 April 2023.



The qualifications of the five independent directors meet the requirements of “Independent Directors” of the Company, which are more stringent than the Securities and Exchange Commission’s criteria.

To comply with good corporate governance, the Company places importance on building Board diversity using the Board Skill Matrix to identify valuable skills, experiences, knowledge, and specialization needed for the Company. Additionally, the Company’s director nomination process prioritizes inclusion, actively seeking diverse candidates regardless of their gender, race, nationality, or religion. This broader pool expands the opportunity to identify the most suitable candidates for the Company’s strategy and business operations.

### Authorized Signatory Directors

Any two individuals from the group comprising Mr. Chanin Vongkusolkrit, Mr. Metee Auapinyakul, Mr. Ongart Auapinyakul, or Ms. Somruedee Chaimongkol, are jointly authorized to sign documents bearing the Company’s seal.

### Authority and Duties of Chairman of the Board

To ensure a clear division of policymaking and management roles and to ensure effective management oversight by the Board, the Company mandates that the Chairman of the Board of Directors and the Chief Executive Officer not be the same person. The Chairman of the Board of Directors is entrusted with various responsibilities, including being a chairperson of board and shareholder meetings, collaborating with the Chief Executive Officer on meeting agendas, and holding a casting vote in the event of a tie.

If the Chairman of the Board is not an independent director, the Board of Directors shall promote the checks and balances of power and authority by ensuring that a majority of the Board consists of independent directors and/or appointing a designated independent director as the Lead Independent Director to participate in setting the board meeting agendas.

### Duties and Responsibilities of the Board of Directors

The Board of Directors is accountable to shareholders for the Company’s operations and its oversight of management, so that the Company’s goals are met and shareholders’ interests are maximized. The Board also has a duty to ensure ethical conduct and best interests of all stakeholders.

The Board of Directors is required to comply with the laws, the Company’s objectives and regulations, and the shareholders’ meeting’s resolutions. It must perform duties with integrity and safeguard the short-term and long-term interests of shareholders. Additionally, the Board has to ensure compliance with the rules and regulations of the Stock Exchange of Thailand (SET), the Securities and Exchange Commission (SEC), and the Capital Market Supervisory Board, which was established according to B.E 2535, as amended by the Securities and Exchange Act (No.5), B.E. 2559.

The Board formulated “The Practices for the Board of Directors of Banpu Public Company Limited, B.E. 2552” as guidelines for the Board of Directors. The handbook outlines definitions, composition and criteria of the Board, directors’ qualifications, terms of office and retirement, duties and responsibilities of the Board as well as meetings and voting procedures. It was amended in 2011, 2012, 2014, 2017 (Amendment No. 5 and No. 6), and in 2022 to reflect changing responsibilities and business landscape as well as to enhance good corporate governance of the Board of Directors.



For complete information on “The Practices for the Board of Directors of Banpu Public Company Limited”,  
**Please scan the QR Code**  
or clicking on ‘CLICK HERE’

### Regulations Governing Directors Holding Positions in Other Companies

To ensure that directors can dedicate adequate time to perform their duties, the Company requires that directors shall not serve on the boards of more than five listed companies, which is considered one of

the qualifications of the directors (see the Practices for the Board of Directors of Banpu Public Company Limited’s Section 5.1 Clause (5) General Qualifications of Directors, effective from 19 December 2014 onward). The Board also stipulated in the Corporate Governance Policy on the regulations governing directors holding positions in other companies: “Holding directorship position in other company, other than group companies, CEO must get an approval from the Board of Directors.”

### Sub-committees

The Board of Directors set up four sub-committees, namely, the Audit Committee, the Corporate Governance and Nomination Committee, the Compensation Committee, and the Environment, Social and Governance (ESG) Committee. A charter was formulated for each sub-committee to be applied as their guiding principles.

The Board concluded that the chairperson of each sub-committee should be an independent director. Currently, the chairpersons of the Audit Committee and the Environment, Social, and Governance (ESG) Committee are independent directors. The terms of office for these committees is three years, from May 2022 to the date of the Annual Shareholder’s Meeting in 2025.

### The Audit Committee

The Audit Committee consists of three independent directors.

<b>1. Mr. Teerana Bhongmakapat</b>	Chairman of the Committee
<b>2. Mrs. Watanan Petersik*</b>	Member
<b>3. Mr. Pichai Dusdeekulchai</b>	Member
<b>4. Mr. Suthad Setboonsarng**</b>	Member

**Notes :**

\* Mrs. Watanan Petersik (Person No. 2) was appointed as a member of the Audit Committee, effective 1 May 2023.

\*\* Mr. Suthad Setboonsarng (Person No. 4) resigned as a director, effective 4 April 2023.

The Audit Committee has a duty to review the Company’s financial statements, the sufficiency of internal control and audit systems, and compliance with applicable laws and regulations. The Audit Committee is responsible for selecting and appointing the Company’s auditors, determining their compensation, as well as terminating their appointment. The Committee reviews connected transactions or transactions that may lead to a conflict of interest to ensure accuracy, fair and transparency for the utmost benefits to the Company and shareholders. Key risks, such as commodity price risk, cybersecurity risk, and IT risk, are also within the purview of the Audit Committee. Moreover, the Committee reviews and oversees compliance with the Anti-corruption Policy and the independence of the Global Internal Audit Department, including their work plan, performance, budgets, and workforce. It also approves the appointment, assesses performance, and relocates or dismisses the Head of the Global Internal Audit.

The Audit Committee is chaired by Mr. Teerana Bhongmakapat. All committee members are knowledgeable and competent and have sufficient experience in accounting and finance for overseeing the accuracy and credibility of the Company’s financial statements.

In the Audit Committee meeting No. 1/2018, held on 16 January 2018, Ms. Wiyada Wiboonsirichai was appointed as Secretary of the Audit Committee, effective from 16 January 2018. Ms. Wiyada Wiboonsirichai has more than 30 years of experience in managing and conducting professional internal audits in accordance with international standards. She is a Certified Public Accountant (CPA) and a Certified Internal Auditor (CIA) with expertise in business strategy, internal control of key risks, and sustainable business operations.



For complete information on “The Audit Committee Charter”,  
**Please scan the QR Code**  
or clicking on ‘CLICK HERE’

### The Corporate Governance and Nomination Committee

consists of four directors, namely one independent director and three non-executive directors.


<b>1. Mr. Anon Sirisaengtaksin</b>	Chairman of the Committee
<b>2. Mr. Piriya Khempon</b>	Member
<b>3. Mr. Verajet Vongkusolkit</b>	Member
<b>4. Mr. Sarayuth Saengchan</b>	Member

The Corporate Governance and Nomination Committee has two major duties:

1) Reviewing the Corporate Governance Policy and the Code of Conduct: The Committee ensures compliance with the policy and monitors practices within the Banpu's Code of Conduct.

2) Identifying and nominating directors and the Chief Executive Officer: The Committee oversees succession planning, identifying suitable candidates for management positions at the department head level and above. It then presents recommendations to the Board of Directors for approval or for proposing to the shareholders' meeting, as appropriate.

Apart from that, the Corporate Governance and Nomination Committee provides suggestions for the Board of Directors regarding the performance evaluation method for directors and sub-committees. Together with the Board of Directors, it also completes the evaluation, and monitors improvements following the evaluation. In 2013, the Committee introduced an evaluation form for sub-committees which was used for the first time for all the four sub-committees in their 2012 performance evaluation. Additionally, in 2014, the Committee introduced an evaluation form for the assessment of individual directors' performance which has been used since then.



For complete information on "The Corporate Governance and Nomination Committee Charter",  
**Please scan the QR Code or clicking on 'CLICK HERE'**

### The Compensation Committee

consists of four members, namely three independent directors and one non-executive director.

<b>1. Mr. Buntoeng Vongkusolkit</b>	Chairman of the Committee
<b>2. Mr. Teerana Bhongmakapat</b>	Member
<b>3. Mr. Suthad Setboonsarng*</b>	Member
<b>4. Mr. Teerapat Sanguankotchakorn</b>	Member

**Note:**

\* Mr. Suthad Setboonsarng (Person No. 3) resigned as a director, effective 4 April 2023.


The Compensation Committee is responsible for recommending matters related to compensation management to the Board of Directors for approval or submission to the shareholders' meeting, depending on the nature of the matter. The key responsibilities of the Committee are as follows:

1) To recommend guidelines on compensation criteria, methods of compensation payments, and other benefits for the Board of Directors, other sub-committees appointed by the Board, and any other persons attending the Board of Directors' meetings and/or sub-committee meetings.

2) To consider and recommend a compensation scheme, including other benefits, and criteria for evaluating the Chief Executive Officer's annual performance.

3) To review the structure and criteria for compensation stated in Clause 1 and 2 to ensure alignment with the individual's roles and responsibilities, the Company's operating results, and market conditions.

4) To review overall budgets for salary increases, annual bonus payments, and provisions of other staff's fringe benefits.



For complete information on "The Compensation Committee Charter",  
**Please scan the QR Code or clicking on 'CLICK HERE'**

### The Environment, Social, and Governance Committee

consists of three independent directors.

<b>1. Mr. Piriya Khempon</b>	Chairman of the Committee
<b>2. Mr. Pichai Dusdeekulchai</b>	Member
<b>3. Mr. Teerapat Sanguankotchakorn</b>	Member


The Environmental, Social and Governance (ESG) Committee is accountable to the Board of Directors for the oversight of ESG operations through:

1) Oversight of policies, management as well as targets and performance relating to ESG aspects

2) Review and monitoring of stakeholder engagement process and materiality assessment to ensure that all stakeholder expectations are identified, included in materiality assessment, and managed properly

3) Review and monitoring of the ESG risk management performance

4) Oversight of the Company's ESG disclosure



For complete information on "The Environment, Social and Governance (ESG) Committee Charter",  
**Please scan the QR Code or clicking on 'CLICK HERE'**

### The Board of Directors' Meeting

The Board of Directors convenes at least once a month on the final week of every month except for February and December when the Board convenes on the second week. Any additional meetings may be held if necessary. At every meeting, there are clear agenda items. A complete set of supporting documents is sent to the Board of Directors at least seven days in advance of the meeting to allow the Board an opportunity to properly review the information before the meeting. The inclusion of an agenda item after the distribution of documents is permissible only under exceptional circumstances and when justified. Furthermore, such an addition requires approval from the Chairman of the Board. Each meeting lasts approximately three and a half hours. During the meeting, all directors may openly voice their opinions. The Chairman of the Board must summarize views and board resolutions. If any director has a conflict of interest in a matter being considered by the Board, the director must leave the meeting room.

Minutes of all the meetings are documented and subsequently signed by the Chairman of the Board and the Company Secretary upon approval. These minutes and associated agenda documents are kept in both physical and electronic formats to be used as reference for directors or related persons. All the documents are securely stored for a minimum of five years, with a safeguard system in place to prevent any alteration or unforeseen disaster.

### The Board of Directors' Meeting and Voting Procedure

The Company prescribed the voting procedure in the Board of Directors' meeting as follows: "At least half of the directors shall be required to form a quorum. To pass resolutions, the quorum of the meeting shall be at least two-thirds of all the directors." (The Practices for the Board of Directors of Banpu Public Company Limited, Re: Board of Directors, section 8.5, effective 19 December 2014).

### Non-Executive Directors' Meetings

A non-executive directors' meeting without the presence of management was held on 28 October 2023, 10.00-12.00 hours, at Rajpruek Club, Bangkok. Twelve non-executive directors convened a meeting on the following agenda items.

1. Senior Management Succession Plan
2. CEO Performance in 2023

### Summary of Directors' Meetings in 2023

The Company discloses the information and details of the Board of Directors' Meetings in 2023 in the table "The Board of Directors' Meeting" on page 268.

In 2023, the shareholders' meeting determined remuneration for each committee in relation to remuneration for committees in other business groups. The remuneration for the Board and all committees in 2023 increased by 15.8% from 2022, as shown in the table below.

Details	Chairman	Vice Chairman	Director/ Member
<b>1. Remuneration of the Board of Directors</b>			
1.1 Monthly Compensation (THB/month)	90,350	79,925	69,500
1.2 Meeting allowance for the Board of Directors paid for each meeting attendance (THB/meeting)	45,175	39,970	34,750
<b>2. The Audit Committee</b>	54,210	-	41,700
paid for each meeting attendance (THB/meeting)			
<b>3. The Corporate Governance and Nomination Committee</b>	45,175	-	34,750
<b>The Compensation Committee</b>			
<b>The Environment, Social, and Governance Committee</b>			
paid for each meeting attendance (THB/meeting)			

### Remuneration of the Board of Directors

The Board of Directors delegated the Compensation Committee to review the remuneration structure and system and the appropriate amount of remuneration for the Company's directors and senior management. It is prescribed as a policy that remuneration must be appropriate to roles, duties, and responsibilities and competitive within the relevant job market and business landscape. Executive remuneration is determined based on individual performance to incentivize effectiveness.

The remuneration of the Board of Directors consists of a monthly salary and allowance for each meeting attended. Annual remuneration in the form of bonuses will be linked to the dividend paid out to shareholders, and the payment of the Board of Directors' remuneration must be approved by the shareholders' meeting.

### Remuneration in Cash for the Year Ended 31 December 2023

Total cash remuneration of the Board of Directors in the forms of monthly compensation, meeting allowance, and annual remuneration amounted to THB 110,941,168.00, the details of which are as follows:

Name/Position	Monthly Compensation and Meeting Allowance (THB)		Meeting Allowance (THB)			Annual Remuneration (THB)	Total Remuneration (THB)
	Director	The Audit Committee	The Corporate Governance and Nomination Committee	The Compensation Committee	The Environment, Social, and Governance (ESG) Committee		
<b>1. Mr. Chanin Vongkusolkrit</b> Chairman of the Board of Directors	1,570,725.00	-	-	-	-	9,187,972.00	10,758,697.00
<b>2. Mr. Teerana Bhongmakapat</b> Independent Director/ Chairman of the Audit Committee/ Member of the Compensation Committee	1,208,250.00	465,660.00	-	199,000.00	-	7,067,669.00	8,940,579.00
<b>3. Mr. Piriya Khempon</b> Independent Director/ Chairman of the Environment, Social, and Governance Committee/ Member of the Corporate Governance and Nomination Committee	1,208,250.00	-	199,000.00	-	174,525.00	7,067,669.00	8,649,444.00
<b>4. Mr. Anon Sirisaengtaksin</b> Director/ Chairman of the Corporate Governance and Nomination Committee	1,208,250.00	-	258,700.00	-	-	7,067,669.00	8,534,619.00
<b>5. Mr. Buntoeng Vongkusolkrit</b> Director/ Chairman of the Compensation Committee	1,138,750.00	-	-	213,525.00	-	7,067,669.00	8,419,944.00
<b>6. Mr. Pichai Dusdeekulchai</b> Independent Director/ Member of the Audit Committee/ Member of the Environment, Social, and Governance (ESG) Committee	1,208,250.00	358,200.00	-	-	134,250.00	7,067,669.00	8,768,369.00
<b>7. Mr. Teerapat Sanguankotchakorn</b> Independent Director/ Member of the Compensation Committee/ Member of the Environment, Social, and Governance (ESG) Committee	1,208,250.00	-	-	199,000.00	134,250.00	7,067,669.00	8,609,169.00
<b>8. Mrs. Watanan Petersik</b> Independent Director/ Member of the Audit Committee	938,250.00	208,500.00	-	-	-	-	1,146,750.00
<b>9. Mr. Metee Auapinyakul</b> Director	1,208,250.00	-	-	-	-	7,067,669.00	8,275,919.00
<b>10. Mr. Ongart Auapinyakul</b> Director	1,208,250.00	-	-	-	-	7,067,669.00	8,275,919.00



Name/Position	Monthly Compensation and Meeting Allowance (THB)		Meeting Allowance (THB)			Annual Remuneration (THB)	Total Remuneration (THB)
	Director	The Audit Committee	The Corporate Governance and Nomination Committee	The Compensation Committee	The Environment, Social, and Governance (ESG) Committee		
<b>11. Mr. Verajet Vongkusolkrit</b> Director/ Member of the Corporate Governance and Nomination Committee	1,208,250.00	-	199,000.00	-	-	7,067,669.00	8,474,919.00
<b>12. Mr. Sarayuth Saengchan</b> Director/ Member of the Corporate Governance and Nomination Committee	1,208,250.00	-	199,000.00	-	-	5,300,752.00	6,708,002.00
<b>13. Ms. Somruedee Chaimongkol</b> Director	805,500.00	-	-	-	-	7,067,669.00	7,873,169.00
<b>14. Mr. Suthad Setboonsarng</b> Independent Director/ Member of the Audit Committee/ Member of the Compensation Committee	270,000.00	108,000.00	-	60,000.00	-	7,067,669.00	7,505,669.00
<b>Total</b>							<b>110,941,168.00</b>

Notes:

- Mrs. Watanan Petersik (Person No. 8) was appointed as a director, effective 4 April 2023, and as a member of the Audit Committee, effective 1 May 2023.
- Mr. Suthad Setboonsarng (Person No. 14) resigned as a director, effective 4 April 2023.
- In addition to the above remuneration, each director received other benefits, including an annual medical check-up fee of THB 50,000, Directors' and officers' liability insurance (D&O Insurance) coverage of THB 400 million, and fees for seminars held by the Thai Institute of Directors Association (IOD) and other related institutions according to the Company's regulations.

### Shareholding of the Board of Directors and Executives as of 31 December 2023

Members of the Board of Directors are required to report the number of shares in Banpu Public Company Limited owned by themselves, their spouses, and minor children being non sui juris. The report should be made during the next Board meeting following their appointment as Board members. Additionally, if any Board members, their spouses, and minor children being non sui juris buy or sell the Company's shares, they are required to report such transactions during the subsequent Board meeting. Shareholding of the Board of Directors and Executives as of 31 December 2023 is shown in the following table.

Name	Ordinary Share (Shares)		
	31 Dec 2023	31 Dec 2022	+ / (-)
<b>1. Mr. Chanin Vongkusolkrit</b>	30,678,626	23,478,626	7,200,000
Spouse/ Minor Child	11,814,300	10,814,300	1,000,000
Related juristic persons	-	-	-
<b>2. Mr. Teerana Bhongmakapat</b>	-	-	-
Spouse/ Minor Child	-	-	-
Related juristic persons	-	-	-
<b>3. Mr. Piriya Khempon</b>	-	-	-
Spouse/ Minor Child	-	-	-
Related juristic persons	-	-	-
<b>4. Mr. Anon Sirisaengtaksin</b>	39,998	33,332	6,666
Spouse/ Minor Child	22,530	18,024	4,506
Related juristic persons	-	-	-
<b>5. Mr. Buntoeng Vongkusolkrit</b>	10,863,527	8,382,046	2,481,481
Spouse/ Minor Child	-	-	-
Related juristic persons	55,801,100	-	55,801,100
<b>6. Mr. Pichai Dusdeekulchai</b>	-	-	-
Spouse/ Minor Child	-	-	-
Related juristic persons	-	-	-
<b>7. Mr. Teerapat Sanguankotchakorn</b>	-	-	-
Spouse/ Minor Child	-	-	-
Related juristic persons	-	-	-
<b>8. Mrs. Watanan Petersik</b>	-	-	-
Spouse/ Minor Child	-	-	-
Related juristic persons	-	-	-
<b>9. Mr. Metee Auapinyakul</b>	8,000,000	7,354,000	646,000
Spouse/ Minor Child	1,500,000	1,070,000	430,000
Related juristic persons	-	-	-
<b>10. Mr. Ongart Auapinyakul</b>	740,092	740,092	0
Spouse/ Minor Child	3,500,000	3,000,000	500,000
Related juristic persons	-	-	-
<b>11. Mr. Verajet Vongkusolkrit</b>	19,738,973	17,495,373	2,243,600
Spouse/ Minor Child	484,400	402,600	81,800
Related juristic persons	55,801,100	-	55,801,100
<b>12. Mr. Sarayuth Saengchan</b>	-	-	-
Spouse/ Minor Child	-	-	-
Related juristic persons	-	-	-
<b>13. Ms. Somruedee Chaimongkol</b>	12,815,044	9,838,666	2,976,378
Spouse/ Minor Child	-	-	-
Related juristic persons	-	-	-

Name	Ordinary Share (Shares)		+ / (-)
	31 Dec 2023	31 Dec 2022	
<b>14. Mr. Somsak Sithinamsuwan</b>	109,711	109,711	0
Spouse/ Minor Child	-	-	-
Related juristic persons	-	-	-
<b>15. Mr. Jirameth Achcha</b>	-	90	(90)
Spouse/ Minor Child	38,837	38,837	-
Related juristic persons	-	-	-
<b>16. Mr. Sutee Sukruan</b>	-	-	-
Spouse/ Minor Child	-	-	-
Related juristic persons	-	-	-
<b>17. Mr. Kirana Limpaphayom</b>	-	-	-
Spouse/ Minor Child	166,800	139,000	27,800
Related juristic persons	-	-	-
<b>18. Ms. Arisara Sakulkarawek</b>	-	-	-
Spouse/ Minor Child	-	-	-
Related juristic persons	-	-	-
<b>19. Mr. Thiti Mekavichai*</b>	-	-	-
Spouse/ Minor Child	200,834	100,556	100,278
Related juristic persons	-	-	-
<b>20. Mr. Wittapon Jawjit</b>	-	-	-
Spouse/ Minor Child	11,000	11,000	-
Related juristic persons	-	-	-
<b>21. Mr. Sinon Vongkusolkit</b>	959,699	494,666	465,033
Spouse/ Minor Child	-	-	-
Related juristic persons	-	-	-

The increase in ordinary shares held by directors and senior executives partially resulted from the exercise of BANPU-W5 warrants.

## Senior Executives

### Banpu's Senior Executives (As of 31 December 2023)

are as follows:

<b>1. Ms. Somruedee Chaimongkol</b>	Chief Executive Officer
<b>2. Mr. Somsak Sithinamsuwan</b>	Head of Mining Business
<b>3. Dr. Kirana Limpaphayom</b>	Head of Power Business
<b>4. Mr. Thiti Mekavichai*</b>	Head of Oil and Gas Business
<b>5. Mr. Sutee Sukruan</b>	Head of Strategy and Business Development

**Note:**

\* Mr. Thiti Mekavichai retired on 1 January 2024.

<b>6. Ms. Arisara Sakulkarawek</b>	Chief Financial Officer
<b>7. Mr. Wittapon Jawjit</b>	Head of Human Resources
<b>8. Mr. Jirameth Achcha</b>	Head of Corporate Services
<b>9. Mr. Sinon Vongkusolkit**</b>	Chief Executive Officer of Banpu NEXT Co., Ltd.

**Notes:**

\* Mr. Thiti Mekavichai retired on 1 January 2024.

\*\* Mr. Sinon Vongkusolkit was appointed as Group Senior Vice President – Office of CEO, effective 1 January 2024.

The above list of senior executives has qualifications as per the definition of “Executives” in the Notification of Capital Market Supervisory Board TorChor 23/2551. These executives are entrusted with authority and duties to manage the Company's operations according to the policy, strategy, and goals set by the Board of Directors. The Board has approved the scope of authority and defined clear segregation of duties to ensure transparent and flexible operations.

### Authority and Duties of the Chief Executive Officer

The Board of Directors has set performance goals for the CEO and considers the CEO's compensation based on her annual performance. In turn, the CEO evaluates executives and senior executives based on goals and criteria corresponding with the Company's strategic plan and annual action plan, along with the CEO's performance goals, in order to determine appropriate compensation packages and incentives.

### Executive Remuneration Policy and Payment

The Company's remuneration consists of monthly salaries, bonuses, and other forms of compensation, such as contributions to the provident fund (excluding remuneration for some executives who are directors). Executive remuneration comprises salaries and bonuses tied to the Company's overall performance and individual achievements, as measured against their key performance indicators. In 2023, remuneration rewarded to executives amounted to THB 144,872,058.

Unit: THB	Number of Executives	Amount
<b>Salary and Bonus</b>	9	141,015,750.00
<b>Contribution to Provident Fund</b>	7	3,856,308.00
<b>Total</b>		<b>144,872,058.00</b>

**Note:**

• In 2023, there were nine executives, namely 1) Ms. Somruedee Chaimongkol, 2) Mr. Somsak Sithinamsuwan, 3) Dr. Kirana Limpaphayom, 4) Mr. Thiti Mekavichai, 5) Mr. Sutee Sukruan, 6) Ms. Arisara Sakulkarawek, 7) Wittapon Jawjit, 8) Mr. Jirameth Achcha, and 9) Mr. Sinon Vongkusolkit.

## Employees

Committed to delivering sustainable energy for society,

Banpu focuses on strengthening its ecosystem from within. The Company empowers its employees and facilitates a work environment that fosters growth and potential by promoting employee well-being in all aspects, allowing them to create positive change, based on the belief that “employees” are the key to a robust business ecosystem that open doors to new and diverse business opportunities.

Banpu puts its employees at the heart of every human resources management process while managing employees from diverse backgrounds, e.g., race, religion, language, culture, age, knowledge, perspective, and work experience in all countries where it operates. The Company leverages these strengths to enhance value, strengthen competitive advantage, and create a happy, agile, and flexible workplace for all employees in response to changing lifestyles. Employees are encouraged to create innovations in all dimensions to drive new businesses, with the ultimate goal of achieving business sustainability and long-term growth based on a solid foundation.

### Total Number of Banpu’s and Its Subsidiaries’ Employees by Country As of 31 December 2023



### Employee Remuneration

In 2023, the remuneration in cash paid to employees of Banpu and its subsidiaries in Thailand, China, Indonesia, Australia, Mongolia, Japan, Vietnam, and the U.S. consisted of monthly salary, bonuses, and other forms of compensation, such as contribution to provident fund amounted to THB 13,809,616,544.36.

### Significant Labor Disputes over the Past Three Years

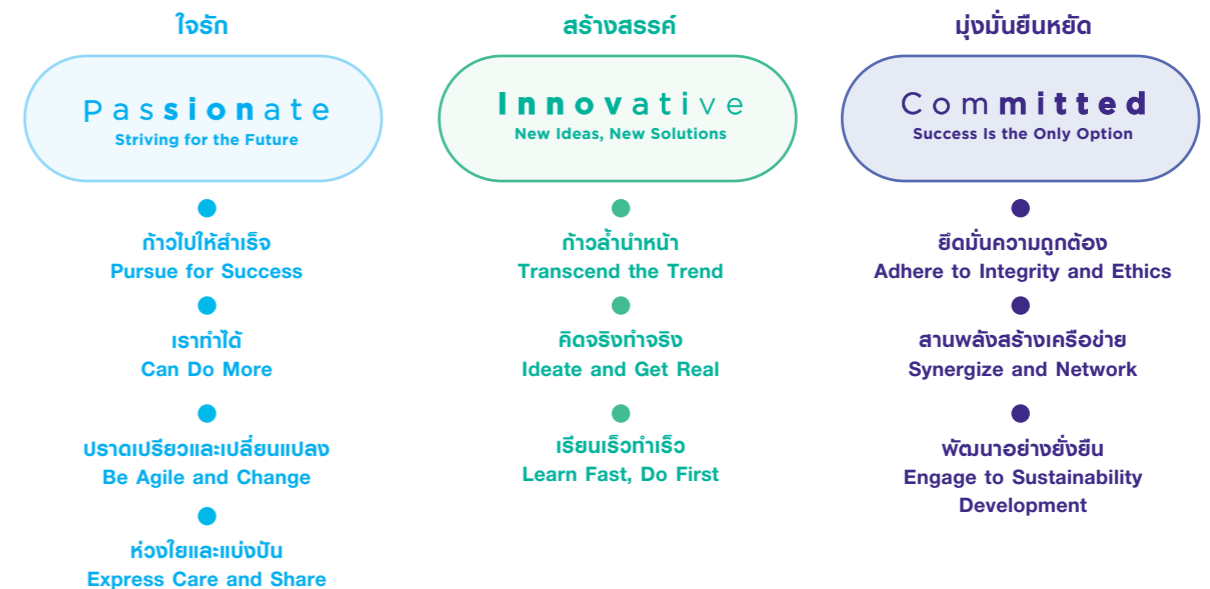
- None -

## Human Resource Management

### “One Banpu, One Goal” Uniting thousands of Banpu’s employees into “One” Banpu Heart

“Banpu Heart” is a corporate culture that unites over 6,000 Banpu employees of diverse backgrounds across every country. It brings them together as “One” to drive changes in alignment with the Company’s vision and business strategies, especially during times of organizational change or transformation. Adopted by all executives and employees, the “Banpu Heart” plays a crucial role in leading everyone toward the same direction of becoming the leading Asian energy company at the heart of innovation, technology, and sustainability. Banpu’s corporate culture consists of three shared values as follows:

## Banpu Heart



To strengthen and sustain the corporate culture, the Company has incorporated “Banpu Heart” in all processes involving its employees including recruitment of new employees, orientation, performance evaluation, employee development, and job promotion.

Banpu Heart, a culture built on trust, has been the solid foundation of synergy among its people for over four decades. Realizing this fact, in 2023, the Company enhanced its culture-promoting activities to further facilitate its diverse business ecosystem. By emphasizing a sense of ownership and accommodating employees from different generations and geographical backgrounds, the Company provided flexibility in designing activities that reflected its corporate culture in ways best suitable for the context of each location. A notable example was the project to promote learning, enhance mutual understanding, and foster the corporate culture through real-life stories of its employees in the documentary film titled “The Stories of Banpu People: Voices of Dedication,” portraying the work, life, and experiences of the Company’s employees from all countries. The documentary not only helped Banpu people to understand each other better but also engaged them in aligning the “10 Key Behaviors of Banpu Heart” with their individual goals and the business goals of Banpu Group through



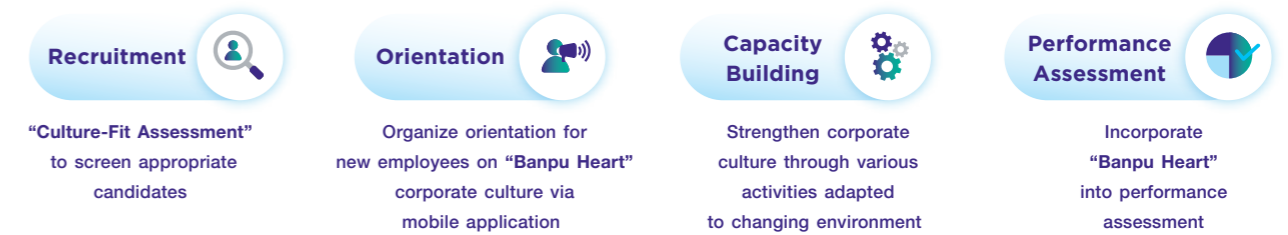
the exchange of diverse perspectives, reflecting adherence to the same corporate culture. Moreover, the Company organized other creative and engaging activities that allowed participants to practice and integrate corporate values with their personal values to facilitate better understanding and more effective agile working. The key activities held included:

- Reinforcing the role of **Banpu Change Leaders (BCLs)**, a group of employees who volunteer to drive corporate culture, through establishing a global network of BCLs and making them part of the Company's Global Ecosystem through various activities, such as **the Banpu Heart and Local Community** activity in China, **Banpu Heart SPORT CUP** in Indonesia, and the **Level Up 4 Decades the New Year celebration** event in Thailand.
- **The Transcend Your Limit activity**, an activity based on the belief that "every employee possesses limitless capabilities", was organized to motivate employees to transcend their limits, discover the power of action, dare to try new things, and learn from their failures.
- **The Boost Me Up Series**, the series of activities held with an aim to sustainably improve employees' well-being in all aspects by promoting mindfulness, health, and financial literacy and boosting employees' energy to contribute to society.
- **The Banpu 40th Anniversary Celebration**, an internal event showcasing the Company's four decades of journey in delivering sustainable energy through responsible business operations toward all stakeholders, society, and the environment.
- **The Brand Talk: Express to Success event**, at which Mr. Krating Ruangroj Poonpol, the Group Chairman of KBTG, shared his insights with Banpu's employees about the corporate entrepreneur mindset, along with tips and tricks for success in the Never Normal era, which employees could apply in their work lives.

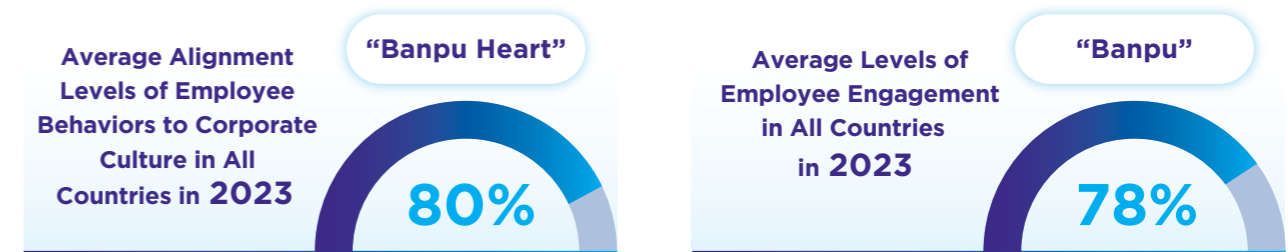


Banpu has been committed to developing its corporate culture throughout the past four decades and is willing to exchange ideas with other organizations and expand its employees' learning horizons about corporate values. To date, many public and private organizations, both in Thailand and abroad, have joined in the learning process. Banpu welcomed other companies to visit and learn about its corporate culture, organized lectures and provided advice for other organizations on how to build a sustainable corporate culture.

## Recruitment



Furthermore, the Company annually conducts an employee survey to gather their opinions on corporate culture and assess the levels of employee engagement. In 2023, the Company conducted a survey on "Banpu Heart" to measure employee's engagement and the extent to which employees' actions align to the corporate culture to ensure that, employees, as a key group of Banpu's stakeholders, truly represent the Banpu Heart. The 2023 survey results are as follows:



**Banpu believes that "People" and networking lie at the heart of its sustainable innovation.**

Banpu has consistently prioritized the strengthening of its innovation culture. The Company has designed and developed activities to promote cross-sectional collaboration and cross-functional knowledge and experience sharing while encouraging openness to different perspectives and fostering a willingness to try new things. These activities aim to cultivate an innovative atmosphere throughout Banpu. Additionally, the Company has prepared its employees for changes by establishing an Innovation Community within the organization and organizing activities such as UnBox iDeas and Banpu Global Innovation Awards 2023.

**UnBox iDeas** is an activity aimed at promoting agile working by providing a platform for thinkers and practitioners to experiment with their ideas. This activity encourages employees to develop agile working, dare to think, try new things, and learn from failures while being open to feedback so that they can improve their ideas and transform them into innovations. The Company has allocated a budget for employees to experiment with their ideas. This is also an opportunity to develop experienced employees at Banpu into facilitators who can effectively share their knowledge and expertise with their colleagues.





Banpu Global Innovation Awards Banpu has been encouraging employees to develop and implement their innovative thinking skills for over a decade. The Banpu Global Innovation Awards event provides a platform for all Banpu Group's employees to showcase and present their creative ideas and innovative projects that are coherent with its Greener and Smarter strategy in front of executives and fellow employees. The platform helps foster cross-country and cross-sectional cooperation and information exchange while facilitating the development of an innovation community, allowing the Company to leverage practical outcomes to advance innovation in the short, medium, and long terms, for sustainable success.



**“It doesn’t matter what role you are in; what matters is how you see yourself in the future.”**

To reinforce “One Banpu, One Goal” concept, Banpu strives to align human resources management with its vision and timely responds to changing business environments, propelling the Company toward becoming a leading versatile international energy provider. The Company strongly supports capacity building and agility in the workplace. Starting at Banpu Academy, the Company has integrated Scrum, an agile methodology framework, into its operations, which can be regarded as “Banpu’s way of working.” The goal is to create an agile way of working to ensure smooth cross-functional and cross-country collaboration while also allowing employees to develop new skills and enhance career growth across functions and countries.

**Human Capital Development Policy**

In 2023, the Company implemented its human capital development strategy according to the employee value proposition principle, aligned with the vision of transforming Banpu into a lifelong learning organization. This strategy aims to equip all employees with learning potential and comprehensive personal development, which will enable Banpu to adapt to any situation and thrive amid business challenges and changes. Key initiatives under the strategy were as follows:

1. The Company has developed standardized and up-to-date employee training programs for the Banpu Group as well as specialized programs to support the needs for specific expertise and context of each current or future flagship business in each country where Banpu operates.

In addition to basic training and development programs, the Company, with support from leading executive development institutes and consulting firms both domestically and internationally, has designed and developed training programs for executives and employees at all levels via a blended learning platform. Furthermore, the Company has adjusted its human resources development to better align with the Flexible Workplace policy, enabling employees to reskill and upskill through self-learning, where Banpu Academy could cater to diverse self-development needs. These was to provide employees with positive learning and working experiences, as well as equip them with the ability to develop and transfer skills, knowledge, and experiences, allowing the Company to achieve smart, sustainable, and steady strategy implementation.

The development of Banpu’s employee training programs serves the dual purpose of enhancing employees’ knowledge, competencies, and work skills for their current roles while improving potential for their career path. The programs focus on integrative learning activities including formal classroom training, study trips and experience

sharing sessions, ensuring continuous learning and development for employees and enhancing the Company’s growth despite all the changes.

2. The Company has established networks and ecosystems for employee development in collaboration with international human resources development institutes and organizations from both private and public sectors. This has been accomplished as per the Memorandum of Understandings (MoUs) with the College of Social Communication Innovation, Srinakharinwirot University, and Bangkok University International. The initiatives aimed to strengthen both student learning ecosystems and networks while fostering collaboration on the development of future-proof programs for employees. Furthermore, students were exposed to experience, knowledge, and expertise shared by Banpu’s experts from diverse fields, which inspired their interest in joining Banpu’s internship program.

3. The Company used data analytics as a tool for developing the annual employee development plan and designing learning experiences to efficiently respond to the needs for more dynamic and efficient personnel development at both the business unit level and the individual level.

To curate training courses that meet employees’ learning needs and behaviors, Banpu Academy conducted an Employee Diagnostic Survey covering over 2,500 employees at all levels in seven countries.





The top three skills that employees considered important for the organization were problem solving and value creation, effective communication and negotiation, and innovation and transformation, respectively. According to employees, the key factor influencing their decision to take a training course was the relevance of the course to their current jobs. Additionally, dividing course content into shorter sessions would facilitate more effective learning. Banpu Academy will use these findings for future learning design, course development, and capacity development planning.

- The Company continued to develop employees' potential and capabilities to prepare them for the digital age and rapid changes in the New Normal era so that they could utilize digital tools to improve work efficiency. The focal points of employee development included data analytics, human-centric skills, Banpu's way of working, which was derived from the agile methodology and based on the scrum framework. Additionally, design thinking process was applied to increase cross-functional, cross-unit, and cross-country collaboration. Centric)



- The Company continued its effort to promote an innovation culture and encourage creativity and continuous development in the organization.
- To foster a learning community within Banpu, the Company established TalkFest a platform for knowledge sharing among experts from various fields, both inside and outside the organization. The series of topics for TalkFest catered to the interests of Banpu employees and addressed several important trending issues at the time. These included a series of economic and investment topics e.g., the CVC Series and the Economics of Death. Other series of topics included sustainable development, e.g.,

decarbonization, and topics related to regulatory changes or new laws, e.g., the Personal Data Protection Act (PDPA). Furthermore, speakers from academic institutions and private organizations were invited to share their insights in order to cultivate a growth mindset among Banpu people.



- To foster a network that facilitates and promotes the exchange of important knowledge, expertise and experiences within the Banpu Group in a tangible and sustainable manner, Banpu Academy at the Banpu Headquarters in Bangkok, has collaborated with responsible units for employee development in each country to establish Banpu Academy – Country Campuses. This initiative aims to drive employee development in respective countries. In 2023, Banpu Academy – Australia Campus was established to advance knowledge on modern underground mining that uses cutting-edge mining technology and AI for data analytics. In addition, Banpu Academy – Vietnam Campus serves as a knowledge base on wind farms. There are also plans to expand campuses in other countries, such as China, Japan, and the U.S., which is expected to be completed by 2024. These campuses not only efficiently serve as learning and skill development centers for employees across the Banpu Group, but also create a tangible and sustainable network for knowledge and experience exchange in the organization.

In 2023, employees and executive received an average of 35 hours of training. They participated in the following training programs.

### Self-learning Capacity Development Programs

The Company has the policy to allocate a training budget at a minimum of 5% of the total annual salary budget. In addition to in-house and external training courses, as well as selective learning programs based on a universal blueprint for infinite learning, in 2023 the Company carried out development programs to enhance the following key skills:

**Leadership Development:** The program focuses on enhancing business-related skills, such as Energy Titan, negotiation, coaching, and mentoring. It aims to unlock employee potential and broaden their learning horizons within the same department, across departments, and internationally, fostering lifelong learning in the organization.

**Digital Proficiency:** This program begins with reinforcing employees' knowledge and skills through the Data-Driven Citizen Program, which enables them to leverage insights and advance the organization forward in a technology-driven landscape, ultimately benefiting the Company and generating added value for customers. Through this program, employees are also provided with an opportunity to initiate and implement their projects, with support from a learning community in terms of experience sharing, transfer of knowledge, and data analytic techniques. With a learner-centered approach, employees have the flexibility to choose their preferred learning styles for effective knowledge and skill development.



**Technical/Functional Competency Development:** This program involves strategic planning and thinking, project management, building business operating models, and Banpu Group's sustainable development principles.

In addition to developing technical and functional competencies specific to employees' current roles, the Company has arranged several trainings to develop new skills in preparation for business expansion and future growth. These include the workshop on strategic minerals for employees in the mining business, as well as an internal seminar on ESG. Furthermore, the Company has fostered employee development through the Learning Community initiative, which emphasizes the exchange of insights and best practices for practical problem-solving based on real case studies from both internal and external sources. Examples of learning communities include the Energy Trading Learning Community and Renewable Energy Asset Management Learning Community, both of which allow members of the same workgroup in different countries to share knowledge, best practices, and experiences and to collaborate on developing guidelines for work process development, exchanging information, and expanding networks together.





### Banpu Global Leadership Program

This program offers training for Banpu's executives in all countries, aiming to foster cross-cultural collaboration and cross-functional networking to drive international cooperation and collaboration. It includes courses on self-development for enhanced leadership, team leadership skill development, and business leadership skill development. Banpu Global Leadership Programs consist of the following:

- **Banpu International Business Leader Program (IBLP)** is a leadership development program for executives in all countries. The Company completed the training for the first batch of IBLP program in 2023. This program aims to develop leaders' essential skills for international business management and for navigating emerging business challenges by learning from experts, leveraging experiences and know-how within the organization, and knowledge sharing. Additionally, the program emphasizes action learning and incorporates a mentoring system where senior executives of each organization serve as mentors to the participants, preparing them for critical positions and promoting the sustainability of the organization.
- **Leadership Weekend Programs** is a senior executive development program focusing on the visualization of the Company's overall strategy and direction, encompassing business operations, strategic plans, and the formulation of Banpu's future human capital development plan.



- **Banpu Business Leaders Development Program** aims to prepare executives in each country for people management, operations management, and their future leadership roles. Participants are required to go through a systematic selection procedure, where the leadership competencies and characteristics are

assessed in order to identify strengths and areas for development. A personalized training program is also conducted to prepare each of them for the future leadership role.

In addition, the Company empowers high-potential candidates with business acumen, analytical thinking, and management skills through various development activities, such as cross-functional collaboration, cross-country experience, and job rotation. Candidates' progress is monitored quarterly against personalized learning programs.

- **Banpu Global Leadership Program For First Line Leaders:** This program is designed to cultivate leadership skills in participants, enabling them to build people excellence and leverage their thinking and strengths for further success. In other words, it aims to develop leaders who can build exceptional teams, inspire and guide members toward collective success, and encourage the effective participation of first line leaders in creating sustainable business growth
- **Banpu Future Leader Program:** The Banpu Future Leader Program is designed to enhance elementary-level leadership skills, including emotional intelligence, stakeholder management, business strategy exploration, innovation, and creativity. Additionally, it aims to enrich the learning experience through the Learning Application Project, which encourages employees to form cross-functional teams, develop project proposals based on their innovative ideas, and present them to the committee for budget approval and implementation. Upon program completion, participants demonstrated improved interpersonal relationships and higher engagement with the organization compared to their peers.



In 2023, the Banpu Future Leader Alumni Session brought together alumni from six program batches to develop new skills, inspire learning for future leadership roles, and facilitate experience exchange among alumni within the network.

In 2023, the Company was granted the Gold Award in the Excellence in Learning and Development category and the Silver Award in the Excellence in Leadership Development category at the Human Resources Excellence Awards 2023, organized by the Human Resources Online Institute in Singapore, reaffirming Banpu's standards and achievements in personnel development.



### Succession Planning and High Potential Management

Banpu recognizes the importance of maintaining continuity in workforce planning and management to effectively support its growing business. In 2023, Banpu's Succession Planning Committee identified potential successors for senior executive positions and regularly reviewed and monitored the succession plan to facilitate growth. The Company prepared future successors through training in the International Business Leader Program (IBLP) and evaluated their development through individual development programs (IDPs). Additionally, the Company monitored progress according to the IDPs and recruited new employees and executives to fill critical positions in each country, aligning succession planning with the Company's business strategy. Banpu has determined key critical positions, identified successors, and regularly reviewed selection criteria to strengthen long-term succession management and enhance agility in each business area.

The Succession Planning Committee has prepared career choice and job rotation opportunities for successors in senior management and key positions. In 2023, successors were promoted to key positions to ensure business continuity.

The Company aims to consistently equip executives of middle-level and higher with the people and work management skills essential for their future leadership roles. In 2023, the Company launched the Banpu International Business Leader Program (IBLP) to cultivate leaders in each country, starting with the first batch. The program focuses on action learning and aims to develop and prepare participants for leadership roles. Each participant was assigned a mentor, a senior executive in the Company, to support their growth toward critical roles.

### Supporting Agile Working with HR Technology Transformation Strategy, Uniting Employee Data with Single Source of Information under "One Banpu, One Goal" Concept

The Company is moving forward to build an ecosystem of human resources management technology and ensure that the linkage of HR information in every country is established to allow for accurate information management, easy access, and maximum agility for all parties. Various technologies and systems have thus been introduced to streamline HR management processes in each country while prioritizing both process automation and pleasant user experience. The improved user experience was developed to enhance overall efficiency, provide visibility to support growth opportunities, and establish a robust business ecosystem in the long run. Some of the recent developments are given below

- The Company has developed technology for employee data collection and utilization in every country, all connected to a Single Source of Information that is user-friendly. This enhances data analytics efficiency for streamlined human resources management and international collaboration. In 2023, the Company improved data connectivity and enhanced employee experience through the development of the following systems:
  - B-Talk system, enabling employees to express their opinions, answer questions, or exchange knowledge.
  - Buddy Up system, boosting employee engagement and facilitating daily use, such as consolidating multiple systems into a single source, catching up on the news, and accumulating reward points and redeeming them for rewards that meet diverse needs.
  - An experimental AI-based system to effectively identify and assess high potential employees for individual development planning, of which the pilot implementation in Banpu NEXT Co., Ltd. is scheduled for 2024.
  - An experimental AI-based personal assistant system for employees that automatically notifies and responds to employees' inquiries (in progress)
- The HR Technology Transformation Strategy according to the 3E2A approach (E = Ecosystem, E = Employee Experience, E = Empowering, A = Automation, A = Analytics) has been developed, making it possible to generate analytical results, key competency indicators, and identify strategic human resource management issues from available data, providing the Company with a competitive edge and fostering long-term business ecosystem development.

### Development of an Effective Organizational Structure

The Company is well aware that an organizational structure appropriate for business strategies promotes agility, strengthens management, creates synergies among business groups in every country, and facilitates speedy operations in each country to ensure maximum efficiency.

In 2023, the Company set up the Executive Committee to steer and support diverse business expansions and to reinforce the Banpu Ecosystem in the long term through the strategic plans of each country.

### Other Important Information

#### The Person Assigned to Supervise Accounting

Ms. Arisara Sakulkarawek, Chief Financial Officer, was assigned to directly supervise the accounting of the Company. Details of the person directly supervising accounting are included under the section "Details of the Board of Directors and Management" in this report.


#### Company Secretary

The Board of Directors has appointed Mr. Virach Vudhidhanaseth as Company Secretary, whose duties and responsibilities are as stipulated in the Securities and Exchange Act (No.5), B.E. 2559, an amendment of the Securities and Exchange Act B.E. 2535. The Company Secretary is responsible for organizing the Board of Directors' meetings and shareholders' meeting, ensuring compliance with the meetings' resolutions, and advising the Board on rules and regulations that it must comply with. Additionally, the Company Secretary prepares and keeps the register of directors, Board meeting invitation letters, Board meeting minutes and the Company's annual reports, invitation letters to attend the shareholders' meeting and records of its minutes, the report on conflict of interest by directors or executive officers, and performs other duties as prescribed by the Office of the Securities and Exchange Commission, the Capital Market Supervisory Board, and the Stock Exchange of Thailand. Head of the Internal Audit Department.

#### Head of Global Internal Audit

Ms. Wiyada Wiboonsirichai, Head of Global Internal Audit and Compliance, was appointed to supervise the Company's internal audit.

For complete information on "Details of senior management, the person directly supervising accounting, Company Secretary, and Head of Global Internal Audit",



**Please scan the QR Code or clicking on 'CLICK HERE'**




### Investor Relations

Investor Relations Department discloses information to ensure inclusive and equitable information for all stakeholders.



For complete information on the website, **Please scan the QR Code or clicking on 'CLICK HERE'**

#### Interested parties may contact or make inquiries to the Company's Investor Relations via the following channels

-  **Telephone** +66 2 694 6684
-  **Email** investor\_relations@banpu.co.th
-  **Line** @banpu-ir



### Audit Fees

The Audit Committee considered the selection of auditors based on Banpu's evaluation criteria, namely auditor independence, audit quality and standards, and qualifications of auditors as required by the Stock Exchange of Thailand. The Audit Committee then proposed the appointment of the following auditors to the Board of Directors for approval.

- Ms. Amornrat Permpoonwattanasuk**  
CPA, License No. 5499; and/or
- Ms. Rodjanart Banyatananusard**  
CPA, License No. 8435; and/or
- Mr. Pongthavee Ratanakoses**  
CPA, License No. 7795; and/or
- Mr. Boonruang Lertwisetwit**  
CPA, License No. 6552

The above individuals from PricewaterhouseCoopers ABAS Ltd. (PwC), which has a network of firms in many countries, were nominated as auditors of Banpu Public Company Limited in 2023 with total audit fees of THB 3,012,500, increasing 4.90% from 2022. The audit fees were exclusive of out-of-pocket expenses, such as domestic travel expenses, telephone bills, postage and stamp charges, and photocopy service fees, which shall not exceed 10% of the total audit fees.

### Non-Audit Fees

In 2023, the Company had other fees of THB 291,670, which are expenses incurred during the service provided by PricewaterhouseCoopers ABAS Ltd. (PwC).



## CORPORATE GOVERNANCE PERFORMANCE



### Summary of the Performance of the Board of Directors in 2023

In 2023, the Board of Directors played a critical role in formulating policies and strategies to enhance competitiveness, cultivate the corporate culture and values, and improve the efficiency of governance and the adequacy of internal control and risk management. Furthermore, the Board has also provided valuable suggestions for business growth. Key actions by the Board's performance in the past year included:

- Reviewing the Practices for the Board of Directors and the Charter of each sub-committee to revise their scope of duties and requirements on meetings to ensure that they align with changes in governance criteria, the Board's roles, and business operations
- Reviewing the Board's performance evaluation form to receive additional feedback and perspectives on business operations
- Reviewing the structure and composition of the Board of Directors and the Board Skill Matrix on an annual basis to ensure alignment with the Company's strategy and business direction
- Recruiting and nominating a new director to replace a retired director. The Board nominated Mrs. Watanan Petersik, whose knowledge, competencies, and qualifications suit the Company's business direction, as an independent director.
- Considering the succession plan prepared by the Corporate Governance and Nomination Committee and working with the CEO to develop a CEO succession plan by considering potential candidates based their on skills, knowledge, competencies, leadership, and experience essential and beneficial for business operations according to the Company's strategic plan
- Reviewing two policies and practices related to Environment, Society and Governance formulated by the ESG Committee:
  - 1) Environmental Policy
  - 2) Biodiversity Policy

While acknowledging there are some practices within the SEC's Corporate Governance Code for Listed Companies 2017 that the Company has not yet implemented, Banpu has established and implemented its own robust measures aligned with its specific needs.

### Nomination, Development, and Performance Evaluation of the Board and Directors

The nomination, development, and performance evaluation of the Board of Directors are of great importance as the Board of Directors has a critical role in establishing the Company's strategy and business direction to drive sustainable growth. The Company has disclosed information as well as the criteria and procedures for the nomination of Board members under the section "Nomination of Directors and Senior Executives" on page 220, "Performance Evaluation of the Board of Directors" on page 221, and "Development of the Board of Directors and the Executives" on page 222.

### The Board of Directors' Meeting

The Board of Directors convenes at least once a month, on the final week of every month except for February and December, when the Board convenes on the second week. Any additional meetings may be held if necessary. At every meeting, there are clear agenda items. A complete set of supporting documents is submitted to the Board of Directors at least seven days in advance of the meeting to allow the Board an opportunity to properly review the documents before the meeting. The inclusion of an agenda item after the distribution of documents is permissible only under exceptional circumstances and when justified. Furthermore, such an addition requires approval from the Chairman of the Board. Each meeting lasts approximately three and a half hours. During the meeting, all directors can openly voice their opinions. The Chairman of the Board is the one who summarizes views and board resolutions. If any director has a conflict of interest in a matter being considered by the Board, the director must leave the meeting room.

Minutes of all the meetings are documented and subsequently signed by the Chairman of the Board and the Company Secretary upon approval. These minutes and associated agenda documents are kept in both physical and electronic formats to be used as reference materials for directors or related persons. All the documents are securely stored for a minimum of five years, with a safeguard system in place to prevent any alteration or unforeseen disaster.



The Board of Directors' Meetings in 2023 (1 January 2023 – 31 December 2023)

Name	Title	Terms of Office	The Board of Directors' Meetings in 2023						
			The Board of Directors	Non-Executive Directors	The Audit Committee	The Corporate Governance and Nomination Committee	The Compensation Committee	The Environmental, Social and Governance (ESG) Committee	2023 Annual General Meeting of Shareholders
			Total 12 meetings	Total 1 meeting	Total 9 meetings	Total 6 meetings	Total 6 meetings	Total 4 meetings	Total 1 meeting
1. Mr. Chanin Vongkusolkit	Chairman, Non-Executive Director (NED)	April 2022 - AGM 2025	12/12	1/1	-	-	-	-	1/1
2. Mr. Teerana Bhongmakapat	Independent Director (ID)	April 2022 - AGM 2025	12/12	1/1	9/9	-	6/6	-	1/1
3. Mr. Piriya Khempon	Independent Director (ID)	April 2022 - AGM 2025	12/12	1/1	-	6/6	-	4/4	1/1
4. Mr. Anon Sirsaengtaksin	Non-Executive Director (NED)	April 2023 - AGM 2026	12/12	1/1	-	6/6	-	-	1/1
5. Mr. Buntoeng Vongkusolkit	Non-Executive Director (NED)	April 2021 - AGM 2024	10/12	1/1	-	-	5/6	-	1/1
6. Mr. Pichai Dusdeekulchai	Independent Director (ID)	April 2023 - AGM 2026	12/12	1/1	9/9	-	-	4/4	1/1
7. Mr. Teerapat Sanguankotchakorn	Independent Director (ID)	April 2022 - AGM 2025	12/12	1/1	-	-	6/6	4/4	1/1
8. Mrs. Watanan Petersik	Independent Director (ID)	April 2023 - AGM 2026	9/9	1/1	5/5	-	-	-	-
9. Mr. Metee Auapinyakul	Non-Executive Director (NED)	April 2023 - AGM 2026	12/12	1/1	-	-	-	-	1/1
10. Mr. Ongart Auapinyakul	Non-Executive Director (NED)	April 2021 - AGM 2024	12/12	1/1	-	-	-	-	1/1
11. Mr. Verajet Vongkusolkit	Non-Executive Director (NED)	April 2021 - AGM 2024	12/12	1/1	-	6/6	-	-	1/1
12. Mr. Sarayuth Saengchan	Non-Executive Director (NED)	April 2022 - AGM 2025	12/12	1/1	-	6/6	-	-	1/1
13. Ms. Somruedee Chaimongkol	Executive Director (ED)	April 2021 - AGM 2024	12/12	-	-	-	-	-	1/1
14. Mr. Suthad Setboonsarng	Independent Director (ID)	April 2023 - AGM 2026	3/3	-	3/3	-	2/2	-	1/1

Notes: 1. The 2023 Annual General Meeting of Shareholders of Banpu Public Company Limited was convened on 3 April 2023.  
2. Mrs. Watanan Petersik was appointed as a director, effective 4 April 2023, and as a member of the Audit Committee, effective 1 May 2023.  
3. Mr. Suthad Setboonsarng resigned from the position of director, effective 4 April 2023.

Remuneration of the Board of Directors

The Board of Directors delegated the Compensation Committee to review the remuneration structure, system, and the appropriate amount of remuneration for the Company's directors and senior management. It is prescribed as a policy that remuneration must be appropriate to roles, duties, and responsibilities and competitive within the relevant job market and business landscape. Executive remuneration is determined based on individual performance to incentivize effectiveness.

The remuneration of the Board of Directors consists of a monthly salary and allowance for each meeting attended. Annual remuneration in the form of bonuses will be linked to the dividend paid out to shareholders, and the payment of the Board of Directors' remuneration must be approved by the shareholders' meeting. The information is disclosed under the section "Remuneration of the Board of Directors" on page 248.

Corporate Governance of Subsidiaries and Affiliates

The Company has managed its subsidiaries and affiliates and established business procedures to ensure operational effectiveness and proficiency, as follows:

Investment Policies of Banpu and Its Subsidiaries

1. The management shall review and assess a pre-feasibility report prepared by the Investment Committee before presenting the results and investment outlook to the Board of Directors. The Board then considers and approves the project for funding, development, and expansion, as well as the subsidiaries' significant policies. Additionally, if an establishment or dissolution of a subsidiary is necessary, the Board of Directors holds the authority to approve such decisions to ensure the overall efficiency of Banpu's operations.

- The Board of Directors oversees and approves investment transactions that meet specific criteria established by the SEC, such as connected transactions and the acquisition or disposition of assets.
- The Board of Directors has a governance mechanism to oversee subsidiaries and safeguard the Company's investments. The Board is responsible for deliberating on suitability of top executives to serve as directors of the Company's subsidiaries to ensure that the management aligns with the Company's policies and that all transactions comply with applicable laws, the Securities and Exchange Act, and the SEC's announcements.
- The subsidiaries shall submit reports on their performance and operations, particularly their key business activities. They shall also conduct sensitivity analysis, evaluate it against goals or benchmarks, and provide opinions or recommendations on the management of each subsidiary. These reviews provide a basis for policy formulation and business improvement to ensure sustainable growth for the Company's subsidiaries.

Internal Control Policy and Group-level Management Policy

The Board of Directors and the management assigned the Global Internal Audit Unit to report directly to the Audit Committee to ensure its independence. The Unit is also required to report on the progress of the internal audit to the Board of Directors on a quarterly basis.

Level of control over a subsidiary is proportionate to the Company's shareholding. The Board of Directors is responsible for appointing an executive to serve as a director in each subsidiary to ensure alignment of business direction with the Company's policies and strategies. Director selection is decided based on knowledge, relevant competencies to the subsidiary, work location (in case of a foreign subsidiary), health, and readiness of the director. Director positions in the Company's subsidiaries are reviewed at least once a year.

## Budget Policy

The preparation of the operational and investment budgets of a subsidiary must be in accordance with the budget guidelines of each subsidiary and consistent with the Company's budget guidelines. Budget preparation and review must be completed within the timeframe, and the corresponding information must be submitted accordingly. Any investment project valued over THB 1.5 billion or spending that exceeds the approved budget by over 15%, is subject to the Board of Directors' approval.

## Corporate Governance and Compliance Monitoring

### Reporting of Interests of Directors and Executives

To comply with Section 89/14 of the Securities and Exchange Act (No. 4) B.E. 2551 and Notification of the Capital Market Supervisory Board No. TorJor. 2/2552 Re: Reporting of Interests of Directors, Executives and Related Persons, members of the Board of Directors are required to report the Company's securities held by themselves, their spouses, and minor children who are not sui juris at the next Board meeting after their appointment as Board members. Subsequently, if any Board members, their spouses, or minor children who are not sui juris buy or sell the Company's securities, they are required to report such transactions to the following Board meeting every time.

### Anti-Corruption

Banpu has been a certified member of the Thai Private Sector Collective Action Against Corruption (CAC). In 2023, the Company conducted its annual assessment of corruption risks and established preventive measures. The risk assessment covered all businesses in every country where Banpu has invested, both at its subsidiaries and joint ventures. The results have subsequently been reported to the Risk Management Committee. In addition, the Company has continuously communicated and informed employees of the policies and practices

to combat corruption, for example, the Corporate Governance Policy and the Code of Conduct, and the Anti-Corruption practice on accepting and offering of gifts, hospitality, or other similar forms of benefits. Employees at all levels can access the policies through internal communication channels. In the past year, a letter was sent out to the Board of Directors, executives, and employees to request adherence to the No Gift Policy.

### Use of Inside Information

In 2023, there were no reports of breach against or non-compliance with the regulations of the SET and the SEC regarding insider trading and sales or purchases of securities.

Moreover, the Board of Directors and executives had disclosed their holding of the Company's securities upon their appointment. They also reported changes in securities holdings, including those of their spouses and minor children who are not sui juris as well as related persons, to the Board of Directors for acknowledgment as disclosed under the section "Policy on the Use of Internal Information" on page 236.

### Whistleblowing and Receiving of Complaints regarding Corporate Governance

The Company has provided channels and procedures for receiving complaints from all groups of stakeholders. A complaint filing system is available on Company's website on the Whistleblowing page under the Corporate Governance section. The complaints submitted through this system are sent directly to the Chairman of the Corporate Governance and Nomination Committee at GNCchairman@banpu.co.th and/or the Secretary of the Corporate Governance and Nomination Committee at GNCsecretariat@banpu.co.th, who will quarterly report the complaints to the Corporate Governance and Nomination Committee and annually submit a summarized report to the Board of Directors. Details are disclosed under the section "Roles of Stakeholders" on page 227. In 2023, the Company received a total of two complaints from the stakeholders.

# REPORT OF THE CORPORATE GOVERNANCE AND NOMINATION COMMITTEE

The Corporate Governance and Nomination Committee consists of Mr. Anon Sirisaengtaksin, the Chairman of the Committee, with Mr. Piriya Khempon, Mr. Verajet Vongkusolkit, and Mr. Sarayuth Saengchan as members. The Committee independently performs duties entrusted by the Board of Directors in compliance with principles and the Charter of the Corporate Governance and Nomination Committee as well as good governance principles prescribed in the Corporate Governance Code for Listed Companies (CG Code) 2017 of the Securities and Exchange Commission (SEC).

In 2023, the Corporate Governance and Nomination Committee convened six meetings with full attendance. The Corporate Governance and Nomination Committee summarized its performance in 2023 as follows:

## The Corporate Governance Missions

### 1. Oversight and Monitoring of Compliance with the Corporate Governance Policy and the Code of Conduct

In 2023, the Corporate Governance and Nomination Committee monitored and assessed the effectiveness of the implementation of the Corporate Governance Policy and the Code of Conduct within the organization. The indicators used include the results of the 2023 survey on employee perception of the corporate culture, Banpu Heart, specifically focusing on the "Committed" core value, as well as the evaluation results of the CG E-Learning and CG E-Testing systems. The survey results are classified according to job grade and work location.

### 2. Promotion of Corporate Culture and Positive Attitude toward Corporate Governance

The Corporate Governance and Nomination Committee monitored the implementation of the communication plan to promote the corporate culture and positive attitude toward corporate governance through a wide range of activities in 2023, which yielded satisfactory results.

### 3. Receipt and Handling of Complaints Regarding Corporate Governance

Banpu has established a communication channel for receiving complaints regarding corporate governance, covering all groups of stakeholders, via the Company's website under the Corporate Governance section. Complaints can be sent directly to the Chairman of the Corporate Governance and Nomination Committee at GNCchairman@banpu.co.th and/or the Secretary of the Corporate Governance and Nomination Committee at GNCsecretariat@banpu.co.th. The complaints will then be reported to the Corporate Governance and Nomination Committee on a quarterly basis, and a summarized report will be submitted to the Board of Directors on an annual basis. In 2023, the Company received a total of two complaints from all groups of stakeholders, which have been resolved. Involved parties will assess the complaints to determine risks and identify or improve control measures and practices to enhance operational efficiency and governance.

#### 4. Performance Evaluation of Directors and the Board and Directors

The Corporate Governance and Nomination Committee has presented the annual evaluation results to the Board of Directors' meeting. The Board of Directors' overall performance was satisfactory, with a score of 4.62 out of 5. Specifically, each topic received a score in the "good to excellent" range (between 4.5 and 5.0.) The Board acknowledged the evaluation results and suggestions, and exchanged their views in the Board of Directors' meeting on ways to enhance their performance to best benefit the Company.

The annual evaluation results of the four sub-committees, namely: the Audit Committee; the Compensation Committee; the Corporate Governance and Nomination

Committee; and, the Environment, Social and Governance (ESG) Committee, received an "excellent" score range with an average score of 4.61 out of 5. The submission of its annual self-evaluation report by each sub-committee to the Board of Directors is part of its annual performance report.

Apart from that, each individual director has performed a self-assessment and the annual evaluation of each director's individual performance earned an average score of 4.59 out of 5. The Board of Directors acknowledged the results and suggestions and found the individual performance evaluation satisfactory. The board members also exchanged their views on how to enhance their performance to best benefit the Company.



#### Mission on the Nomination of Directors and Succession Planning for Senior Executive Officer Positions

##### Nomination of Directors to Replace the Directors Whose Terms of Office Expires in 2023

The Corporate Governance and Nomination Committee has reviewed the qualifications and suitability of the directors who have served their three-year term and proposed to the Board of Directors to nominate them for another term in the Annual General Meeting of Shareholders for consideration and approval. In the 2023 AGM, the three directors re-elected by the shareholders were as follows:

1. Mr. Anon Sirisaengtaksin
2. Mr. Pichai Dusdeekulchai
3. Mr. Metee Auapinyakul

Upon reviewing the qualifications and suitability of the three directors whose terms of office have expired, the Corporate Governance and Nomination Committee agreed that they have suitable qualifications and performance to be nominated to the 2023 Annual General Meeting of Shareholders for consideration and approval for re-election. The Committee, therefore, proposed their names to the Board of Directors and the appointment has already been completed according to the nomination and appointment procedures.

##### Succession Planning for Senior Executive Officer Positions

In 2023, the Corporate Governance and Nomination Committee received six progress reports on the succession plan and reported the succession plan to the Board of Directors twice.

**Mr. Anon Sirisaengtaksin**

Chairman of the Corporate Governance and Nomination Committee  
Banpu Public Company Limited



## REPORT OF THE COMPENSATION COMMITTEE

The Compensation Committee of Banpu Public Company Limited is composed of four members: three being independent directors and the other one being a non-executive director. All members were appointed by the Board of Directors, based on their expertise, competence, skills, and experience both domestically and internationally.

The Compensation Committee consists of Mr. Buntoeng Vongkusolkrit, the Chairman of the Compensation Committee, and three other members, Mr. Teerana Bhongmakapat, Mr. Suthad Setboonsarng, and Mr. Teerapat Sanguankotchakorn.

According to the Practices for the Board of Directors of Banpu Public Company Limited, which only allows directors to hold their directorship until 72 years of age, in line with the Good Corporate Governance, the retirement of a Company director will result in one's sub-committee membership coming to an end. In 2023 a member of the Compensation Committee, Mr. Suthad Setboonsarng, reached his retirement, which took effect after the date of the 2023 Annual General Meeting (AGM).

The Compensation Committee Charter B.E. 2552 prescribed duties and responsibilities of the Compensation Committee as follows:

- To provide recommendations on remuneration management to the Board of Directors regarding the Board of Directors, sub-committees appointed by the Board, and any other person attending the Board of Director meetings or sub-committees meetings
- To consider and recommend remuneration and other benefits as well as the annual remuneration of the Chief Executive Officer, and to deliberate the overall budget for an annual salary increase, bonuses as well as and other benefits for employees

- To review and recommend the amendment of the scope of work, duties, and responsibilities of the Compensation Committee in response to changing circumstances and determine appropriate criteria for consideration and deliberation on remuneration
- To submit a report on the Compensation Committee's performance to the Board of Directors at least once a year.

In 2023 the Compensation Committee convened six meetings, comprising five regular meetings and one special meeting, in which the Committee considered the agenda proposed by the Secretary of the Committee. The Committee also provided recommendations to the Board of Directors for consideration and approval.

For the flexibility of the meeting and as a preventive measure against the Covid-19 that persisted in 2023, the Committee meeting format was modified and held in two modes: one combining in-person and online attendance, and the other conducted entirely online. The essences of meeting resolutions are summarized below:

### 1. Remuneration and Other Benefits

In 2023, The Compensation Committee considered and provided recommendations on remuneration of the Board of Directors, sub-committees, Chief Executive Officer, and Banpu Group's employees in all countries, the Compensation Committee based its consideration on their duties and responsibilities as well as their performances over the previous year. Also taken into consideration were the business performance, key economic factors, and remuneration surveys among leading companies in Thailand and abroad, and other factors contributing to successful implementation of the Company's strategy as well as benefit to the overall business.

As a result of the 2023 business performance, the Compensation Committee provided guidelines for granting suitable bonuses to motivate staff and enhance their morale in the following year. The consideration was based on business performance, goal attainment, exogenous factors that could affect operations, and competition in the labour market in some countries.

### 2. Business directions of the Company

The Compensation Committee took part in defining business directions to achieve the desired results while ensuring business continuity by giving recommendations on the Chief Executive Officer's key performance indicators for 2023, which aligned with the business directions in the short term and long term, and key annual goals assigned by the Board of Directors. The Committee also considered the Chief Executive Officer's performance during the first and second half of the year with recommendations provided for the Board of Directors.

### 3. Collaboration with Employees and the Management

The Compensation Committee regularly invites executives involved in the agenda of the meeting to provide additional information and explanation on

certain matters that support the Board's decision-making. This has not only led to accurate and timely decisions but also given the opportunity for the committee to understand the working conditions of employees in each area of every country.

Furthermore, the Compensation Committee also performed a self-evaluation of its performance over the year in terms of qualifications, duties, and responsibilities, including meetings, reporting and presentation to the Board of Directors. The Committee also assessed the performances of other sub-committees and submitted the results to the Board.

In summary, the Compensation Committee has completely performed its duties, roles, and responsibilities defined in Banpu's Charter of the Compensation Committee, B.E. 2552, as well as the tasks entrusted by the Board of Directors. The Committee also provided constructive feedback and recommendations that are beneficial both in short and long term for the Board of Directors, executives, and all stakeholders on a regular basis.



**Mr. Buntoeng Vongkusolkrit**

Chairman of the Compensation Committee  
Banpu Public Company Limited

## REPORT OF THE AUDIT COMMITTEE TO SHAREHOLDERS

### Dear Shareholders of Banpu Public Company Limited,

Banpu Public Company Limited's Audit Committee is made up of qualified independent directors with diverse expertise and experience in accounting, finance, banking, business management, and economics, whose qualifications fully meet the criteria and requirements of the Securities and Exchange Commission (SEC). The Audit Committee consists of three members as follows:

1. Mr. Teerana Bhongmakapat, Chairman
2. Mr. Pichai Dusdeekulchai, Director
3. Ms. Watanan Petersik, Director

Ms. Wiyada Wiboonsirichai, Head of Global Internal Audit and Compliance, serves as the Secretary of the Committee.

The Audit Committee has independently performed its duties within the scope of responsibilities entrusted by the Board of Directors and as stipulated in the Audit Committee Charter, which conforms to the SEC's best practices. As the Company diversifies its investment into various countries according to the Greener & Smarter strategy, the Audit Committee prioritizes adequate, suitable, and stringent internal control and risk management. Meanwhile, it encourages the Company to observe good corporate governance and ensure due compliance with applicable laws and regulations both in Thailand and internationally. This includes observance of the Company's anti-corruption policy and the Personal Data Protection Act. Banpu ensures that its operations are carried out under good corporate governance, with transparency and integrity, and in line with the Environmental, Social, and Governance (ESG) principles, taking into account all stakeholders and moving toward sustainable business growth.

In 2023 the Audit Committee convened nine meetings, with the full attendance of all members. Meetings included the presence of management, the Global Internal Audit Unit, and external auditors where appropriate, including a private meetings with external auditors without the presence of management. The Audit Committee reported its proceedings at the Board of Directors' Meeting on a quarterly basis, which can be summarized as follows:

#### 1. Review of Financial Reports

The Audit Committee reviewed material information in Banpu's quarterly and annual financial reports for 2023, together with related party transactions. Meetings were held with the external auditors and relevant management to discuss financial statements, update accounting policies, and adjust key accounting entries and estimates that affected the financial reports. The adequacy and appropriateness of the accounting entry and information disclosure methods were considered. This was to ensure that financial reporting complied with legal requirements and the standards of generally accepted accounting principles, and that financial information had been disclosed accurately, comprehensively, adequately, and in a timely manner, benefiting investors and users of the financial reports.

#### 2. Review of Internal Control and Internal Audit

The Audit Committee reviewed, monitored, and oversaw the Global Internal Audit Unit to ensure that it had comprehensively audited and followed up on the internal control of Banpu and subsidiaries, namely the aspects of investment, operations, resource utilization, safeguarding of assets, loss and damage prevention or mitigation, fraud prevention, reliability of financial reports, compliance with laws and regulations, operational systems, and information systems. In addition, the Committee prudently

enhanced corporate governance standards, risk management, internal control, and compliance. The Committee and the Board of Directors have considered and monitored the spending of raised funds to ensure consistency with the disclosed objectives and diversification strategies. It also advised management on criteria for effective investment decisions. Furthermore, the Audit Committee reviewed the appropriateness of policies, rules, and regulations on management, investment, and operations while ensuring stringent compliance with the internal control process, and continuous improvement of IT governance and cybersecurity in support of the Company's strategy implementation and sustainability. According to the results of adequacy assessment of internal control based on the SEC's assessment form, no material issues or shortcomings were identified. Therefore, the Committee concluded that the Company's internal control systems were adequate and appropriate for its business.

As for internal audit oversight, the Audit Committee reviewed and approved the strategic plan and the annual plan of the Global Internal Audit Unit, which incorporated the Company's new businesses, focusing on proactive auditing, adequacy, and appropriateness of internal control. It also focused on advising preventive controls to enhance the quality and standards of internal audits for higher efficiency, effectiveness, and professionalism, consistent with stakeholders' expectations. For higher audit performance, the Audit Committee promoted upskilling for the audit personnel along with process improvement with the utilization of new digital technologies and data analytics to improve the audit efficiency, ensuring the capability to protect and enhance the Company's value in a sustainable manner.

### 3. Review of Legal Compliance

The Audit Committee reviewed Banpu Group's compliance with applicable laws and regulations. The Corporate Compliance Unit provides support, surveillance, and monitoring of the operations to ensure Banpu's full compliance with laws and external regulations while regularly reporting to the Audit Committee. To this end, Banpu has in place various guidelines and tools that have been relentlessly developed to promote proactive compliance:

- **Banpu Group's compliance guidelines:** Banpu has Group Compliance Guidelines that are enforced in all countries of operations. Through global compliance communication, the Company seeks to create a culture of compliance by regularly promoting understanding and awareness among management and employees of the importance of compliance.
- **Compliance In Hand:** Banpu has expanded the Compliance In Hand system, an extension of the Laws in Hand system, to keep management and employees updated with newly promulgated laws and regulations or any legislation bound for change. The Company can efficiently manage regulatory risks in the countries where it invests with the help of the Compliance Obligations List (COL) system.
- **Permit and License Monitoring System,** an interrelated system that helps promote business compliance while shaping new business opportunities consistent with strategies.
- **System to accommodate personal data protection laws:** The Company has prepared for Thailand's Personal Data Protection Act (PDPA) and similar laws in other countries, such as the Personal Information Protection Law (PIPL) in China, the Personal Data Protection Law (PDPL) in Indonesia, and the Personal Data Protection Decree (PDPD) in Vietnam. Communication about personal data, data usage, how to secure data from leakage, and how to cooperate with the relevant government authorities has been made to raise awareness about personal data and ensure strict compliance with respective laws.

#### 4. Corporate Governance

The Audit Committee reviewed the corporate governance performance and found that the Board, management, and employees had strictly complied with the policy. The Company is determined to conduct its business with integrity, transparency, and social and environmental responsibility to create value for shareholders and benefit all stakeholders. Banpu aims to grow a sustainable business based on ESG principles, good corporate governance, and business ethics. Following the review of related party transactions or transactions with potential conflicts of interest between Banpu, subsidiaries, and their related parties, the Audit Committee found that such transactions had been reasonably handled under general commercial conditions in Banpu's interests and in compliance with the laws and regulations of the SEC and SET. Committed to business integrity and transparency, Banpu also implements an anti-corruption policy with a clearly defined whistleblower policy, reporting channels, and the Investigation Committee to fairly investigate suspected fraud or reported cases with reasonable grounds for concern, as well as identify measures for preventing corruption risks and suppressing undesired behaviors.

#### 5. Oversight of Risk Management System

The Audit Committee reviewed and monitored risks based on quarterly reports submitted by the Enterprise Risk Management Unit to ensure that the risk management process was effective, efficient, and maintained according to Banpu's risk appetite. Its assessment and monitoring of preventive measures have been expanded to include new investments. The Committee also reviewed and followed up on the progress of investment, strategic risks, operations, finance, compliance, IT, corruption, reputation risks, and risks arising from non-compliance with the personal data protection law. The Enterprise Risk Management Unit systematically assessed and monitored the management of key risks that could potentially affect the Company's business, allowing for an effective response to rapidly changing situations and trends. Committed to business transformation, Banpu has consistently restructured the organization in response to changes. With a focus on business diversification, the Company sought to ensure an adequate number of qualified future leaders with the necessary skills, particularly in management and overseeing overseas businesses, to accommodate its business growth.

To mitigate risks, the Company has formulated a strategic plan that focuses on managing volatile business risks. These risks encompass various factors, such as wars, energy supply and demand imbalances, regulatory challenges, global development trends, and technological shifts. The aim is to enhance resilience and adaptability during periods of change. Furthermore, the Company establishes an operational framework aligned with Environmental, Social, and Governance (ESG) principles. This involves assessing both short-term and long-term ESG risks to ensure effective governance based on ethical business practices.

#### 6. Nomination of External Auditors and Audit Fees for 2024

The Audit Committee considered the nomination of external auditors according to Banpu's assessment criteria, including their auditing experience, knowledge, expertise, independence, timeliness, and reasonable audit fees, as well as required qualifications according to the Stock Exchange of Thailand's regulations. The Audit Committee proposed the appointment of auditors to the Board of Directors for the shareholders' approval. The following individuals were nominated:

1. Ms. Amornrat Permpoonwattanasuk, CPA, License No. 4599; and/or
2. Ms. Rodjanart Banyatananusard, CPA, License No. 8435; and/or
3. Mr. Pongthavee Ratanakoses, CPA, License No. 7795; and/or
4. Mr. Boonrueng Lerdwiseswit, CPA License No. 6552.

On behalf of PricewaterhouseCoopers ABAS Ltd. (PwC), one of these proposed auditors will perform the audit and provide recommendations on Banpu's financial statements. In the event that any of these auditors are unable to perform their duties, PricewaterhouseCoopers ABAS Ltd. (PwC) will designate one of its licensed auditors as a substitute. The proposed audit fees for the year amount to THB 3,160,000.

The Audit Committee has fully performed its duties as stated in its charter with prudence and independence for the equitable benefit of stakeholders. The Committee maintains its opinion that the Company adheres to a robust corporate governance policy, possesses an appropriate risk management system, and complies with relevant laws and regulations. Furthermore, the Company has efficient internal control and internal audit systems in place, which safeguard and contribute to sustainable added value for the business. Finally, the Audit Committee expressed the opinion that Banpu's financial reports are accurate and reliable, with adequate information disclosure, and prepared in accordance with generally accepted accounting principles.

February 20, 2024  
On behalf of the Audit Committee



**Mr. Teerana Bhongmakapat**  
Chairman of the Audit Committee  
Banpu Public Company Limited



## REPORT OF THE ENVIRONMENTAL, SOCIAL, AND GOVERNANCE COMMITTEE

The Environmental, Social, and Governance Committee (ESG Committee) is composed of qualified directors in terms of diverse experience and expertise in Thailand and overseas. Chaired by Mr. Piriya Khempon, the ESG Committee has Mr. Pichai Dusdeekulchai and Mr. Teerapat Sanguankotchakorn as the other two members. The Committee has independently and responsibly performed its duties within the scope of work as well as other assignments entrusted by the Board of Directors, conforming to the criteria and principles of the Charter of the Environmental, Social, and Governance Committee.

In 2023, the ESG Committee held four meetings with full attendance. Key points of the meetings are summarized below:

### 1. Review of Policies, Targets, Operations, and Performance Related to Environmental, Social, and Governance (ESG)

The Committee reviewed targets, operations, and performance related to environmental, social, and governance aspects, including GHG reduction targets, water consumption, and air quality, while providing recommendations on the alignment of corporate targets with international standards such as the UN Sustainable Development Goals (UNSDGs) and Dow Jones Sustainability Indices.

### 2. Review and Monitoring of the Management of Environmental, Social, and Governance Risks

In every ESG Committee quarterly meeting, one important issue on the agenda is the reporting of situations with possible environmental, social, and governance risks by the Enterprise Risk Management Department. The ESG Committee would keep monitoring risk management and related corrective measures to ensure that the Company can promptly respond to each situation with the least impact on the business. During the previous year, ESG risks were found in the forms of cyber threats and changes in regulations and policies in countries where Banpu invests, triggered by environmental situations such as climate change.

### 3. Review and Monitoring of Stakeholder Engagement and Materiality Assessment

Each year, the Sustainability Committee considers stakeholder engagement process and undertakes a materiality assessment. The ESG Committee then reviews the process and its results to ensure that the Company has effective sustainability operation with appropriate responses to each group of stakeholders. In the previous year, ESG issues that are stakeholders' top concerns included occupational health and safety, human resource management, community and employee engagement, and GHG emissions.

### 4. Cooperation between the ESG Committee and Management

In 2023, Mr. Piriya Khempon was invited to give a lecture and share his experience on 'Building & Leading Great Team' in the 'International Banpu Leadership Program (IBLP)', a training session Banpu arranged for executives. The session enriched Banpu's management with techniques for team building and team management, enabling them to develop a strong team that can contribute to Banpu's sustainable growth.

In the same program, Mr. Teerapat Sanguankotchakorn shared his views on technological trends and opportunities for leveraging technology to create added value for Banpu's businesses. With leadership experience and a background in the technology sector, Mr. Teerapat helped participants learn, understand expectations, and prepare to take on the role of Digital Leader at Banpu.

Additionally, Mr. Piriya shared information on Banpu's ESG actions in an interview with the Department of International Economic Affairs, Ministry of Foreign Affairs. He also welcomed a delegation from Chiang Mai University who visited to exchange knowledge about ESG with Company executives. These occasions served as a good channel to publicize Banpu's ESG management to external parties.

Mr. Piriya was the person who introduced SVOLT Energy Technology Co., Ltd. to Banpu. As the sixth largest battery producer in China with major corporate customers like GWM and Hozen (Neta) in Thailand, SVOLT is considered a potential partner with Banpu NEXT Co., Ltd. Its vision and goals are compatible with Banpu NEXT's strategic plans. The introduction brought about an exchange of information and meetings between executives of the two companies, which led to the signing of a joint-venture contract. As a result of the joint venture, Banpu NEXT has battery technology that is comprehensive, enabling it to expand its customer base across all sectors of the market, including electric buses, electric trucks, and electric passenger cars, as well as the Battery Energy Storage System (BESS) for both solar farms and the residential use.

February 14, 2024

On behalf of the Environmental, Social and Governance Committee



**Mr. Piriya Khempon**

Chairman of the Environmental, Social, and Governance Committee  
Banpu Public Company Limited

## INTERNAL CONTROL



Banpu operates its business based on corporate governance, in line with the Environmental, Social, and Governance (ESG) principles under its Greener & Smarter strategy. The Company emphasizes its importance of an effective, sufficient, appropriate, and comprehensive internal control system to facilitate transparent, effective, and efficient management. The aim is to achieve strategic and operational goals in compliance with applicable laws and regulations and to ensure the reliability of financial statements and other important reports. All Banpu's executives and employees conduct business and perform their duties with an emphasis on good corporate governance while maintaining social responsibility, effective risk management, and sufficient internal control. The Company has implemented an internal audit system with a check and balance mechanism aligned with international standards to ensure stakeholders' interests. Banpu deploys an appropriate information technology system in its operations as part of its preventive mechanism and to enhance operational efficiency. Moreover, prudent operational procedures have been established to help the Company achieve its objectives, missions, and strategies to drive business growth while enhancing The Company's robustness and readiness to seize its new S-curve business opportunities and navigate through its fifth decade with stability and sustainability.

At the Board of Directors' meeting held on 31 January 2024, the Board evaluated the sufficiency of the Company's internal control system based on the Security Exchange Commission's (SEC) evaluation form, which was prepared by the management and reviewed by the Audit Committee. The overall evaluation results suggested that the Company had a sufficient, effective, and efficient internal control system as well as risk management in accordance with international standards, covering both corporate and operational levels. The results affirmed that Banpu is capable of achieving its predefined goals. Banpu's internal control is based on the five key components of the Committee of Sponsoring Organizations of the Treadway Commission (COSO) framework, of which the details can be summarized as follows:

### 1. Control Environment

Banpu promotes its transparency, culture of integrity, and ethical conduct while aligning its business operations with its vision, missions, and the Greener & Smarter strategy. The Company also fosters an efficient and effective control environment to drive business operations and toward sustainability while ensuring sufficient and appropriate internal control.

In 2023, the Company restructured its organization to align with business growth and direction. The Company also developed and equipped leaders with essential skills and readiness to advance future growth, both in terms of management and governance in all countries of operations. There is a clear segregation of duties and responsibilities between the Board, who oversees the Company's governance for stakeholder interests, and the management, who determines the direction and business strategies to foster a competitive edge. A clear delegation of authority (DOA) has been implemented to delineate the approval authority from the Board down to operational levels, while performance assessment is based on explicit key performance indicators (KPIs). In addition, a check and balance mechanism has been put in place to ensure a comprehensive internal control system and prudent risk management mechanisms to address key risk factors while ensuring effective compliance with relevant laws and regulations.

With a commitment to integrity and transparency, Banpu adheres to good corporate governance principles and the Code of Conduct. The Company aims to create a better living for all by providing access to the best energy solutions, creating sustainable value for all stakeholders, and being a key player in forging a better future. To realize this, Banpu actively encourages all employees to embody the corporate culture, Banpu Heart, in order to lead the Company toward sustainable growth in accordance with ESG principles and become a leading international versatile energy provider. The Company has established anti-corruption policies and guidelines, including whistleblowing channels for reporting corruption. It has also defined practices for gift giving/receiving, entertainment, and other benefits to ensure they align with its anti-corruption policies.

### 2. Risk Assessment

Banpu puts a high priority on risk management amid changes caused by both internal and external factors. The Company regularly reviews its business direction and strategies to align with changing situations to prepare for incidents that may interrupt its business activities at all levels. It has established risk management and contingency plans to respond to future changes and uncertainties. There is a process

to assess risks in different scenarios and to monitor their potential impacts on business models and management at all levels. The progress of risk management in all areas as well as information on changing situations is reported and used for forecasting economic and energy trends, which will be an input for decision-making and determining future business approaches. The risk assessment encompasses investment strategy, operational, financial, information technology, cybersecurity, corruption, corporate reputation, regulatory compliance, and Personal Data Protection Act (PDPA) compliance risks. Mitigation measures are integrated into the Company's short-term and strategic plans. The progress of risk management is reported to the Risk Management Committee and the ESG Committee, reviewed by the Audit Committee, and reported to the Board of Directors on a quarterly basis.

The Company has always prioritized material ESG issues and prepared a strategic plan to respond to a changing global landscape and conducting short- and long-term ESG risk assessments. To cultivate a risk management culture, the Company encourages the inclusion of risk issues in important meetings, provides training on risk management, prepares materials, and organizes activities to promote understanding of risk management among employees at all levels.

Additionally, with on-going risks of the Russia-Ukraine war, the Israel-Hamas conflict, energy supply and demand imbalances, legal and regulatory changes, rapid technological development and disruption, and rising expectations of investors and stakeholders. The Company reviewed its business direction and strategies and adapted accordingly to changing situations. Banpu ensures that the existing strategies and business plans are flexible and agile to deliver Smarter Energy for Sustainability and withstand all the challenges while strengthening its competitiveness and wisely utilizing technology and innovation. In addition, the Company focuses on financial liquidity, income generation, risk minimization, and investment in assets that can generate cash flow instantly. It has also cut expenses and effectively managed cash flow to cope with global uncertainties.

### 3. Control Activities

The Company prioritizes a sound and effective system of internal control in its business operations. To achieve this, it has implemented internal control procedures that oversee business investments based on the corporate structure to ensure alignment with policies, practices, and strategic directions as follows:

1. Formalizing policies, regulations, operating manuals, and operating procedures in written documents that are regularly reviewed and updated; implementing control activities based on the policies, in which clear expectations and procedures are clearly stated to ensure successful policy implementation
2. Identifying and adjusting corporate structure by defining clear segregation of duties and delegation of authority with effective checks and balances
3. Establishing a clear policy on related party transactions by taking into account the Company's best interests on a similar basis to the transactions at arm's length
4. Safeguarding the Company's assets to prevent misuse of the assets for personal purpose
5. Establishing appropriate and effective IT control systems and concurrently developing control activities using technological systems to support achievement of objective
6. Managing, monitoring, and overseeing operations to ensure compliance with the Company's action plans, policies, regulations, and procedures, as well as compliance with laws and external requirements; evaluating performance based on Key Performance Indicators (KPIs) that are linked to the Company's goals
7. Establishing control measures to reduce the risks that may prevent the Company from achieving its objectives to an acceptable level

In 2023, Banpu improved several key operational processes and management in line with the Greener & Smarter strategy to advance growth and strengthen the Company's business. The Company is preparing to seize opportunities in the new S-curves by focusing on eco-friendly business. It also embraces new technologies, such as artificial intelligence (AI), the Internet of Things (IoT), and data analytics in line with the Company's business direction to create automated, modern, and safe operational processes.

### 4. Information and Communication

Banpu has established an information technology system that integrates multiple information resources and effective communication channels to provide adequate essential information to support decision-making for the Board of Directors, executives, and operational staff. The Company has developed an effective and secure information technology system in compliance with relevant laws to drive its goal of becoming an international versatile energy solutions provider. It deploys digital technology to enhance business operations according to the concept of Digital Business Empowerment Focus, aiming to create business sustainability and expedite business transformation. Banpu has adopted agile and co-creation approaches to working to realize long-term goals. The acquisition and development of technologies are controlled by the Digital Stage Gate Process and Information & Technology (I&T) Guidelines to align with relevant governance issues, namely existing technology, information architecture, quality assurance, information security standards, and applicable laws. The Company focuses specifically on overseeing cybersecurity to minimize technology risks to business operations and adheres to ESG principles in conducting its business. It has extended the scope of cybersecurity oversight to include Information Technology (IT) and Operational Technology (OT). It has also changed the process of identifying vulnerabilities in existing applications to be continuous and consistent with agile working. Additionally, third-party cyber risk management has been improved while a Cyber Security Awareness campaign has been initiated and tailored to diverse target groups.

Banpu has appointed a Global Information Security Officer (GISO) with duties and responsibilities to oversee the Banpu Group's information security and digital technology risks and regulatory compliance. Banpu's technology infrastructure has been developed and controlled in accordance with the Digital for Greener Business strategy, in order to align with the Greener & Smarter strategy. Banpu prefers to source from technology companies that prioritize sustainability. In addition, the Company is shifting to using electricity from eco-friendly energy sources wherever feasible.

### 5. Monitoring

As Banpu continues to diversify its business portfolio into various countries, corporate governance is of utmost importance and also a challenge. The Company has implemented a monitoring system at both the management and operational levels. Regular performance reviews are conducted by superiors and department heads, while executive meetings are convened regularly to monitor performance and ensure that goals are achieved as planned. The Global Internal Audit and Compliance Unit supports the oversight and monitoring of internal control performance across Banpu Group as follows:

- **Global Internal Audit Department** independently performs duties in auditing and assessing the efficiency, effectiveness, and sufficiency of the Company's internal control system and its operations in compliance with corporate standards and regulations. The Global Internal Audit Department conducts risk-based auditing encompassing risks to businesses and major activities in every country where the Company has invested, advises on the improvement of work processes, and monitors the progress of improvement to ensure that appropriate corrective actions, including risk mitigation measures, are taken in a timely manner.

Banpu strives to create business growth while placing importance on adequate and effective internal control in compliance with the COSO standards. The Company is also committed to maintaining the quality of its internal audit in compliance with International Internal Auditing Standards with an emphasis on data analytics and the utilization of new digital technologies to improve the audit efficiency and reliability to sustainably protect and enhance the Company's value. In addition, the Company has consistently developed and trained its internal auditors, allowing them to perform their duties effectively in accordance with international standards in times of dynamic changes.

- **Corporate Compliance Department** is responsible for promoting, safeguarding, and tracking the Company's operations to ensure compliance with applicable laws and external. The Corporate Compliance Department emphasizes raising awareness about full compliance with environmental and community

rights laws. The Department reports compliance performance based on the ISO 37301 Compliance Management Systems - Requirements with guidance for use, which highlight the compliance management system and documentation within companies under Banpu Group in all countries. The Company's compliance management is based on the Three Lines Model, an internationally accepted framework that provides guidance to establish multi-tier control to ensure operational compliance. The Company continues to improve the Compliance In-Hand, an application for executives and employees to stay updated with newly issued laws and regulations, and manage and monitor compliance risk via a dashboard that allows timely and effective reporting and monitoring of compliance risks. The application contains comprehensive information about policies, applicable laws, and business news in the countries where the Company operates. The application helps ensure that the Company conducts its business in compliance with applicable laws while being socially and environmentally responsible. In addition, it allows for faster and more advanced risk management. Apart from that, the Company continues to develop the Compliance Obligations List (COL) system and the Permit and License Monitoring system to raise executives' and employees' awareness about the importance of compliance with applicable laws in each country and to ensure effective oversight of legal compliance in line with ESG principles in the countries where the Company has expanded its investment.

Additionally, Banpu has been fully prepared to comply with the Personal Data Protection Act (PDPA) in Thailand and similar laws in other countries, such as China's Personal Information Protection Law (PIPL), Indonesia's Personal Data Protection Law (PDPL), and Vietnam's Personal Data Protection Decree (PDPD). The Board of Directors and the management have established policies and practices, set up a working committee, appointed Data Protection Officers, and created a data inventory for every business unit. The Company has also educated its people about personal data, the use and collection of data, the data protection system, and how to coordinate with government authorities to ensure that all executives and employees understand, realize the importance of, and strictly comply with the Data Protection Act.



## CONNECTED PERSONS AND TRANSACTIONS

As of 31 December 2023

Company / Type of Business	Description of Relationship	Major Shareholders	Members of the Board of Directors
<b>1. Mitr Phol Sugar Corp., Ltd.</b> (Production and Distribution of Sugar and Molasses)	<ol style="list-style-type: none"> <li>One of the shareholders of Banpu Plc., holding 8.26% of its paid-up capital</li> <li>The major shareholder is Mid-Siam Sugar Co., Ltd.</li> <li>There are three joint directors:                             <ol style="list-style-type: none"> <li>Mr. Chanin Vongkusolkit</li> <li>Mr. Buntoeng Vongkusolkit</li> <li>Mr. Verajet Vongkusolkit</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>Mid-Siam Sugar Co., Ltd. 99.99%</li> </ol>	<ol style="list-style-type: none"> <li>Mr. Chanin Vongkusolkit</li> <li>Mr. Buntoeng Vongkusolkit</li> <li>Mr. Pichet Durongkaverroj</li> <li>Mr. Krisda Monthienvichienchai</li> <li>Mr. Verajet Vongkusolkit</li> <li>Mr. Chusak Vongkusolkit</li> <li>Mrs. Amporn Kanjanakamnerd</li> <li>Mr. Attaphol Vongkusolkit</li> <li>Mr. Pongsakorn Wongwuttikraikul</li> </ol>
<b>2. TME Capital Co., Ltd.</b> (Investment Company)	<ol style="list-style-type: none"> <li>One of the shareholders of Banpu Plc., holding 1.02% of its paid-up capital</li> <li>The major shareholder is the Vongkusolkit Family.</li> <li>There is no joint director.</li> </ol>	<ol style="list-style-type: none"> <li>The Vongkusolkit Family 80.01%</li> <li>Ufinves Co., Ltd. 15.23%</li> <li>The Kanjanakamnerd Family 3.82%</li> <li>The Putongsiriporn Family 0.94%</li> </ol>	<ol style="list-style-type: none"> <li>Mr. Vitoon Vongkusolkit</li> <li>Mr. Annop Vongkusolkit</li> <li>Ms. Phatsawan Vongkusolkit</li> <li>Ms. Theeranat Vongkusolkit</li> <li>Ms. Supawee Vongkusolkit</li> <li>Mr. Banchoet Vongkusolkit</li> <li>Mr. Gavin Vongkusolkit</li> <li>Mrs. Arada Vongkusolkit</li> <li>Mr. Amnuay Kanjanakamnerd</li> </ol>
<b>3. Mid-Siam Capital Co., Ltd.</b> (Sugar Cane Planting and Stock Investment)	<ol style="list-style-type: none"> <li>One of the shareholders of Banpu Plc., holding 0.82% of its paid-up capital</li> <li>The major shareholder is Mid-Siam Sugar Co., Ltd.</li> <li>There are two joint directors:                             <ol style="list-style-type: none"> <li>Mr. Buntoeng Vongkusolkit</li> <li>Mr. Verajet Vongkusolkit</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>Mid-Siam Sugar Co., Ltd. 99.99%</li> </ol>	<ol style="list-style-type: none"> <li>Mr. Isara Vongkusolkit</li> <li>Mr. Buntoeng Vongkusolkit</li> <li>Mr. Verajet Vongkusolkit</li> <li>Mrs. Amporn Kanjanakamnerd</li> <li>Mr. Attaphol Vongkusolkit</li> </ol>
<b>4. MP Particle Board Co., Ltd.</b> (Investment Company)	<ol style="list-style-type: none"> <li>One of the shareholders of Banpu Plc., holding 0.61% of its paid-up capital</li> <li>The major shareholder is United Farmer and Industry Co., Ltd.</li> <li>There are one joint directors:                             <ol style="list-style-type: none"> <li>Mr. Buntoeng Vongkusolkit</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>United Farmer and Industry Co., Ltd. 99.99%</li> </ol>	<ol style="list-style-type: none"> <li>Mr. Buntoeng Vongkusolkit</li> <li>Mr. Krisda Monthienvichienchai</li> <li>Mrs. Amporn Kanjanakamnerd</li> <li>Ms. Kannikar Vongkusolkit</li> <li>Mr. Pariwat Kanchanathana</li> <li>Mr. Gridi Vongkusolkit</li> </ol>

Company / Type of Business	Description of Relationship	Major Shareholders	Members of the Board of Directors
<b>5. City Holdings Co., Ltd.</b> (Holding Company)	<ol style="list-style-type: none"> <li>One of the shareholders of Banpu Plc., holding 0.60% of its paid-up capital</li> <li>The major shareholder is the Vongkusolkit Family.</li> <li>There is no joint director.</li> </ol>	<ol style="list-style-type: none"> <li>The Vongkusolkit Family 90.50%</li> <li>The Kanjanakamnerd Family 6.00%</li> <li>The Putongsiriporn Family 2.00%</li> <li>The Jenlapwattanukul Family 1.50%</li> </ol>	<ol style="list-style-type: none"> <li>Mr. Vitoon Vongkusolkit</li> <li>Mr. Banchoet Vongkusolkit</li> <li>Mrs. Arada Vongkusolkit</li> <li>Ms. Theeranat Vongkusolkit</li> <li>Ms. Phatsawan Vongkusolkit</li> <li>Mr. Gavin Vongkusolkit</li> <li>Mr. Amnuay Kanjanakamnerd</li> <li>Mr. Annop Vongkusolkit</li> <li>Ms. Supawee Vongkusolkit</li> </ol>
<b>6. East Spring Holding Co., Ltd.</b> (Investment Company)	<ol style="list-style-type: none"> <li>One of the shareholders of Banpu Plc., holding 0.56% of its paid-up capital</li> <li>The major shareholder is Mr. Buntoeng Vongkusolkit and Mr. Verajet Vongkusolkit</li> <li>There are two joint directors:                             <ol style="list-style-type: none"> <li>Mr. Buntoeng Vongkusolkit</li> <li>Mr. Verajet Vongkusolkit</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>Mr. Buntoeng Vongkusolkit 50.00%</li> <li>Mr. Verajet Vongkusolkit 50.00%</li> </ol>	<ol style="list-style-type: none"> <li>Mr. Buntoeng Vongkusolkit</li> <li>Mr. Verajet Vongkusolkit</li> </ol>
<b>7. Pacific Sugar Corp., Ltd.</b> (Import and Export of Sugar)	<ol style="list-style-type: none"> <li>One of the shareholders of Banpu Plc. holding 0.27% of its paid-up capital</li> <li>The major shareholder is Mitr Phol Sugar Corp., Ltd.</li> <li>There is one joint director:                             <ol style="list-style-type: none"> <li>Mr. Verajet Vongkusolkit</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>Mitr Phol Sugar Corp., Ltd. 99.99%</li> </ol>	<ol style="list-style-type: none"> <li>Mr. Verajet Vongkusolkit</li> <li>Mr. Parin Amatyakul</li> <li>Mr. Jirasak Vongkusolkit</li> </ol>
<b>8. Mitr Phol Bio-Power (Phuviang) Co., Ltd.</b> (Production and Distribution of Sugar and Molasses)	<ol style="list-style-type: none"> <li>One of the shareholders of Banpu Plc., holding 0.25% of its paid-up capital</li> <li>The major shareholder is United Farmer and Industry Co., Ltd.</li> <li>There are two joint directors:                             <ol style="list-style-type: none"> <li>Mr. Buntoeng Vongkusolkit</li> <li>Mr. Verajet Vongkusolkit</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>United Farmer and Industry Co., Ltd. 52.38%</li> </ol>	<ol style="list-style-type: none"> <li>Mr. Buntoeng Vongkusolkit</li> <li>Mr. Krisda Monthienvichienchai</li> <li>Mr. Verajet Vongkusolkit</li> <li>Mr. Prawit Prakritsri</li> <li>Mr. Jirasak Vongkusolkit</li> <li>Ms. Theeranat Vongkusolkit</li> <li>Mr. Nattapong Vongkusolkit</li> <li>Mr. Sirasak Tathong</li> <li>Mr. Arnat Panya</li> <li>Mr. Gridi Vongkusolkit</li> </ol>

## RELATED-PARTY TRANSACTIONS AND RELATIONSHIPS

### Related-Party Transactions And Relationships

Banpu Public Company Limited	
Company	Related-party Transactions
<b>1. Banpu Minerals Co., Ltd.</b>	<p>Transactions with Banpu Minerals Co., Ltd. are as follows:</p> <ul style="list-style-type: none"> <li>As at 31 December 2023                             <ul style="list-style-type: none"> <li>Loan to Banpu Minerals Co., Ltd. in the form of a promissory note with an interest rate calculated based on the market rate plus an additional agreed rate as at 31 December 2023 of USD 1,793,465,693.49</li> <li>Accrued interest receivable of USD 148,488,761.22</li> </ul> </li> <li>Year 2023                             <ul style="list-style-type: none"> <li>Dividend income of USD 384,000,000.00</li> <li>Interest income of USD 108,143,735.51</li> </ul> </li> </ul>
<b>2. Banpu Power Public Company Limited</b>	<p>Transactions with Banpu Power Public Company Limited are as follows:</p> <ul style="list-style-type: none"> <li>As at 31 December 2023                             <ul style="list-style-type: none"> <li>Advances receivable of USD 694,274.57</li> <li>Advances payable of USD 40,580.63</li> </ul> </li> <li>Year 2023                             <ul style="list-style-type: none"> <li>Dividend income of USD 48,534,488.56</li> <li>Management fees of USD 3,879,869.77</li> </ul> </li> </ul>

Banpu Public Company Limited	
Company	Related-party Transactions
<b>3. Banpu NEXT Co., Ltd.</b>	<p>Transactions with Banpu NEXT Co., Ltd. are as follows:</p> <ul style="list-style-type: none"> <li>As at 31 December 2023                             <ul style="list-style-type: none"> <li>Loan to Banpu NEXT Co., Ltd. in the form of a promissory note and loan agreements with an interest rate calculated based on the market rate plus an additional agreed rate as at 31 December 2023 of USD 118,799,180.68</li> <li>Accrued interest receivable of USD 703,763.83</li> <li>Other receivables of USD 137,488.93</li> <li>Advances receivable of USD 114,810.70</li> <li>Advances payable of USD 43,127.05</li> </ul> </li> <li>Year 2023                             <ul style="list-style-type: none"> <li>Interest income of USD 6,896,207.41</li> <li>Management fees of USD 507,245.93</li> </ul> </li> </ul>
<b>4. BRE Singapore Pte. Ltd.</b>	<p>Transactions with BRE Singapore Pte. Ltd. are as follows:</p> <ul style="list-style-type: none"> <li>As at 31 December 2023                             <ul style="list-style-type: none"> <li>Loan to BRE Singapore Pte. Ltd. in the form of a loan agreements with an interest rate calculated based on the market rate plus an additional agreed rate as at 31 December 2023 of USD 2,558,621.30</li> <li>Accrued interest receivable of USD 532,526.40</li> </ul> </li> <li>Year 2023                             <ul style="list-style-type: none"> <li>Interest income of USD 765,651.40</li> </ul> </li> </ul>
<b>5. Banpu Renewable Singapore Pte. Ltd.</b>	<p>A transaction with Banpu Renewable Singapore Pte. Ltd. is as follows:</p> <ul style="list-style-type: none"> <li>As at 31 December 2023                             <ul style="list-style-type: none"> <li>Advances receivable of USD 5,988.26</li> </ul> </li> </ul>
<b>6. Banpu Japan K.K.</b>	<p>A transaction with Banpu Japan K.K. is as follows:</p> <ul style="list-style-type: none"> <li>Year 2023                             <ul style="list-style-type: none"> <li>Interest income of USD 54,439.51</li> </ul> </li> </ul>
<b>7. Banpu Next Ecoserve Co., Ltd.</b>	<p>A transaction with Banpu Next Ecoserve Co., Ltd. is as follows:</p> <ul style="list-style-type: none"> <li>As at 31 December 2023                             <ul style="list-style-type: none"> <li>Advances receivable of USD 267.77</li> </ul> </li> </ul>

Banpu Public Company Limited	
Company	Related-party Transactions
<b>8. Banpu Singapore Pte. Ltd.</b>	<p>Transactions with Banpu Singapore Pte. Ltd. are as follows:</p> <ul style="list-style-type: none"> <li>• As at 31 December 2023 <ul style="list-style-type: none"> <li>- Other receivables of USD 10,000.00</li> </ul> </li> <li>• Year 2023 <ul style="list-style-type: none"> <li>- Management fees of USD 10,000.00</li> </ul> </li> </ul>
<b>9. Banpu Australia Co. Pty Ltd.</b>	<p>Transactions with Banpu Australia Co. Pty Ltd. are as follows:</p> <ul style="list-style-type: none"> <li>• As at 31 December 2023 <ul style="list-style-type: none"> <li>- Loan to Banpu Australia Co. Pty Ltd. in the form of a loan agreements with an interest rate calculated based on the market rate plus an additional agreed rate as at 31 December 2023 of USD 61,953,979.01</li> <li>- Accrued interest receivable of USD 5,425,679.91</li> <li>- Advances payable of USD 108,119.64</li> </ul> </li> <li>• Year 2023 <ul style="list-style-type: none"> <li>- Interest income of USD 3,524,356.68</li> </ul> </li> </ul>
<b>10. Centennial Coal Co., Ltd.</b>	<p>Transactions with Centennial Coal Co., Ltd. are as follows:</p> <ul style="list-style-type: none"> <li>• As at 31 December 2023 <ul style="list-style-type: none"> <li>- Loan to Centennial Coal Co., Ltd. in the form of a loan agreements with an interest rate calculated based on the market rate plus an additional agreed rate as at 31 December 2023 of USD 277,620,729.16</li> <li>- Other receivables of USD 3,921,527.40</li> <li>- Accrued interest receivable of USD 16,179,163.82</li> <li>- Advances receivable of USD 2,851.52</li> </ul> </li> <li>• Year 2023 <ul style="list-style-type: none"> <li>- Interest income of USD 13,209,569.26</li> <li>- Management fees of USD 6,081,022.91</li> </ul> </li> </ul>
<b>11. Banpu Minerals (Singapore) Pte. Ltd.</b>	<p>A transaction with Banpu Minerals (Singapore) Pte. Ltd. is as follows:</p> <ul style="list-style-type: none"> <li>• Year 2023 <ul style="list-style-type: none"> <li>- Purchases of goods of USD 4,923,490.00</li> </ul> </li> </ul>

Banpu Public Company Limited	
Company	Related-party Transactions
<b>12. PT. Indominco Mandiri</b>	<p>Transactions with PT. Indominco Mandiri are as follows:</p> <ul style="list-style-type: none"> <li>• As at 31 December 2023 <ul style="list-style-type: none"> <li>- Other receivables of USD 946,144.33</li> <li>- Advances receivable of USD 54,687.50</li> <li>- Trade payables of USD 6,355,029.96</li> <li>- Advances payable of USD 1,694.57</li> <li>- Other trade payables of USD 80,350.00</li> </ul> </li> <li>• Year 2023 <ul style="list-style-type: none"> <li>- Management fees of USD 7,925,656.97</li> <li>- Purchases of goods of USD 36,173,695.70</li> </ul> </li> </ul>
<b>13. PT. Jorong Barutama Greston</b>	<p>A transaction with PT. Jorong Barutama Greston is as follows:</p> <ul style="list-style-type: none"> <li>• As at 31 December 2023 <ul style="list-style-type: none"> <li>- Advances receivable of USD 302.35</li> </ul> </li> </ul>
<b>14. PT. Trubaindo Coal Mining</b>	<p>Transactions with PT. Trubaindo Coal Mining are as follows:</p> <ul style="list-style-type: none"> <li>• As at 31 December 2023 <ul style="list-style-type: none"> <li>- Other receivables of USD 1,473,824.85</li> <li>- Advances receivable of USD 5,749.02</li> </ul> </li> <li>• Year 2023 <ul style="list-style-type: none"> <li>- Management fees of USD 7,186,510.43</li> </ul> </li> </ul>
<b>15. PT. Bharinto Ekatama</b>	<p>Transactions with PT. Bharinto Ekatama are as follows:</p> <ul style="list-style-type: none"> <li>• As at 31 December 2023 <ul style="list-style-type: none"> <li>- Other receivables of USD 1,697,760.22</li> <li>- Advances receivable of USD 5,193.26</li> <li>- Advances payable of USD 3,163.71</li> </ul> </li> <li>• Year 2023 <ul style="list-style-type: none"> <li>- Management fees of USD 11,167,283.56</li> </ul> </li> </ul>

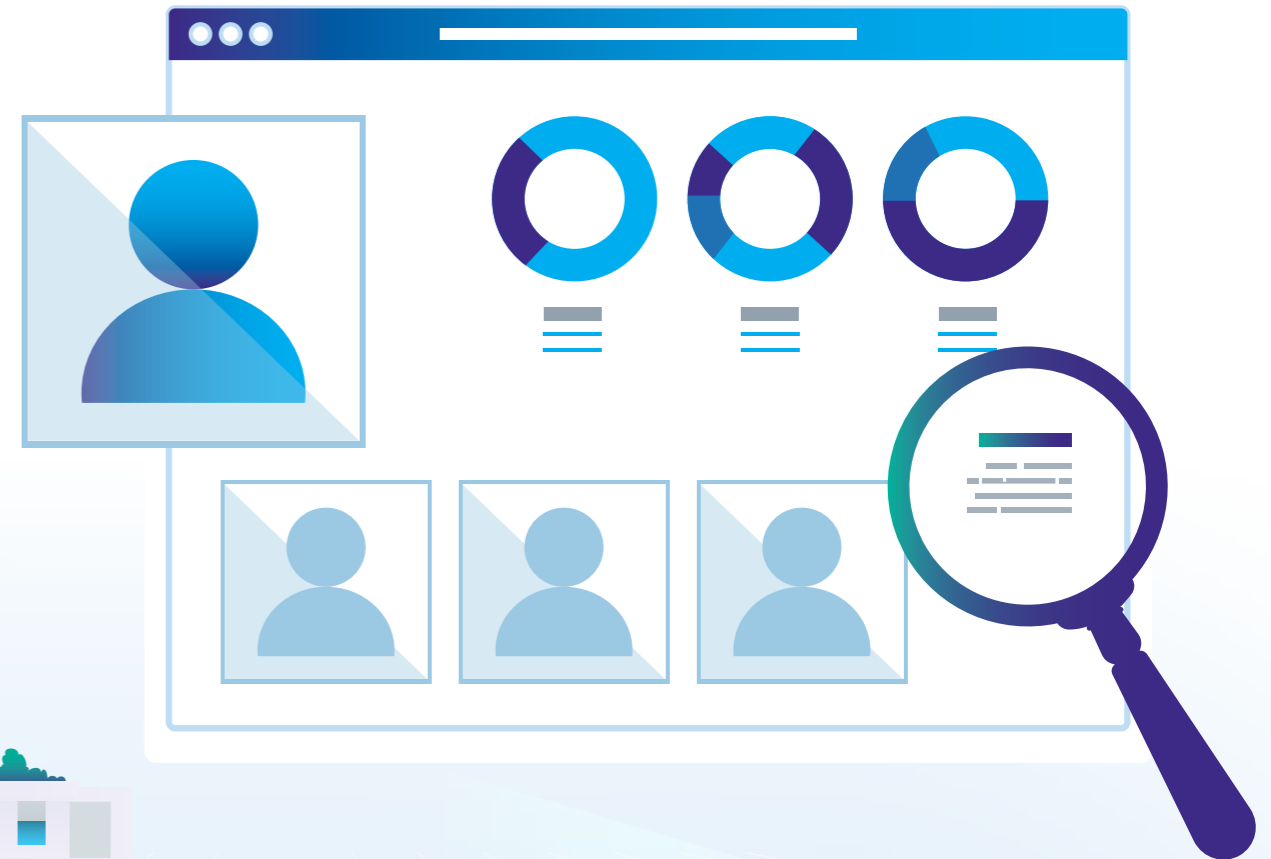


Banpu Public Company Limited	
Company	Related-party Transactions
<b>16. PT. Indo Tambangraya Megah Tbk</b>	<p>Transaction with PT. Indo Tambangraya Megah Tbk are as follows:</p> <ul style="list-style-type: none"> <li>As at 31 December 2023                             <ul style="list-style-type: none"> <li>Advances receivable of USD 6,209.13</li> <li>Advances payable of USD 2,609.34</li> </ul> </li> </ul>
<b>17. PT. Tambang Raya Usaha Tama</b>	<p>A transaction with PT. Tambang Raya Usaha Tama is as follows:</p> <ul style="list-style-type: none"> <li>As at 31 December 2023                             <ul style="list-style-type: none"> <li>Advances receivable of USD 6,066.33</li> </ul> </li> </ul>
<b>18. PT. Energi Batubara Perkasa</b>	<p>Transaction with PT. Energi Batubara Perkasa are as follows:</p> <ul style="list-style-type: none"> <li>As at 31 December 2023                             <ul style="list-style-type: none"> <li>Advances receivable of USD 2,986.95</li> <li>Trade payables of USD 4,295,500.00</li> </ul> </li> <li>Year 2023                             <ul style="list-style-type: none"> <li>Purchases of goods of USD 8,099,850.00</li> </ul> </li> </ul>
<b>19. PT. Graha Panca Karsa</b>	<p>A transaction with PT. Graha Panca Karsa is as follows:</p> <ul style="list-style-type: none"> <li>As at 31 December 2023                             <ul style="list-style-type: none"> <li>Advances receivable of USD 3,201.99</li> </ul> </li> </ul>
<b>20. Banpu Investment (China) Ltd.</b>	<p>A transaction with Banpu Investment (China) Ltd. is as follows:</p> <ul style="list-style-type: none"> <li>As at 31 December 2023                             <ul style="list-style-type: none"> <li>Advances receivable of USD 126,751.43</li> </ul> </li> </ul>
<b>21. BOG Co., Ltd.</b>	<p>Transactions with BOG Co., Ltd. are as follows:</p> <ul style="list-style-type: none"> <li>As at 31 December 2023                             <ul style="list-style-type: none"> <li>Loan to BOG Co., Ltd. in the form of a promissory note with an interest rate calculated based on the market rate plus an additional agreed rate as at 31 December 2023 of USD 88,350,554.24</li> </ul> </li> <li>Year 2023                             <ul style="list-style-type: none"> <li>Interest income of USD 6,299,246.79</li> </ul> </li> </ul>

Banpu Public Company Limited	
Company	Related-party Transactions
<b>22. Banpu North America Corporation</b>	<p>A transaction with Banpu North America Corporation is as follows:</p> <ul style="list-style-type: none"> <li>As at 31 December 2023                             <ul style="list-style-type: none"> <li>Advances receivable of USD 6,729.05</li> </ul> </li> </ul>
<b>23. Hongsa Power Company Limited</b>	<p>A transaction with Hongsa Power Company Limited is as follows:</p> <ul style="list-style-type: none"> <li>Year 2023                             <ul style="list-style-type: none"> <li>Management fees of USD 416,632.40</li> </ul> </li> </ul>
<b>24. Advance Medical Center Co., Ltd.</b>	<p>A transaction with Advance Medical Center Co., Ltd. is as follows:</p> <ul style="list-style-type: none"> <li>Year 2023                             <ul style="list-style-type: none"> <li>Dividend income of USD 121,718.20</li> </ul> </li> </ul>

Section  
**3**

CERTIFICATION OF INFORMATION  
AND DATA ACCURACY



# ATTACHMENT 1: DETAILS OF THE BOARD OF DIRECTORS AND MANAGEMENT



## Mr. Chanin Vongkusolkit

Age: 71

Chairman of the Board of Directors

Appointed Date : 28 April 2016

Director

Appointed Date : 16 May 1983

Senior Executive Officer

Appointed Date : 10 April 2015



\* An uncle of person number 5 and 11 and a father of person number 21

### Education/ Training

- Honorary Doctorate Degree (Economics), Thammasat University
- Honorary Doctorate Degree (Economics), Chiang Mai University
- M.B.A. (Finance), St. Louis University, Missouri, U.S.A.
- B.Econ., Thammasat University
- DCP Refresher Course #3/2006, Thai Institute of Directors Association (IOD)
- Director Certification Program (DCP) #20/2002, Thai Institute of Directors Association (IOD)
- TLCA Leadership Development Program (LDP) – Enhancing Competitiveness #0/2012, Thai Listed Companies Association

### % Share Held

- Own Share : 0.31
- Spouse : 0.12
- Related Juristic Person : –

### Work Experience in the Last Five Years

#### Banpu Group

- 2016 - Present : Chairman, Banpu Plc.
- 1983 - Present : Director, Banpu Plc.
- 2015 - 2016 : Senior Executive Officer, Banpu Plc.
- 1983 - 2015 : Chief Executive Officer, Banpu Plc.
- 2015 - Present : Member of the Corporate Governance and Nomination Committee, Banpu Power Plc.
- 1996 - Present : Director, Banpu Power Plc.
- 2023 - Present : Chairman, Hongsa Power Co., Ltd.
- 2023 - Present : Chairman, Phu Fai Mining Company Limited

#### Other Listed Companies

- 2018 - Present : Chairman, The Erawan Group Plc.
- 2004 - Present : Director, The Erawan Group Plc.

#### Other Companies

- 1983 - Present : Director, Mitr Phol Sugar Corp., Ltd.

#### Other Organizations

- 2021 - Present : Chairman, Thai Listed Companies Association
- 2019 - 2021 : Director, Thai Listed Companies Association
- 2021 - Present : Advisor, Thammasat Economics Association
- 2012 - 2021 : Chairman, Thammasat Economics Association
- 2015 - Present : Director, Thai Private Sector Collective Action Against Corruption (CAC)
- 2008 - Present : President, The Foundation for Better Life
- 2012 - 2021 : Director, Faculty of Economics, Thammasat University
- 2016 - 2018 : Commissioner, The Securities and Exchange Commission, Thailand
- 2015 - 2018 : Task Force Chairperson, Task Force for Sustainability in Listed Companies, The Securities and Exchange Commission, Thailand



**Mr. Teerana Bhongmakapat**

Age: 67

Lead Independent Director

Appointed Date : 22 Feb 2023

Independent Director

Appointed Date : 5 April 2012

Chairman of the Audit Committee

Appointed Date : 30 April 2014

Member of the Compensation Committee

Appointed Date : 30 April 2014



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**Education/ Training**

- Ph.D. (Econ), University of Wisconsin at Madison, U.S.A.
- M.Econ., Thammasat University
- B.Econ. (Quantitative Economics), Chulalongkorn University
- Capital Market Academy Leader Program #14/2012, Capital Market Academy (CMA)
- Director Certification Program (DCP) #161/2012, Thai Institute of Directors Association (IOD)
- Financial Institutions Governance Program (FIGP) #7/2013, Thai Institute of Directors Association (IOD)
- Director Certification Program Update (DCPU) #2/2014, Thai Institute of Directors Association (IOD)
- IT Governance Program (ITG) #2/2016, Thai Institute of Directors Association (IOD)
- Audit Committee Forum 2016, Federation of Accounting Professions Under the Royal Patronage of His Majesty the King, and Thai Institute of Directors Association (IOD)
- Audit Committee Effectiveness Seminar 2012, Federation of Accounting Professions Under the Royal Patronage of His Majesty the King
- Audit Committee Forum 2017, Thai Institute of Directors Association (IOD)
- Cyber Incident Management for Executive Committees of Listed Companies, The Securities and Exchange Commission
- Boards that Make a Difference (BMD) #8/2018, Thai Institute of Directors Association (IOD)
- Risk Management for Corporate Leaders (RCL) #15/2019, Thai Institute of Directors Association (IOD)
- IT Security Awareness for Top Management, ACIS Professional Center Co., Ltd.
- Ethical Leadership Program (ELP) #22/2021, Thai Institute of Directors Association (IOD)

**% Share Held**

- Own Share : -
- Related Juristic Person : -

**Work Experience in the Last Five Years**

**Banpu Group**

- 2014 - Present : Chairman of Audit Committee/ Member of Compensation Committee, Banpu Plc.
- 2023 - Present : Lead Independent Director, Banpu Plc.
- 2012 - Present : Independent Director, Banpu Plc.

**Other Listed Companies**

- 2022 - Present : Advisor, Tisco Financial Group Plc.
- 2013 - 2022 : Director/ Chairman of Corporate Governance Committee/ Chairman of Risk Oversight Committee, Tisco Financial Group Plc.

**Other Companies**

- 2023 - Present : Chairman of the Audit Committee, Mitr Phol Sugar Corp., Ltd.
- 2022 - 2023 : Vice Chairman of the Audit Committee, Mitr Phol Sugar Corp., Ltd.

**Other Organizations**

- 2022 - 2023 : Chairman, The Sustainable Arts and Crafts Institute of Thailand (Public Organization)
- 2021 - Present : Professor Emeritus, Chulalongkorn University
- 2011 - 2016 : Professor of Economics (C11), Chulalongkorn University
- 2006 - 2011 : Professor of Economics, Chulalongkorn University
- 2018 - Present : Chairman of Evaluation Board, Thai Health Promotion Foundation
- 2016 - 2019 : Chairman of the Research Support Committee, National Anti-Corruption Commission (NACC)
- 2010 - 2015 : Eminent Member, Anti-Money Laundering Office (AMLO)

**Mr. Piriya Khempon**

Age: 65

Independent Director

Appointed Date : 8 April 2020

Chairman of the Environment, Social and Governance Committee

Appointed Date : 1 May 2021

Member of the Corporate Governance and Nomination Committee

Appointed Date : 1 May 2020



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**Education/ Training**

- Master of Science (International Relations), London School of Economics, University of London, United Kingdom
- Bachelor of Arts (Political Science), Chiangmai University
- Director Certification Program (DCP) #298/2020, Thai Institute of Directors Association (IOD)
- Top Executive Program in Energy (TEA) #7, Thailand Energy Academy
- Financial Statement for Directors (FSD) #45/2022, Thai Institute of Directors Association (IOD)

**% Share Held**

- Own Share : -
- Spouse : -
- Related Juristic Person : -

**Work Experience in the Last Five Years**

**Banpu Group**

- 2021 - Present : Chairman of the Environment, Social and Governance Committee, Banpu Plc.
- 2020 - Present : Independent Director/ Member of the Corporate Governance and Nomination Committee, Banpu Plc.

**Other Listed Companies**

- 2019 - Present : Director, Saha Pathana Inter-Holding Plc.

**Other Organization**

- 2023 - Present : Advisor to Thai Trade Representative Prof.Dr. Narumon Pinyosinwat), Office of the Prime Minister
- 2021 - 2023 : Special Advisor on Foreign Affairs, Office of Eastern Economic Corridor (EEC)
- 2020 - 2022 : Advisor, The Federation of Thai Industries
- 2020 - 2021 : Executive Director and Member of the Risk Oversight Committee, Export-Import Bank of Thailand (EXIM)
- 2017 - 2019 : Ambassador Extraordinary and Plenipotentiary of Thailand to the People's Republic of China, Royal Thai Embassy in Beijing, China
- 2015 - 2017 : Deputy Permanent Secretary for Foreign Affairs, Office of the Permanent Secretary, Ministry of Foreign Affairs

**Remark:** % Share Held which is indicated as "0" means % share held less than 1% while "-" means not holding any shares.

**Mr. Anon Sirisaengtaksin**

Age: 71

Director

Appointed Date : 19 April 2016

Chairman of the Corporate Governance and Nomination Committee

Appointed Date : 1 May 2022

Executive Advisor

Appointed Date : 1 April 2014



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**Education/ Training**

- Honorary Doctor of Public Administration, Bangkok Thonburi University
- M.B.A., Thammasat University
- B.Sc. (Geology), Chulalongkorn University
- Certificates in Project Investment Appraisal and Management and Global Leadership, Harvard University, U.S.A.
- Capital Market Academy Program #1, Capital Market Academy
- Director Accreditation Program (DAP) #52/2006, Thai Institute of Directors Association (IOD)
- Director Certification Program (DCP) #73/2006, Thai Institute of Directors Association (IOD)
- Sustainability Board Training 2021, CIMB Group

**% Share Held**

- Own Share : 0
- Spouse : 0
- Related Juristic Person : -

**Work Experience in the Last Five Years**

**Banpu Group**

- 2022 - Present : Chairman of the Corporate Governance and Nomination Committee, Banpu Plc.
- 2016 - Present : Director, Banpu Plc.
- 2016 - 2022 : Member of the Corporate Governance and Nomination Committee, Banpu Plc.

- 2014 - Present : Executive Advisor, Banpu Plc.
- 2021 - Present : Director, Banpu Innovation and Ventures Co., Ltd.
- 2021 - Present : Director, BKV-BPP Power, LLC
- 2020 - Present : Director, BKV Corporation

**Other Listed Companies**

- 2022 - Present : Chairman, Thai Eastern Group Holdings Plc.
- 2020 - Present : Independent Director/ Chairman of Nomination, Remuneration and Corporate Governance Committee/ Member of Board Risk and Compliance Committee, CIMB Thai Bank Plc.
- 2020 - 2023 : Independent Director/ Member of Audit Committee/ Member of Nomination and Remuneration Committee, Saha-Union Plc.
- 2020 - 2021 : Overseas Business Consultant, PTT Global Chemical Plc.

**Other Companies**

- 2019 - Present : Reform Council, Silpakorn University
- 2019 - 2022 : Chairman, Thai Eastern Group Holdings Co., Ltd.
- 2014 - 2020 : Chairman, PTTGC Innovation America Corp.
- 2014 - 2020 : Chairman, PTTGC International (USA) Inc.
- 2014 - 2020 : Chairman, Natureworks LLC
- 2012 - 2020 : Chairman, PTTGC International Private Ltd.
- 2012 - 2020 : Chairman, PTTGC International (Netherlands) B.V.
- 2012 - 2020 : Chairman, Emery Oleochemical (M) Sdn. Bhd.
- 2012 - 2020 : Chairman, Emery Specialty Chemical Sdn. Bhd.
- 2012 - 2020 : Chairman, Vencorex Holding

**Mr. Buntoeng Vongkusolkit**

Age: 67

Director

Appointed Date : 3 April 2014

Chairman of the Compensation Committee

Appointed Date : 25 April 2019



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\* A nephew of person number 1 and a cousin of person number 11

**Education/ Training**

- Doctor of Philosophy (Biotechnology), Maejo University
- Doctor of Agriculture (Innovative Agriculture), Khon Kaen University
- M.S. in Political Science, Ramkhamhaeng University
- B.S. in Political Science, Ramkhamhaeng University
- Agriculture & Cooperatives Executive Program (ACE) #1, Ministry of Agriculture and Cooperatives & The Agricultural Research Development Agency (Public Organization) & Kasettratikarn Foundation
- Ultra Wealth – Invest Like a Master (UW) #2
- Top Executive Program in Energy (TEA) #5, Thailand Energy Academy
- TLCA Leadership Development Program (LDP) #1, Thai Listed Companies Association
- Top Executive Program in Commerce and Trade (TEPCOT) #5, University of the Thai Chamber of Commerce (UTCC)
- Director Certification Program (DCP) #161/2012, Thai Institute of Directors Association (IOD)
- Senior Executive Program #9, Sasin Graduate Institute of Business Administration of Chulalongkorn University
- Management Problem Solving and Decision Making Program, Kepner – Tregoe, International, Princeton, New Jersey, U.S.A.

**% Share Held**

- Own Share : 0.11
- Spouse : -
- Related Juristic Person : 0.56

**Work Experience in the Last Five Years**

**Banpu Group**

- 2019 - Present : Chairman of the Compensation Committee, Banpu Plc.
- 2014 - Present : Director, Banpu Plc.
- 2014 - 2019 : Member of the Compensation Committee, Banpu Plc.

**Other Companies**

- 2020 - Present : Chairman/ Chairman of Executive Director, Mitr Phol Group
- 1982 - Present : Director, Mitr Phol Group
- 2018 - 2020 : Vice Chairman/ Chairman of Executive Director, Mitr Phol Group
- 2015 - 2020 : Chief Operating Officer – Cane Management Business, Mitr Phol Group
- 2011 - 2018 : Senior Executive Vice President, Sugarcane Development & Management Group, Mitr Phol Group

**Other Organizations**

- 2019 - 2022 : Honorary Member, King Mongkut's Institute of Technology Ladkrabang Council

**Mr. Pichai Dusdeekulchai**

Age: 62

Independent Director

Appointed Date : 4 April 2019

Member of the Audit Committee

Appointed Date : 25 April 2019

Member of the Environment, Social and Governance Committee

Appointed Date : 1 May 2021



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**Education/ Training**

- Master of Business Administration (MBA), Ashland University, Ohio, U.S.A.
- Bachelor of Arts Program in Mathematics and Statistic, Thammasat University
- TLCA Leadership Development Program (LDP) #1, Thai Listed Companies Association
- Director Certification Program (DCP) #278/2019, Thai Institute of Directors Association (IOD)
- Advance Audit Committee Program (ACCP) #38/2020, Thai Institute of Directors Association (IOD)

**% Share Held**

- Own Share : -
- Spouse : -
- Related Juristic Person : -

**Work Experience in the Last Five Years**

**Banpu Group**

- 2021 - Present : Member of the Environment, Social and Governance Committee, Banpu Plc.
- 2019 - Present : Independent Director/ Member of the Audit Committee, Banpu Plc.

**Other Listed Companies**

- 2022 - Present : Chairman of the Audit Committee/ Chairman of the Nomination and Remuneration Committee/ The Risk Management Committee Member/ Independent, Kijcharoen Engineering Electric Plc.
- 2020 - Present : Independent Director/ Member of the Audit Committee/Member of the Corporate Governance/ Member of the Risk Oversight Committee, Land and Houses Bank Plc.
- 2020 - Present : Independent Director/ Chairman of the Nomination and Remuneration Committee/ Member of the Audit Committee/ Member of the Risk Oversight Committee, LH Financial Group Plc.

**Other Companies**

- 2018 - 2018 : General Manager & Deputy Country Head of Thailand, Sumitomo Mitsui Banking Corporation
- 2002 - 2018 : Head of Business Promotion, Sumitomo Mitsui Banking Corporation

**Mr. Teerapat Sanguankotchakorn**

Age: 58

Independent Director

Appointed Date : 3 April 2019

Member of the Compensation Committee

Appointed Date : 25 April 2019

Member of the Environment, Social and Governance Committee

Appointed Date : 1 May 2021



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**Education/ Training**

- Doctor of Philosophy Program in Information Processing, Tokyo Institute of Technology
- Master of Engineering Program in Information Processing, Tokyo Institute of Technology
- Bachelor of Engineering Program in Electrical Engineering, Chulalongkorn University
- Director Certification Program (DCP) #148/2011, Thai Institute of Directors Association (IOD)
- Advance Audit Committee Program (AACP) #14/2014, Thai Institute of Directors Association (IOD)
- Board Matters and Trends (BMT) #8/2019, Thai Institute of Directors Association (IOD)
- National Director Conference 2021 (NDC 2021) "Leadership Behind Closed Door", Thai Institute of Directors Association (IOD)
- Urban Leader Training Course #7, Navamindradhiraj University

**% Share Held**

- Own Share : -
- Spouse : -
- Related Juristic Person : -

**Work Experience in the Last Five Years**

**Banpu Group**

- 2021 - Present : Member of the Environment, Social and Governance Committee, Banpu Plc.
- 2019 - Present : Independent Director/ Member of the Compensation Committee, Banpu Plc.

**Other Organizations**

- 2018 - Present : Chairman of the Audit Committee, Thai Public Broadcasting Service (Thai PBS)
- 2018 - Present : Board of Governors, Thai Public Broadcasting Service (Thai PBS)
- 2020 - 2021 : Executive Director, Technology Promotion Association (Thailand-Japan)
- 2018 : Member of the Committee for Sustainable Development and Planning of National Education, Ministry of Education
- 2014 - 2018 : Audit Committee, Thai Public Broadcasting Service (Thai PBS)
- 2012 - 2016 : Board of Governors, Thai Public Broadcasting Service (Thai PBS)
- 2004 - Present : Associate Professor, Telecommunications Field of Study, School of Engineering and Technologies Asian Institute of Technology (AIT)

**Mrs. Watanan Petersik**

Age: 62

Independent Director

Appointed Date : 4 April 2023

Member of the Audit Committee

Appointed Date : 1 May 2023



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**Education/ Training**

- A.B. degree, Bryn Mawr College, Pennsylvania, U.S.A.
- Director Accreditation Program (DAP) English Program Class 83/2010, Thai Institute of Directors Association (IOD)
- Mandatory Accreditation Programme (MAP) for Directors of Public Listed Companies (March 2010), Bursatra Sdn. Bhd.
- Role of Director Singapore Institute of Directors Course

**% Share Held**

- Own Share : -
- Spouse : -
- Related Juristic Person : -

**Work Experience in the Last Five Years**

**Banpu Group**

- 2023 - Present : Independent Director/ Member of the Audit Committee, Banpu Plc.

**Other Listed Companies**

- 2014 - 2023 : Independent Director/ Director to the Corporate Governance and Sustainability Committee/ Director to the Audit Committee, PTT Global Chemical Plc.
- 2007 - 2020 : Independent Director/ Chairperson of Nomination, Remuneration and Corporate Governance Committee, CIMB Thai Bank Plc.

**Other Companies**

- Present : Non-Executive Director, Jetanin Institute for Assisted Reproduction, Jetanin Company Limited
- 2010 - 2019 : Independent Director/ Non-Executive Director, CIMB Group Sdn. Bhd.
- 2010 - 2019 : Independent Director/ Non-Executive Director, CIMB Group Holdings Berhad, Malaysia

**Other Organizations**

- Present : Multinational Standards Advisory Council, BCorp, U.S.A.
- Present : Advisory Board, Nanyang Business School, Singapore
- Present : Management Committee, Lien Centre for Social Innovation, Singapore Management University
- Present : Advisor, TPG Capital Asia
- Present : Advisor, TiejaiDotCom (tiejai.com)

Remark: % Share Held which is indicated as "0" means % share held less than 1% while "-" means not holding any shares.

**Mr. Metee Auapinyakul**

**Age: 70**  
**Director**  
Appointed Date : 16 May 1983  
**Advisor**  
Appointed Date : 1 January 2014



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\*An older brother of person number 10

**Education/ Training**

- Doctor of Business, Engineering and Technology (Honoris Causa), St. Louis University, Missouri, U.S.A.
- B.Sc. (Management), St. Louis University, Missouri, U.S.A.
- Infrastructure for the Market Economy, Harvard University, John F. Kennedy School of Government, Boston, U.S.A.
- National Defence College of Thailand (Class 377)
- National Defence College of Thailand, College of Management (Class 1)
- Director Certification Program (DCP) #61/2005, Thai Institute of Directors Association (IOD)

**% Share Held**

- Own Share : 0.08
- Spouse : 0.02
- Related Juristic Person : -

**Work Experience in the Last Five Years**

**Banpu Group**

- 2014 - Present : Advisor, Banpu Plc.
- 1983 - Present : Director, Banpu Plc.
- 2015 - Present : Director, Banpu Power Plc.

**Other Listed Companies**

- 2004 - Present : Chairman of Advisors, GENCO Plc.

**Mr. Ongart Auapinyakul**

**Age: 67**  
**Director**  
Appointed Date : 29 July 1983  
**Advisor**  
Appointed Date : 1 January 2017  
**Executive Officer**  
Appointed Date : 8 January 2001



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\*A younger brother of person number 9

**Education/ Training**

- B.S. (Mechanical Engineering), University of Missouri, Columbia, U.S.A.
- Senior Executive Program #3, Sasin Graduate Institute of Business Administration of Chulalongkorn University
- National Defence College of Thailand (Class 4414)
- Director Certification Program (DCP) #23/2002, Thai Institute of Directors Association (IOD)
- Capital Market Academy Leader Program #8, Capital Market Academy (CMA)
- Bangkok Metropolitan Administration Executive Program (Mahanakorn Class 1), Urban Green Development Institute Bangkok
- Top Executive Program in Energy (TEA) #1, Thailand Energy Academy
- Top Executive Program #17, Judicial Training Institute
- Executive Management with Business Development and Investment #1, Institute of Business and Industrial Development
- Top Executive Program in Commerce and Trade (TEPCOT) #4, University of the Thai Chamber of Commerce (UTCC)
- Business Revolution and Innovation Network (BRAIN) #1, The Federation of Thai Industries
- Tourism Management Program for Executives (TME) #1 TAT Academy
- Academy of Business Creativity (ABC) #8/2018, Sripatum University
- Top Executive Program for Creative and Amazing Thai Services (ToPCATS) #2, University of the Thai Chamber of Commerce (UTCC)

**% Share Held**

- Own Share : 0.01
- Spouse : 0.03
- Related Juristic Person : -

**Work Experience in the Last Five Years**

**Banpu Group**

- 2017 - Present : Advisor, Banpu Plc.
- 1983 - Present : Director, Banpu Plc.
- 1983 - 2016 : Executive Officer, Banpu Plc.

**Mr. Verajet Vongkusolkit**

**Age: 59**  
**Director**  
Appointed Date : 1 June 2010  
**Member of the Corporate Governance and Nomination Committee**  
Appointed Date : 1 June 2010



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\* A nephew of person number 1 and a cousin of person number 5

**Education/ Training**

- Bachelor of Science (Finance), Babson College, Massachusetts, U.S.A.
- Director Certification Program (DCP) #24/2002, Thai Institute of Directors Association (IOD)
- TLCA Executive Development Program #13, Thai Listed Companies Association
- TLCA Leadership Development Program (LDP) #2, Thai Listed Companies Association and International Institute for Management Development (IMD)
- Strategy and Innovation for Businesses in ASIA (SIBA) 2016, Mahidol University and MIT Sloan School of Management
- Leadership Communication Certification Program 2018, Thailand Management Association (TMA)
- Senior Executive Program 2019 (SEP) #33, Sasin Graduate Institute of Business Administration of Chulalongkorn University and The Kellogg School of Management and the Wharton School
- Boards that Make a Difference (BMD) #10/2020, Thai Institute of Directors Association (IOD)
- Thailand Energy Academy (TEA) #16, Thailand Energy Academy
- Coaching Program: CEO Coaching Skill, Mitr Phol Group
- Communication Mitr Phol Purpose Workshop, Mitr Phol Group
- Mitr Phol OKRs Workshop, Mitr Phol Group
- Corporate Innovation Summit 2023, RISE - Corporate Innovation Powerhouse

**% Share Held**

- Own Share : 0.20
- Spouse : 0
- Related Juristic Person : 0.56

**Work Experience in the Last Five Years**

**Banpu Group**

- 2010 - Present : Director/ Member of the Corporate Governance and Nomination Committee, Banpu Plc.
- 2020 - Present : Director, Banpu NEXT Co., Ltd.

**Other Companies**

- Present : Chief Executive Officer - Thai Sugar, Energy and New Business, Mitr Phol Sugar Corp., Ltd.
- 2008 - Present : Director, Mitr Phol Sugar Corp., Ltd.
- 2008 - Present : Director, Mitr Siam Sugar Corp., Ltd.
- 2008 - Present : Director, United Farmer and Industry Co., Ltd.

**Mr. Sarayuth Saengchan**

**Age: 61**  
**Director**  
Appointed Date : 2 April 2022  
**Member of the Corporate Governance and Nomination Committee**  
Appointed Date : 1 May 2022



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**Education/ Training**

- Ph.D. Economics, Faculty of Economics, Chulalongkorn University, Bangkok, Thailand
- Master of Management (M.M.) in Management Policy, Managerial Economics and Operations, Kellogg School of Management - Northwestern University, U.S.A.
- Bachelor of Art in Economics, (First-class Honors) in Monetary Policy and Public Finance, Faculty of Economics, Chulalongkorn University
- Director Certification Program (DCP) #322/2022, Thai Institute of Directors Association (IOD)
- Subsidiary Governance Program (SGP) #2/2022, Thai Institute of Directors Association (IOD)
- RISE Alpha Silicon Valley, RISE - Corporate Innovation Powerhouse
- Investors Certification Course (QBAC+), World Business Angel Investment Forum (WBAF)
- Sustainability Transformation Xponential, RISE - Corporate Innovation Powerhouse

**% Share Held**

- Own Share : -
- Related Juristic Person : -

**Work Experience in the Last Five Years**

**Banpu Group**

- 2022 - Present : Director/ Member of the Corporate Governance and Nomination Committee, Banpu Plc.

**Other Listed Companies**

- 2018 - 2022 : Independent Director/ Member of the Audit Committee, Bangkok Dec-Con Plc.

**Other Companies**

- 2020 - Present : Senior Executive Vice President - Finance and Administration, Mitr Phol Sugar Corp., Ltd.

**Other Organizations**

- 2021 - Present : Director and Treasurer, Chulalongkorn University Alumni Association
- 2021 - Present : Association Director, Thai Sugar and Bio-Energy Producers Association
- 2020 - Present : Member of the Audit Committee, Vajiravudh College
- 2020 - Present : Director - Fund Management Committee, Thai Sugar and Bio-Energy Producers Association

**Remark:** % Share Held which is indicated as "0" means % share held less than 1% while "-" means not holding any shares.



**Mrs. Somruedee Chaimongkol**

Age: 62  
Chief Executive Officer  
Appointed Date : 10 April 2015  
Director  
Appointed Date : 4 April 2015



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**Education/ Training**

- Honorary Doctoral Degree in Accounting, Bangkok University
- B.Sc. (Accounting), Bangkok University
- Program for Global Leadership, Harvard University Graduate School of Business Administration, Boston, U.S.A.
- Director Certification Program (DCP) #78/2006, Thai Institute of Directors Association (IOD)
- Capital Market Academy Leader Program #18, Capital Market Academy (CMA)
- Executive Management with Business Development and Investment #2, Institute of Business and Industrial Development

**% Share Held**

- Own Share : 0.13
- Spouse : -
- Related Juristic Person : -

**Work Experience in the Last Five Years**

**Banpu Group**

- 2015 - Present : Chief Executive Officer/ Director, Banpu Plc.
- 2006 - 2015 : Chief Financial Officer, Banpu Plc.
- 2009 - Present : Director, Banpu Power Plc.
- Present : Director, BLCP Power Ltd.
- 2020 - Present : Director, Banpu NEXT Co., Ltd.
- 2001 - Present : Director, Banpu Minerals Co., Ltd.
- 2001 - Present : Director, Banpu International Ltd.
- 2016 - Present : Director, Banpu NEXT Green Energy Co., Ltd.
- 2009 - Present : Director, Banpu Coal Power Ltd.
- 2019 - Present : Director, Banpu Innovation & Ventures Co., Ltd.
- 2014 - Present : Director, BOG Co., Ltd.
- 2012 - Present : Director, Hunnu Investments Pte. Ltd.
- 2001 - Present : Director, Banpu Singapore Pte. Ltd.
- 2009 - Present : Director, Banpu Minerals (Singapore) Pte. Ltd.
- 2010 - Present : Director, Centennial Coal Co. Pty Ltd.
- 2011 - Present : Director, Hunnu Coal Pty Ltd.
- 2012 - Present : Director, AFE Investments Pty Ltd.
- 2011 - Present : Director, ACN 152 429 206 Pty Ltd.
- 2009 - Present : Director, Banpu Australia Co., Pty Ltd.
- 2021 - Present : Director, Banpu Energy Holding Pty Ltd.
- 2019 - Present : Director, Banpu Energy Australia Pty Ltd.
- 2020 - Present : Director, Banpu Renewable Australia Pty Ltd.
- 2008 - Present : Director, Banpu Coal Investment Co., Ltd.
- 2017 - Present : Director, BPIN Investment Co., Ltd.
- 2003 - Present : Director, BP Overseas Development Co., Ltd.
- 2008 - Present : Director, Asian American Coal, Inc.
- 2019 - Present : Director, Banpu Japan K.K.
- 2020 - Present : Director, BKV Corporation
- 2015 - Present : Director, Banpu North America Corporation
- 2021 - Present : Director, Banpu Power US Corporation
- 2017 - 2022 : Director, Sunseap Group Pte. Ltd.
- 2019 - 2021 : Director, FOMM Corporation

**Mr. Somsak Sithinamsuwan**

Age: 63  
Head of Mining Business  
Appointed Date : 1 January 2020



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**Education/ Training**

- M.P.A. (Public Policy and Strategic Management), National Institute of Development Administration (NIDA)
- B.Eng. (Mining and Metallurgical Engineering), Prince of Songkhla University
- TLCA Executive Development Program 2017, Thai Listed Companies Association
- Global Leadership Program for Strategic Leader 2017, IMD Business School

**% Share Held**

- Own Share : 0
- Spouse : -
- Related Juristic Person : -

**Work Experience in the Last Five Years**

**Banpu Group**

- 2020 - Present : Head of Mining Business, Banpu Plc.
- 2019 - 2019 : Chief Operating Officer – Coal Business, Banpu Plc.
- 2018 - 2018 : Assistant Chief Operating Officer – Coal Business, Banpu Plc.
- 2020 - Present : Director, Hunnu Gobi Altai LLC
- 2020 - Present : Director, Banpu Vietnam LLC
- 2019 - Present : Director, Banpu Energy Services (Thailand) Co., Ltd.
- 2019 - Present : Director, Banpu Engineering Services Co., Ltd.
- 2019 - Present : Director, Banpu International Ltd.
- 2019 - Present : Director, Banpu Minerals Co., Ltd.
- 2019 - Present : Director, Hunnu Coal Pty Ltd.
- 2019 - Present : Director, BP Overseas Development Co., Ltd.
- 2019 - Present : Director, Banpu Minerals (Singapore) Pte. Ltd.
- 2019 - Present : Director, Banpu Singapore Pte. Ltd.
- 2019 - Present : Director, Hunnu Investments Pte. Ltd.
- 2019 - Present : Director, Aura Land Development Pte. Ltd.
- 2018 - Present : Commissioner, PT. Indo Tambangraya Megah Tbk
- 2018 - Present : Director, Banpu Coal Power Ltd.
- 2019 - 2023 : Director, BMS Coal Sales Pte. Ltd.
- 2019 - 2022 : Director, Banpu NEXT Green Energy Co., Ltd.
- 2015 - 2017 : Managing Director, Hongsa Power Co., Ltd.

**Dr. Kirana Limpaphayom**

Age: 49  
Head of Power Business, Banpu Plc.  
Appointed Date : 10 April 2020  
Chief Executive Officer,  
Banpu Power  
Public Company Limited  
Appointed Date : 10 April 2020



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**Education/ Training**

- Ph.D. Sociology, Centre for Comparative Labour Studies, University of Warwick, United Kingdom
- M.Sc. Industrial Relations, Labour Market Economic, London School of Economics and Political Science (LSE), University of London, United Kingdom
- Bachelor of Economics, Chulalongkorn University
- Master of Business Administration in Executive Finance, Sasin Graduate Institute of Business Administration of Chulalongkorn University and The Kellogg School of Management and the Wharton School
- Graduate of the Australian Institute of Company Directors (GAICD)
- Director Certificate Program, Indonesian Institute of Corporate Directors (IICD)
- Director Certification Program (DCP) #294/2020, Thai Institute of Directors Association (IOD)

**% Share Held**

- Own Share : -
- Spouse : 0
- Related Juristic Person : -

**Work Experience in the Last Five Years**

**Banpu Group**

- 2020 - Present : Head of Power Business, Banpu Plc.
- 2020 - Present : Chief Executive Officer, Banpu Power Plc.
- 2021 - Present : Director, Banpu Energy Holding Pty Ltd.
- 2021 - Present : Director, Banpu Power International Ltd.
- 2021 - Present : Director, Pan-Western Energy Corporation LLC
- 2021 - Present : Director, BKV-BPP POWER LLC
- 2021 - Present : Director, Banpu Power US Corporation
- 2021 - Present : Director, Banpu Power (Japan) Co., Ltd.
- 2021 - Present : Director, Banpu Innovation & Ventures Co., Ltd.
- 2021 - Present : Executive Manager, Banpu Power Trading G.K.
- 2022 - Present : Commissioner, PT. Indo Tambangraya Megah Tbk
- 2020 - Present : Director, BLCP Power Ltd.
- 2020 - Present : Director, Banpu NEXT Co., Ltd.
- 2020 - Present : Director, Banpu NEXT Green Leasing Co., Ltd.
- 2020 - Present : Director, Hongsa Power Co., Ltd.
- 2020 - Present : Director, Phu Fai Mining Co., Ltd.
- 2020 - Present : Director, Banpu Coal Power Ltd.
- 2020 - Present : Director, Banpu Energy Australia Pty Ltd.
- 2014 - Present : Alternate Director, Centennial Coal Company Pty Ltd.
- 2013 - Present : Director, Banpu Australia Co., Pty Ltd.
- 2013 - Present : Director, AFE Investments Pty Ltd.
- 2013 - Present : Director, ACN 152 429 206 Pty Ltd.
- 2016 - 2020 : President Director, PT. Indo Tambangraya Megah Tbk
- 2022 - Present : Director, Banpu Japan K.K.
- 2022 - Present : Managing Director, BKV-BPP Retail LLC

**Mr. Thiti Mekavichai**

Age: 62  
Head of Oil and Gas Business  
Appointed Date : 1 November 2018



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**Education/ Training**

- Diploma in Hydrographic Surveying, Plymouth Polytechnic, England
- Bachelor of Science in Geography, Srinakharinwirot University
- Executive Program in Energy Literacy for a Sustainable Future #9, Thailand Energy Academy
- Diploma Course in Democratic Politics and Governance for Executives #19, King Prajadhipok's Institute
- Executive Program in "Thammasat for Society" #5, Thammasat Leadership Program
- PTT Leadership Development Program III, PTT Leadership and Learning Institute
- Executive Leadership Development Program (EP-LEAD), International Institute for Management Development (IMD)
- Media Response for Spokesperson, Hill+Knowlton Strategies
- Safety Leadership Workshop, Safety Management Consultants (UK) Limited

**% Share Held**

- Own Share : -
- Spouse : 0
- Related Juristic Person : -

**Work Experience in the Last Five Years**

**Banpu Group**

- 2018 - Present : Head of Oil and Gas Business, Banpu Plc.
- 2021 - Present : Director, BKV-BPP POWER LLC
- 2020 - Present : Director, BKV Corporation
- 2019 - Present : Director, Banpu North America Corporation

**Other Listed Companies**

- 2011 - 2018 : Executive Vice President of Human Resources and Business Services Group, PTT Exploration and Production Plc.

**Note:** Mr. Thiti Mekavichai retired since 1 January 2024  
**Remark:** % Share Held which is indicated as "0" means % share held less than 1% while "-" means not holding any shares.

**Mr. Sutee Sukruan**

Age: 59

Head of Corporate Development

Appointed Date : 1 January 2021



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**Education/ Training**

- M.B.A. (Finance), Chulalongkorn University
- Bachelor of Accounting, Chulalongkorn University
- TLCA Executive Development Program #11, Thai Listed Companies Association
- Economic Leader Forum, Thammasat Economics Association
- Director Certification Program (DCP) #254/2018, Thai Institute of Directors Association (IOD)
- Global Leadership Program for Strategic Leader 2019, IMD Business School
- TLCA Leadership Development Program (LDP) #5, Thai Listed Companies Association and International Institute for Management Development (IMD)
- Leadership Program – Accelerating Transformation Series, Banpu Plc. and Pacrim Group
- Data Leadership Essential Program for SVP, Banpu Plc. and Skooldio

**% Share Held**

- Own Share : –
- Spouse : –
- Related Juristic Person : –

**Work Experience in the Last Five Years**

**Banpu Group**

- 2021 - Present : Head of Corporate Development, Banpu Plc.
- 2020 - 2020 : Senior Vice President – Corporate Development, Banpu Plc.
- 2018 - 2020 : Chief Operating Officer – Power Business, Banpu Plc.
- 2009 - 2017 : Senior Vice President – Corporate Finance, Banpu Plc.
- 2022 - 2023 : Director, Licogi 16 Ninh Thuan Investment Renewable Energy Joint Stock Company
- 2018 - 2020 : Chief Executive Officer, Banpu Power Plc.
- 2020 - Present : Director, Banpu Renewable Australia Pty Ltd.
- 2020 - Present : Director, Banpu NEXT Co., Ltd.
- 2019 - Present : Director, Banpu Japan K.K.
- 2018 - Present : Director, Banpu Coal Power Ltd.
- 2018 - 2023 : Director, BRE Singapore Pte. Ltd.
- 2018 - 2023 : Director, BPP Vinh Chau Wind Power LLC
- 2018 - 2021 : Director, Banpu Power (Japan) Co., Ltd.
- 2018 - 2021 : Director, Zouping Peak Pte. Ltd.
- 2018 - 2021 : Director, Banpu Power International Ltd.
- 2019 - 2021 : Director, Pan-Western Energy Corporation LLC

**Ms. Arisara Sakulkarawek**

Age: 53

Chief Financial Officer

Appointed Date : 1 March 2019



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**Education/ Training**

- Master of Science in Accounting, Thammasat University
- Bachelor of Accounting (BA), Thammasat University
- Orchestrating Winning Performance 2016, IMD Business School
- Global Leadership Program for Strategic Leader 2017, IMD Business School
- Certification from School of Tax
- Certified Public Accountant (Thailand) (CPA)
- TLCA Leadership Development Program (LDP) – Crafting Agile Strategies to Enhance Competitiveness of Your Organization, Thai Listed Companies Association
- Refreshment of the Role and Expectation of a CFO, Federation of Accounting Professions Under the Royal Patronage of His Majesty the King
- Beyond Treasury Management, Federation of Accounting Professions Under the Royal Patronage of His Majesty the King
- Enterprise Governance of IT, Federation of Accounting Professions Under the Royal Patronage of His Majesty the King
- Transfer Pricing, Federation of Accounting Professions Under the Royal Patronage of His Majesty the King
- Basic Forensic Analytics, Federation of Accounting Professions Under the Royal Patronage of His Majesty the King
- CFO Refresher Course 2023, Thailand Securities Institute, The Stock Exchange of Thailand
- Director Certification Program (DCP) #342/2023, Thai Institute of Directors Association (IOD)

**% Share Held**

- Own Share : –
- Related Juristic Person : –

**Work Experience in the Last Five Years**

**Banpu Group**

- 2019 - Present : Chief Financial Officer, Banpu Plc.
- 2018 - 2019 : Senior Vice President – Corporate Finance, Banpu Plc.
- 2016 - 2017 : Senior Vice President – Controller, Banpu Plc.
- 2011 - 2015 : Vice President – Accounting, Banpu Plc.
- 2023 - Present : Director, Banpu Power International Ltd.
- 2020 - Present : Director, Banpu Vietnam LLC
- 2020 - Present : Director, Banpu International Ltd.
- 2020 - Present : Director, Banpu Minerals Co., Ltd.
- 2020 - 2022 : Director, Banpu NEXT Green Energy Co., Ltd.
- 2019 - Present : Executive Manager, Aizu Land Solar G.K.
- 2019 - Present : Director, Banpu Innovation & Ventures Co., Ltd.
- 2019 - Present : Director, Banpu Innovation & Ventures (Singapore) Pte. Ltd.
- 2019 - Present : Director, Banpu Innovation & Ventures LLC
- 2018 - Present : Director, Banpu Singapore Pte. Ltd.
- 2018 - Present : Director, Banpu Minerals (Singapore) Pte. Ltd.
- 2018 - Present : Director, BP Overseas Development Co., Ltd.
- 2018 - Present : Director, Banpu Coal Investment Co., Ltd.
- 2018 - Present : Director, Aura Land Development Pte. Ltd.
- 2018 - Present : Director, Hunnu Investment Pte. Ltd.
- 2018 - Present : Director, Banpu Engineering Services Co., Ltd.
- 2018 - Present : Director, Banpu Energy Services (Thailand) Co., Ltd.
- 2018 - Present : Director, BOG Co., Ltd.
- 2018 - Present : Executive Manager, Hokkaido Solar Estate G.K.
- 2018 - Present : Director, Banpu North America Corporation
- 2022 - Present : Director, Banpu Ventures Pte. Ltd.
- 2022 - Present : Director, LIV Energy Venture Pte. Ltd.

**Mr. Wittapon Jawjit**

Age: 53

Head of Human Resources

Appointed Date : 1 July 2021



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**Education/ Training**

- Master of Science, Telecommunication Engineering (Satellite and Data Communication), Chulalongkorn University
- Bachelor of Science, Electrical Engineering (Telecommunication Engineering), Chulalongkorn University
- Diploma in Strategic Management and Business Reengineering, Special Program by Sloan School of Management, MIT, Boston, MA, U.S.A.

**% Share Held**

- Own Share : –
- Spouse : 0
- Related Juristic Person : –

**Work Experience in the Last Five Years**

**Banpu Group**

- 2021 - Present : Head of Human Resources, Banpu Plc.

**Other Listed Companies**

- 2017 - 2019 : First Executive Vice President, Head of Human Resources, Bank of Ayudhaya Plc. (BAY)
- 2014 - 2017 : First Executive Vice President, Head of Human Resources, Kiattakin Phatra Financial Group

**Other Companies**

- 2005 - 2014 : Chief Executive Officer and Country Head, Mercer (Thailand) Ltd.

**Other Organizations**

- March 2021 - Present : Committee Member, Thailand National Innovation Committee, Ministry of Higher Education, Science, Research and Innovation
- 2021 - Present : Committee Member, Human Resources Management Subcommittee, National Science and Technology Development Agency (NSTDA)
- 2019 - Present : Advisor to Chief Executive Officer, Mae Fah Luang Foundation

**Mr. Jirameth Achcha**

Age: 54

Head of Corporate Services

Appointed Date : 1 January 2021



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**Education/ Training**

- Master of Economics (Business Economics), Kasetsart University
- Bachelor of Economics (Fiscal Economics), Ramkhamhaeng University

**% Share Held**

- Own Share : –
- Spouse : 0
- Related Juristic Person : –

**Work Experience in the Last Five Years**

**Banpu Group**

- 2021 - Present : Head of Corporate Services, Banpu Plc.
- 2018 - 2020 : Senior Vice President – Corporate Services, Banpu Plc.
- 2016 - 2017 : Vice President – Corporate Compliance, Banpu Plc.
- 2015 - 2016 : Vice President – Business Process Management, Banpu Plc.

**Remark:** % Share Held which is indicated as "0" means % share held less than 1% while "-" means not holding any shares.

## Mr. Sinon Vongkusolkit

Age: 33

Head of Renewable and Energy Technology Business, Banpu Plc.

Appointed Date : 16 June 2022

Chief Executive Officer,  
Banpu NEXT Co., Ltd.

Appointed Date : 16 June 2022



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\*A son of person number 1

### Education/ Training

- MA Global Management pathway in Finance and Business Development, Regent's University
- BA Business and Marketing Management, Oxford Brookes University

### % Share Held

- Own Share : 0.01
- Spouse : -
- Related Juristic Person : -

### Work Experience in the Last Five Years

#### Banpu Group

- 2022 - Present : Head of Renewable and Energy Technology Business, Banpu Plc.
- 2022 - Present : Chief Executive Officer/ Director, Banpu NEXT Co., Ltd.
- 2020 - 2022 : Manager – Project Management Office, Banpu Plc.
- 2014 - 2020 : Finance Analyst - Corporate Finance, Banpu Plc.
- 2023 - Present : Director, SVOLT Energy Technology (Thailand) Co., Ltd.
- 2023 - Present : Director, Banpu Renewable Australia Pty Ltd.
- 2023 - Present : Director, Banpu Innovation & Ventures Co., Ltd.
- 2023 - Present : Director, Banpu Innovation & Ventures LLC
- 2023 - Present : Director, Banpu NEXT Green Leasing Co., Ltd.
- 2023 - Present : Director, Banpu NEXT EcoServe Co., Ltd.
- 2023 - Present : Director, Banpu NEXT Green Services Co., Ltd.
- 2023 - Present : Director, Durapower Technology (Thailand) Co., Ltd.

### Banpu Group (continue)

- 2023 - Present : Director, DP NEXT Co., Ltd.
- 2023 - Present : Director, Banpu Innovation & Ventures (Singapore) Pte. Ltd.
- 2023 - Present : Director, Aizu Energy Pte. Ltd.
- 2023 - Present : Director, BRE Singapore Pte. Ltd.
- 2023 - Present : Director, Banpu Renewable Singapore Pte. Ltd.
- 2023 - Present : Director, Durapower Holdings Pte. Ltd.
- 2022 - Present : Director, Banpu NEXT Green Energy Co., Ltd.
- 2022 - Present : Director, BPIN Investment Co., Ltd.
- 2022 - Present : Director, BKV Corporation
- 2022 - Present : Director, Banpu Japan K.K.
- 2022 - Present : Director, Banpu Ventures Pte. Ltd.
- 2022 - Present : Executive Manager, Banpu Power Trading G.K.

### Other Companies

- 2022 - 2022 : Director, PT. Berkah Manis Makmur
- 2022 - 2022 : Director, PT. Rejoso Manis Indo

## Mr. Virach Vudhihanaseth

Age: 49

Company Secretary

Appointed Date : 1 January 2018

Senior Vice President –  
Corporate Strategy

Appointed Date : 10 April 2020



22

### Education/ Training

- Master of Arts in Economics, State University of New York, Albany, U.S.A.
- Master of Science in Finance, Bentley College, U.S.A.
- Master in Business Administration, Clark University, U.S.A.
- Bachelor of Economics (International Economics), Bangkok University
- TLCA Executive Development Program 2018, Thai Listed Companies Association
- Company Secretary Program #96, Thai Institute of Directors Association (IOD)
- CG Code Workshop, Deloitte Touche Tohmatsu Jaiyos Audit Co., Ltd. (Deloitte)
- WIAL Certified Action Learning Coach Program, Banpu Plc. and World Institute for Action Learning (Thailand) Ltd.
- Leadership Program – Accelerating Transformation Series, Banpu Plc. and Pacrim Group
- Climate Risk Management and Climate Scenario Analysis, Ernst & Young Corporate Services Limited
- Economic Briefing Organized, Kiatnakin Phatra Bank
- Energy Transition Towards Net-Zero, KPMG
- APEC CEO Summit 2022, APEC Business Advisory Council (ABAC)

### % Share Held

- Own Share : 0
- Spouse : -

### Work Experience in the Last Five Years

#### Banpu Group

- 2020 - Present : Senior Vice President – Corporate Strategy, Banpu Plc.
- 2020 - Present : Head of Corporate Secretary, Banpu Plc.
- 2020 - 2022 : Head of Investor Relations, Banpu Plc.
- 2018 - 2019 : Vice President – Corporate Secretary and Investor Relations, Banpu Plc.
- 2015 - 2017 : Vice President – Investor Relations, Banpu Plc.

## Ms. Wiyada Wiboonsirichai

Age: 54

Secretary of the Audit Committee

Appointed Date : 16 January 2018

Head of Global Internal Audit  
and Compliance

Appointed Date : 1 January 2018



23

### Education/ Training

- Master of Business Administration, Financial Management, National Institute of Development Administration (NIDA)
- Bachelor of Accounting, Thammasat University
- Certified Public Accountant (Thailand) (CPA)
- Certified Internal Auditor (CIA), The Institute of Internal Auditors (IIA)
- Certified Control Self-Assessment (CCSA), The Institute of Internal Auditors (IIA)
- TLCA Executive Development Program #13, Thai Listed Companies Association

### % Share Held

- Own Share : -

### Work Experience in the Last Five Years

#### Banpu Group

- 2018 - Present : Head of Global Internal Audit and Compliance, Banpu Plc.
- 2018 - Present : Secretary of the Audit Committee, Banpu Plc.
- 2014 - 2017 : Senior Vice President – Information Technology, Banpu Plc.

**Note:** Mr. Sinon Vongkusolkit appointed to the position of Group Senior Vice President – Office of CEO, effective 1 January 2024

**Remark:** % Share Held which is indicated as "0" means % share held less than 1% while "-" means not holding any shares.



## ATTACHMENT 2: DETAILS OF THE MANAGEMENT AND CONTROLLING PARTIES OF BANPU AND ITS SUBSIDIARIES

Name	Subsidiaries																								
	Banpu	AACI	AFE	ALD	ALSGK	AZE	Banpu NEXT	BAR	BEH	BEN	BES	BEST	BIVSG	BIVTH	BIVUS	BJP	BKV	BKV-BPP	BMC	BMS	BNAC	BNGE	BNGL	BNGS	
1. Mr. Chanin Vongkusolkrit	X	/	/			/	/	/	/			/	/	/	/	/									
2. Mr. Teerana Bhongmakapat	//																								
3. Mr. Buntoeng Vongkusolkrit	/																								
4. Mr. Metee Auapinyakul	/																								
5. Mr. Ongart Auapinyakul	/																								
6. Mr. Verajet Vongkusolkrit	/					/																			
7. Mrs. Somruedee Chaimongkol	/,M	/	/			/	/	/				/	/	/	/	/	/	/	/	/	/	/	/	/	/
8. Mr. Anon Sirisaengtaksin	/											/	/	/											
9. Mr. Pichai Dusdeekulchai	//																								
10. Mr. Teerapat Sanguankotchakorn	///																								
11. Mr. Piriya Khempon	///																								
12. Mrs. Watanan Petersik	//																								
13. Mr. Sarayuth Saengchan	/																								
14. Mr. Somsak Sithinamsuwan	o		/						/	/															
15. Dr. Kirana Limpaphayom	o	/				/	/	/				/	/	/	/	/								/	
16. Mr. Sutee Sukruan	o					/									/										
17. Ms. Arisara Sakulkarawek	o	/	/					/	/	/	/	/	/	/				/	/	/					
18. Mr. Wittapon Jawjit	o																								
19. Mr. Jirameth Achcha	o																								
20. Mr. Sinon Vongkusolkrit	o			/	/							/	/	/	/	/						/	/	/	/

Name	Subsidiaries																								
	Banpu	BOG	BPA	BPCI	BPCP	BPI	BPIC	BPINI	BPNE	BPOD	BPP	BPPI	BPPJP	BPPPT	BPPTGK	BPPUS	BPPVC	BPS	BPV	BPVT	BRA	BRES	BRS	CEY	
1. Mr. Chanin Vongkusolkrit	X	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2. Mr. Teerana Bhongmakapat	//																								
3. Mr. Buntoeng Vongkusolkrit	/																								
4. Mr. Metee Auapinyakul	/								/																
5. Mr. Ongart Auapinyakul	/																								
6. Mr. Verajet Vongkusolkrit	/																								
7. Mrs. Somruedee Chaimongkol	/,M	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
8. Mr. Anon Sirisaengtaksin	/																								
9. Mr. Pichai Dusdeekulchai	//																								
10. Mr. Teerapat Sanguankotchakorn	///																								
11. Mr. Piriya Khempon	///																								
12. Mrs. Watanan Petersik	//																								
13. Mr. Sarayuth Saengchan	/																								
14. Mr. Somsak Sithinamsuwan	o								/	/				/				/	/						
15. Dr. Kirana Limpaphayom	o	/	/						/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
16. Mr. Sutee Sukruan	o																								
17. Ms. Arisara Sakulkarawek	o	/	/	/				/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
18. Mr. Wittapon Jawjit	o																								
19. Mr. Jirameth Achcha	o																								
20. Mr. Sinon Vongkusolkrit	o								/	/				/				/	/	/	/	/	/	/	/

Name	Subsidiaries													Associated Companies			Joint Ventures
	Banpu	DPH	DPN	DPT	HGA	HSEGK	HUNC	HUNI	ITM	PW	RETAIL	TEMPLE 2	BLCP	HPC	PFMC	SVOLT	LIV
1. Mr. Chanin Vongkusolkrit	X					/			/			/	/	/			
2. Mr. Teerana Bhongmakapat	//																
3. Mr. Buntoeng Vongkusolkrit	/																
4. Mr. Metee Auapinyakul	/																
5. Mr. Ongart Auapinyakul	/																
6. Mr. Verajet Vongkusolkrit	/																
7. Mrs. Somruedee Chaimongkol	/,M					/	/	/				/	/				
8. Mr. Anon Sirisaengtaksin	/																
9. Mr. Pichai Dusdeekulchai	//																
10. Mr. Teerapat Sanguankotchakorn	///																
11. Mr. Piriya Khempon	///																
12. Mrs. Watanan Petersik	//																
13. Mr. Sarayuth Saengchan	/																
14. Mr. Somsak Sithinamsuwan	O				/	/	/	/									
15. Dr. Kirana Limpaphayom	O								/	/	/	/	/	/			
16. Mr. Sutee Sukruan	O																
17. Ms. Arisara Sakulkarawek	O				/	/											/
18. Mr. Wittapon Jawjit	O																
19. Mr. Jirameth Achcha	O																
20. Mr. Sinon Vongkusolkrit	O	/	/	/											/		

Notes:

Symbols of the Board Members and Executives

- X Chairman of the Board of Directors
- V Vice-Chairman of the Board of Directors
- / Directors
- // Independent Director/ Member of the Audit Committee
- /// Independent Director
- M Chief Executive Officer
- N Executive Officer
- O Executive

### Abbreviation of the Company, Its Subsidiaries and Associated Companies

BANPU Banpu Plc.

#### Subsidiaries:

AACI	Asian American Coal, Inc.	BPPI	Banpu Power International Ltd.
AFE	AFE Investments Pty Ltd.	BPPJP	Banpu Power (Japan) Co., Ltd.
ALD	Aura Land Development Pte. Ltd.	BPPPT	BPPUS Power Trading, LLC
ALSGK	Aizu Land Solar G.K.	BPPTGK	Banpu Power Trading G.K.
AZE	Aizu Energy Pte. Ltd.	BPPUS	Banpu Power US Corporation
Banpu NEXT	Banpu NEXT Co., Ltd.	BPPVC	BPP Vinh Chau Wind Power LLC
BAR	ACN 152 429 206 Pty Ltd.	BPS	Banpu Singapore Pte. Ltd.
BEH	Banu Energy Holding Pty Ltd.	BPV	Banpu Ventures Pte. Ltd.
BEN	Banpu Energy Australia Pty Ltd.	BPVT	Banpu Vietnam LLC
BES	Banpu Engineering Services Co., Ltd.	BRA	Banpu Renewable Australia Pty Ltd.
BEST	Banpu Energy Services (Thailand) Co., Ltd.	BRES	BRE Singapore Pte. Ltd.
BIVSG	Banpu Innovation & Ventures (Singapore) Pte. Ltd.	BRS	Banpu Renewable Singapore Pte. Ltd.
BIVTH	Banpu Innovation & Ventures Co., Ltd.	CEY	Centennial Coal Co., Ltd.
BIVUS	Banpu Innovation & Ventures LLC	DPH	Durapower Holdings Pte. Ltd.
BJP	Banpu Japan K.K.	DPN	DP NEXT Co., Ltd.
BKV	BKV Corporation	DPT	Durapower Technology (Thailand) Co., Ltd.
BKV-BPP	BKV-BPP Power, LLC	HGA	Hunnu Gobi Altai LLC
BMC	Banpu Minerals Co., Ltd.	HSEGK	Hokkaido Solar Estate G.K.
BMS	Banpu Minerals (Singapore) Pte. Ltd.	HUNC	Hunnu Coal Pty Ltd.
BNAC	Banpu North America Corporation	HUNI	Hunnu Investment Pte. Ltd.
BNGE	Banpu NEXT Green Energy Co., Ltd.	ITM	PT. Indo Tambangraya Megah Tbk
BNGL	Banpu NEXT Green Leasing Co., Ltd.	PW	Pan-Western Energy Corporation LLC
BNGS	Banpu NEXT Green Services Co., Ltd.	RETAIL	BKV-BPP Retail, LLC
BOG	BOG Co., Ltd.	TEMPLE II	Temple Generation II, LLC
BPA	Banpu Australia Co., Pty Ltd.		
BPCI	Banpu Coal Investment Co., Ltd.		
BPCP	Banpu Coal Power Ltd.		
BPI	Banpu International Ltd.		
BPIC	Banpu Power Investment Co., Ltd.		
BPINI	BPIN Investment Co., Ltd.		
BPNE	Banpu NEXT EcoServe Co., Ltd.		
BPOD	BP Overseas Development Co., Ltd.		
BPP	Banpu Power Plc.		

#### Associated Companies:

BLCP	BLCP Power Ltd.
HPC	Hongsa Power Co., Ltd.
PFMC	Phu Fai Mining Co., Ltd.
SVOLT	SVOLT Energy Technology (Thailand) Co., Ltd.

#### Joint Ventures:

LIV	LIV Energy Venture Pte. Ltd.
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Banpu Public Company Limited



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Makkasan, Ratchathewi, Bangkok 10400



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