

A complex graphic illustration in blue and purple line art surrounds the main title. It includes icons for a CO2 cloud, a car, a lightbulb, a globe with people, a battery, a wind turbine, and various circuit-like lines and arrows.

# SMARTER ENERGY

FOR SUSTAINABILITY



SUSTAINABILITY  
REPORT 2022

EXECUTIVE SUMMARY

# ABOUT THIS REPORT

Banpu Public Company Limited (Banpu) has annually published a sustainability report to provide a comprehensive overview of the Company's sustainability performance in the aspects related to environmental, social, and governance. The 2022 Sustainability Report was published on May 31<sup>st</sup>, 2023. This report has been prepared with reference to the GRI Standards and additional indicators from the GRI 12: Coal sector 2022 and the G4 electric utility sector disclosures. This report demonstrates the Company's commitment in response to the Sustainable Development Goals (SDGs) and the United Nations Global Compact (UNGC) as well as addressing the needs and expectations of stakeholders.

## Reporting Boundary

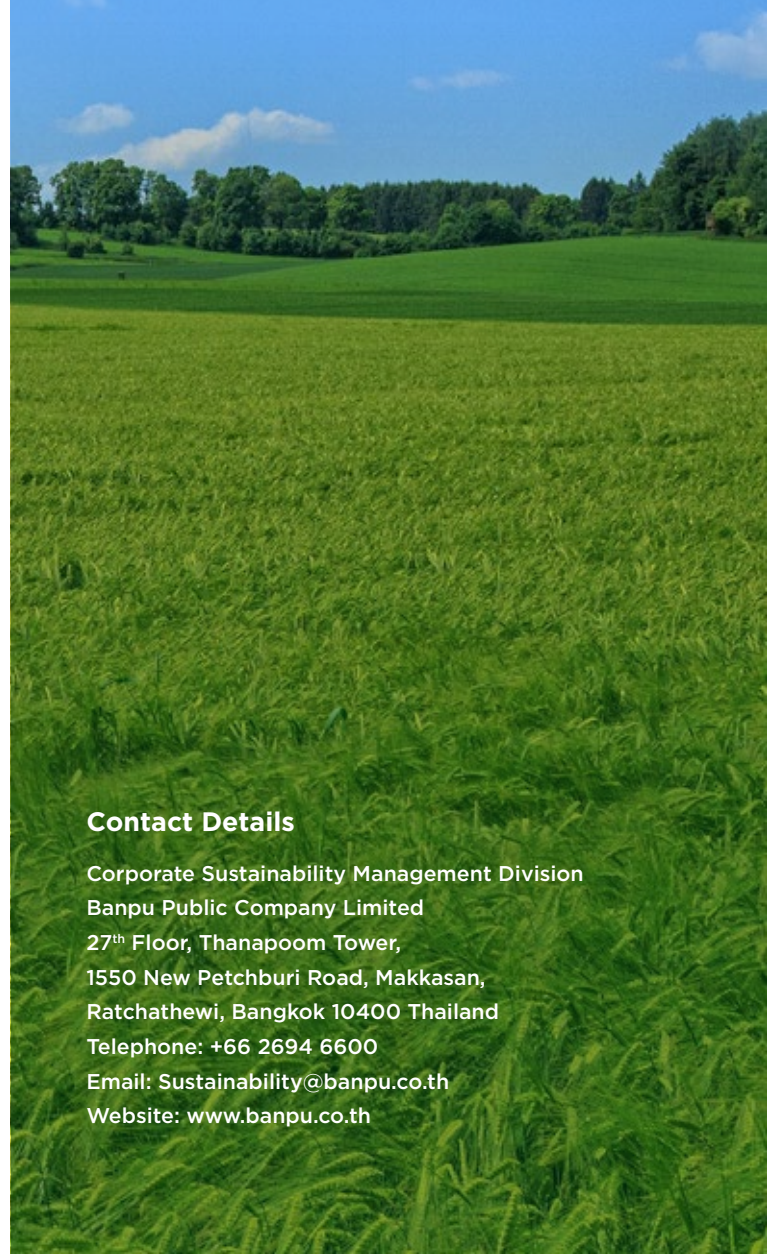
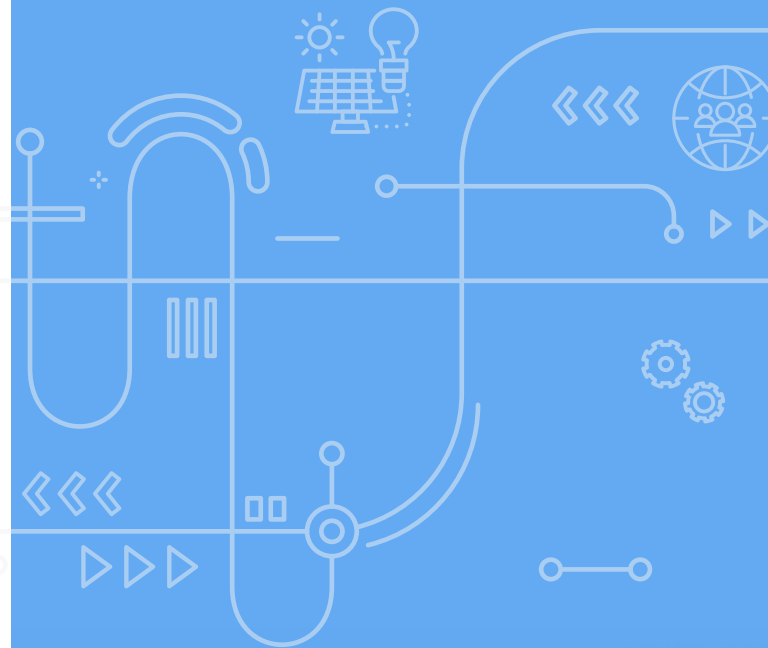
This report covers performance from January 1<sup>st</sup> to December 31<sup>st</sup>, 2022, coinciding with the 2022 Financial Report. The performance includes business entities in which Banpu holds a greater than 50% of total shares and has management control. These entities include the mining business in Indonesia, Australia and Mongolia; the thermal power business in China; the renewable power business in China, Japan, Vietnam, and Australia; the solar rooftop and floating business in Thailand; the smart cities and energy management business in Thailand; as well as the offices in Thailand, Indonesia, China, Australia, Japan, and Vietnam. However, the boundary of this report does not cover gas and thermal power business in the U.S. This report covers 25 sustainability topics, including 14 material topics, with details available on pages 16-17.

This report excludes the performance of the business entities that Banpu holds less than 50 percent of either direct or indirect investment and does not directly participate in their management, in other words only supervision through their Board of Directors. Example of such entities are mining business in China, thermal power business in Thailand and Lao PDR, and energy storage system business in China.

## Assurance

This report was assured by an external party that it was prepared with reference to the GRI Standards. In summary, the scope of assurance is as follows:

- Water and Air emissions data of mining business in Indonesia and Australia; thermal power business in China; renewable power business in China, Japan, Vietnam and Australia; solar rooftop and floating business in Thailand; and the offices in Thailand, Indonesia, China, Australia, Japan, and Vietnam.
- Waste data of mining business in Indonesia and Australia; thermal power business in China; renewable power business in China, Vietnam and Australia; solar rooftop and floating business in Thailand; and the offices in Thailand, Indonesia, China, Australia, Japan, and Vietnam.
- Occupational health and safety data of mining business in Indonesia, Australia, and Mongolia; thermal power business in China; renewable power business in China, Vietnam and Australia; solar rooftop and floating business in Thailand; and the offices in Thailand, Indonesia, China, Australia, Japan, and Vietnam.



## Contact Details

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## MESSAGE FROM CHAIRMAN OF ESG COMMITTEE




**With our dedication towards sustainable excellence, the Company has consistently implemented activities rooted in a strong sustainability foundation. As a result, the Company has been recognized as a member of DJSI.**

A handwritten signature in black ink, appearing to read 'Piriya Khempon'.

**Mr. Piriya Khempon**

Chairman of the Environment,  
Social and Governance Committee



Throughout 2022, the world encountered a multitude of challenges, including climate change, geopolitical conflicts, especially, the Russian-Ukrainian conflict, resulting in energy and food scarcity, increased prices, and supply chain disruptions. These factors contributed to fluctuations in global inflation and led to a slowdown in sustainability performance in many countries worldwide. Despite these obstacles, Banpu has remained steadfast in its commitment to sustainability. The Environment, Social, and Governance Committee (ESG Committee) thoroughly evaluated and prioritized the impact of these situations on the Company and three key capitals - natural, human, and social - and wholeheartedly supported the Board of Directors in steering the Company in the right direction while ensuring adherence to the United Nations Sustainable Development Goals (UN SDGs).

Accordingly, the ESG Committee is responsible for recommending relevant ESG strategies, overseeing ESG-related policies, targets, practices, and performances. In previous year, the Committee has achieved notable accomplishments, such as revising the human rights policy to address major human rights issues (e.g. diversity, human trafficking, etc.) and human rights due diligence. Additionally, the Committee has provided guidance on the path towards Net Zero in line with the Paris Agreement.

This year has presented a new set of challenges for the Company, including increasingly severe environmental issues due to climate change and pressure to pursue sustainable development growth. In response, the Company has released its first Climate Change Report, following the Task Force on Climate-related Financial Disclosures (TCFD) recommendation. The Company takes its responsibility to address climate-related risks and opportunities seriously and is committed to enhancing its disclosure in this area.

With our dedication towards sustainable excellence, the Company has consistently implemented activities rooted in a strong sustainability foundation. As a result, the Company has been recognized as a member of the Dow Jones Sustainability Index (DJSI), marking our ninth consecutive year as a DJSI member. This recognition affirms our commitment and practice align with international standards.

On behalf of the ESG Committee, I would like to thank all stakeholders for their unwavering support throughout this year. We are confident that Banpu is prepared to respond to the wide range of changes and challenges, along with creating a positive sustainable impact on the natural, human, and social capitals.

## MESSAGE FROM CEO




**In our efforts to align with the SDGs, we have identified seven primary goals which are directly related to our business development.**



**Somruedee Chaimongkol**

Chief Executive Officer  
and Chairman of the Sustainability Committee



Sustainability has always been central to our operations as we strive to remain mindful of the environmental and social impacts of our activities. We are proud to present our Sustainability Report for the year and are pleased to announce that we have once again been recognized as a member of the Dow Jones Sustainability Index (DJSI), marking our ninth consecutive year as a DJSI member. This distinction recognizes our commitment to sustainability and our efforts to accelerate the transition to a low-carbon future.

Banpu is proud to be a member of the United Nations Global Compact (UNGC), a platform for businesses, civil society, and the United Nations to advance the Sustainable Development Goals (SDGs) and create a better world for everyone. At Banpu, we are dedicated to integrating environmental, social, and governance (ESG) principles into our business practices and decision-making processes. In particular, we are committed to decarbonization and reducing our greenhouse gas emissions in order to combat climate change. In our efforts to align with the SDGs, we have identified seven primary goals which are directly related to our business development: Affordable and clean energy (Goal 7), Responsible consumption and production (Goal 12), Climate action (Goal 13), Clean water and sanitation (Goal 6), Decent work and economic growth (Goal 8), Life on land (Goal 15), and Partnerships for the goals (Goal 17). Over the years we have made significant progress towards each goal, and we continue to reinforce our dedication to promoting these initiatives through all of our operations, products and services going forth.

Though we are committed to providing a safe and healthy workplace, we still have room for improvement. This year we experienced a fatality at one of our operations in China. On behalf of the entire company, I want to extend my deepest condolences to the family and loved ones of the victim. This incident is a tragic reminder that safety standards must be upheld to the highest degree. We are doing all that we can to improve our safety practices in order to prevent further such incidents.

Banpu is dedicated to continuous improvement. I am happy to announce that we have just released our first report on the Task Force on Climate-related Financial Disclosures (TCFD). This report demonstrates our commitment to transparency and to disclosing the financial impacts of climate-related risks and opportunities on our business.

I am delighted to share this report with you to highlight the key measures we will be taking to reinforce our “Greener, Smarter” strategy. We know that there is always more work to be done, which is why we have set ambitious goals for the future. Furthermore, we are continuously investing in new technologies and processes that will help us reduce our environmental footprint, including further investment into renewable energy sources and harnessing the power of data to improve our operational efficiency.

To further solidify our position as a global sustainability leader, we have announced our “Global Corporate Sustainability” function, which will ensure that our sustainability efforts are properly integrated at every level, from our daily operations to our broader corporate strategy.

Thank you to our employees, customers, and all of our stakeholders for your dedicated support and partnership as we work towards a more sustainable future. Going forwards, we will continue to drive sustainable progress in the energy sector and beyond through cutting-edge technologies and innovation. Our commitment to initiatives such as the UNGC and TCFD will help to guide us toward our vision of a cleaner, smarter and more efficient future for all.

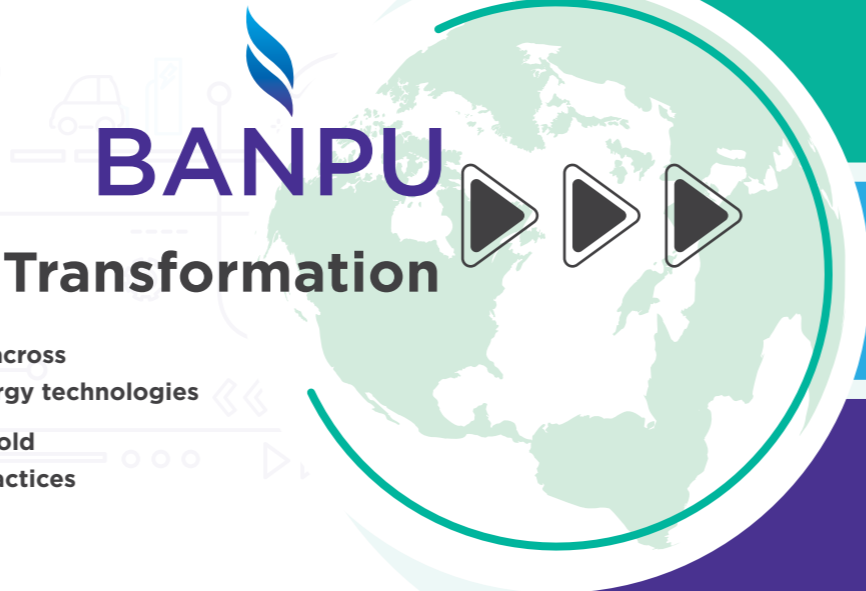
OUR WAY IN SUSTAINABILITY

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 conventional and new energy technologies
- Foster our corporate values, operational excellence, and uphold Banpu's reputation for integrity, professionalism and best practices



Greener & Smarter Strategy: Banpu Transformation encompasses 3 core strategies

Acceleration

Accelerating the growth of three core groups of businesses; energy resources, energy generation, and energy technology, with response to all customer's needs by leveraging advanced technology to optimize energy utilization and sustainability.

Antifragile

Weathering disruption and economic cycles through our integrated energy solutions portfolio by diversifying risks and capturing opportunities from existing risks.

Augmentation

Expanding the business ecosystem and energy expertise to create growth from new S-curve businesses by strategically investing in businesses with high potential, technology advancement, long-term competitiveness, and sustainable positive returns.




GREENER & SMARTER STRATEGY



ESG PRIORITY 2022-2025




Environment



	Decarbonization	▶▶▶	Reduce GHG emissions at all business units and remove any residual emissions by offsetting
	Zero waste	▶▶▶	Move towards a circular economy by minimizing direct disposal waste to zero
	Net-positive impact on biodiversity	▶▶▶	Partner with stakeholders to ensure net gains for biodiversity at the end of project lifetime




Social



	Employer of choice	▶▶▶	Strengthen employee engagement level to top quartile through corporate culture "Banpu Heart"
	Safe and healthy workplace	▶▶▶	Instill a safety culture at all operational levels across supply chain to achieve 3-Zero target
	People capability development	▶▶▶	Build a lifelong learning organization through data-driven learning & development program

Governance



	Digital transformation	▶▶▶	Pursue step-change improvement through user-centric digital solution deployment
	Sustainable supply chain	▶▶▶	Integrate ESG across supplier lifecycle management, especially critical suppliers
	ESG in performance evaluation	▶▶▶	Embed ESG as part of individual KPIs, from top executives to frontline managers

# YEAR IN REVIEW

## 25 January 2022

Banpu Renewable Singapore Pte. Ltd. (BRES), a subsidiary company of Banpu NEXT, entered into a purchase and sale agreement (PSA) to acquire 100% stake in Licogi 16 Gia Lai Investment Renewable Energy Joint Stock Company (LCE Gia Lai) which owns Chu Ngoc Solar Power Plant and Licogi 16 Ninh Thuan Investment Renewable Energy Joint Stock Company (LCE Ninh Thuan).



## 23 February 2022

BPIN Investment Co., Ltd. (BPINI), a subsidiary company of Banpu NEXT, completed the divestment of its 47.5% shareholding in Sunseap Group Pte. Ltd. (Sunseap) to the purchaser, EDP Renováveis SA (EDPR). The decision to sell BPINI's shareholding in Sunseap is part of Banpu group's Portfolio Rationalization.



## 4 March 2022

BRES has entered into a Shares Subscription Agreement (SSA) for the purchase of 49.04% shareholding in Solar Esco Joint Stock Company (Solar Esco), which is a leading renewable energy company in Vietnam, providing full-fledged rooftop solar power platform covering planning, development, and construction as well as providing Engineering Procurement & Construction (EPC), and Operation & Maintenance (O&M).

## 5 July 2022

Banpu Ventures Pte. Ltd., a wholly owned subsidiary company of Banpu invested in the U.S. Healthcare industry through Public U.S. based healthcare investment fund as a founding limited partner.



## 18 May 2022

BKV Corporation (BKV), subsidiary company of Banpu has signed a Purchase and Sale Agreement (PSA) to acquire natural gas and midstream assets in the Barnett Shale in the U.S. from XTO Energy, Inc. and Barnett Gathering LLC (XTO), subsidiaries of Exxon Mobil Corporation.

## 12 July 2022

BKV and EnLink Midstream, LLC (EnLink), midstream operator (including separation, compression, transports, and processes natural gas), entered into a definitive agreement to develop a Carbon Capture and Sequestration (CCS) project in the Barnett Shale region of North Texas. The project is expected to start commercial operation in 2023.

## 21 July 2022

Banpu NEXT, partnering with Cherdchai Motors Sales Co., Ltd. - the largest bus operator in Thailand, and Durapower Holding Pte. Ltd. - a global leader in performance lithium battery storage solutions, to set up a lithium-ion battery plant in Thailand, expected an initial operation to commence in 2023.



## 18 November 2022

BKV filed its registration statement, including a draft prospectus (Public Filing), to the U.S. Securities and Exchange Commission in order to offer its newly issued ordinary shares in an Initial Public Offering (IPO).

# OUR BUSINESS

## Energy Resources

### 1. Mining Business

The Company operates both open-pit and underground mining in Indonesia, Australia, and China. Key customers are the industrial and utility sectors in Asia and Europe.

### 2. Gas Business

The Company specializes in operating and developing natural gas and natural gas liquid (NGL) properties, primarily located in 2 regions: the Barnett Shale in the Fort Worth Basin of Texas (Barnett) and the Marcellus Shale in the Appalachian Basin of Northeastern Pennsylvania (NEPA). The product is transferred via the national gas pipeline network to serve domestic customers.

## Energy Generation

### 3. Thermal Power Business

The thermal power plant with high-efficiency low-emissions (HELE) technology, provides reliable electricity and heat to serve the industrial sector as well as household consumers in China, Thailand, the U.S., and Lao PDR.

### 4. Renewable Power Business

The Company provides electricity generated from solar and wind to serve the clean energy markets. The current production operates in China, Japan, Australia, and Vietnam, while various projects are under project development.

## Energy Technology

### 5. Solar Rooftop & Floating Business

The Company provides solar rooftop and solar floating services. Currently, serving retail and industrial customers in Thailand who require the integration of clean energy and smart technology.

### 6. Energy Storage System

The Company specializes in developing energy storage systems that cater to electric vehicles as well as stationary applications to ensure efficient and availability of power supply in all scenarios.

### 7. Smart Cities & Energy Management

The Company offers comprehensive energy solutions to enhance business efficiency and optimize the energy management of buildings and cities through an evaluation and analysis of energy consumption.

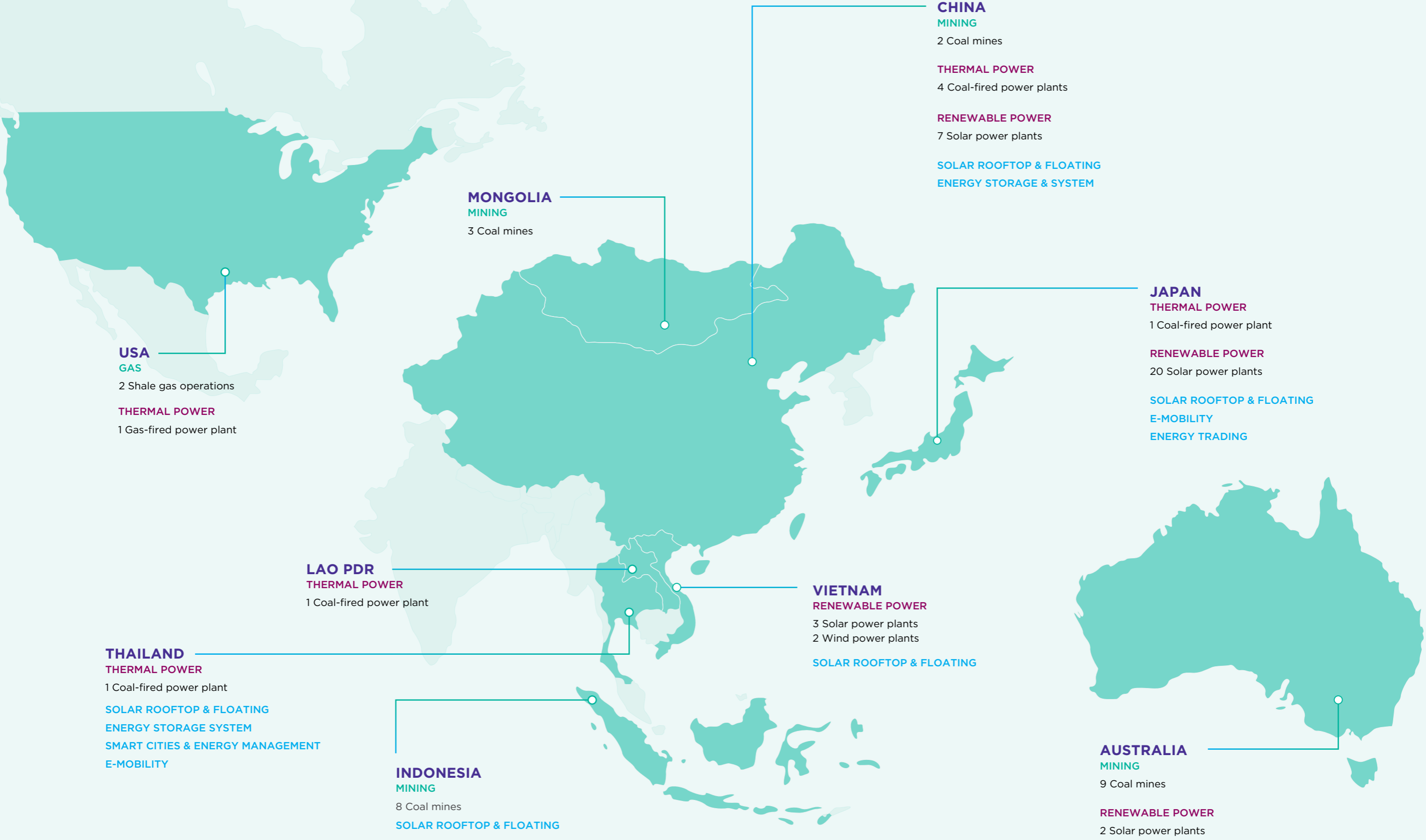
### 8. E-Mobility

The Company offers a range of customizable EV-related services and provides full EV fleet management that is linked to a digital platform to support customers in the logistics business.

### 9. Energy Trading

The Company secures electricity supply to a pool of committed clients, captures arbitrage opportunities, and looks to expand further into liberalized markets.

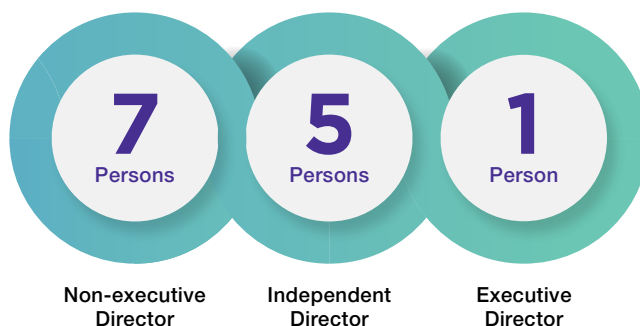
# MAP OF OPERATIONS



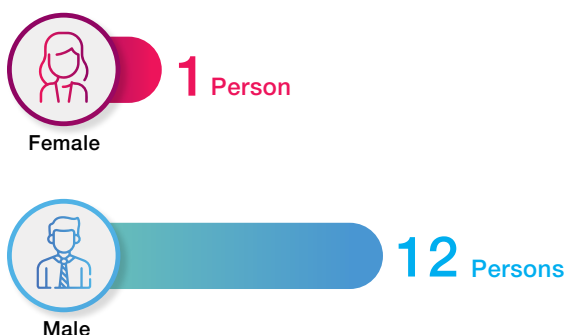
# MANAGEMENT STRUCTURE

The Board of Directors of Banpu Public Company Limited is a one-tier system with 4 sub-committees. The Board of Directors is responsible for ensuring that the Company's business operations are compliant with relevant laws, the Company's objectives and regulations, and shareholder resolutions. The Board of Directors' Practice has been formulated and regularly reviewed to ensure good governance.

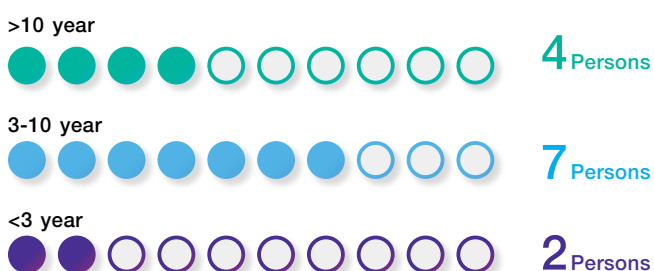
## Status



## Gender



## Tenure



	Member	Role & Responsibility
<b>Corporate Governance and Nomination Committee</b>	1 Independent director 3 Non-executive directors	<ul style="list-style-type: none"> <li>Review and update the Corporate Governance Policy (CG Policy) and Code of Conduct</li> <li>Monitor compliance through whistleblower channel</li> <li>Review the Board's composition and skills matrix</li> <li>Nominate directors, CEO and senior executives</li> </ul>
<b>Audit Committee</b>	3 Independent directors	<ul style="list-style-type: none"> <li>Review the financial reports, the sufficiency of internal control, internal audit, and risk management system, and regulatory compliance</li> <li>Review the connected transactions or transactions that may lead to conflicts of interests</li> </ul>
<b>Compensation Committee</b>	3 Independent directors 1 Non-executive director	<ul style="list-style-type: none"> <li>Review remuneration, compensation, and benefits of the Board of Directors, sub-committees, and the CEO</li> <li>Review compensation structure and employee remuneration</li> </ul>
<b>Environmental Social and Governance Committee</b>	3 Independent directors	<ul style="list-style-type: none"> <li>Oversee the Company's policies and practices, as well as targets and performance with respect to ESG matters</li> <li>Review and monitor stakeholder engagement and materiality assessment process</li> <li>Review and monitor management practice of major ESG risks</li> <li>Oversee the Company's public disclosures in relation to ESG matters</li> </ul>

## Board of Directors Nomination

The Corporate Governance and Nomination Committee is responsible for setting nomination criteria and reviewing the qualifications of the candidates. In general, the tenure of independent director must not exceed 9 years or 3 consecutive terms, and directors must not hold more than 5 external directorships in other listed companies. Moreover, a number of aspects are taken into consideration when each candidate is assessed, including independence, gender, nationality, religion, age, experience, skill and expertise. The attributes of the candidates are assessed using the Board Skills Matrix to ensure benefits to the Company and expectations of stakeholders. After the screening process, the Corporate Governance and Nomination Committee will nominate the candidate for the Board's approval to propose the candidate director to be elected by shareholder's approval in the annual general meeting.

## Board Skills Matrix

Board of Directors	Position	Skill										
		Finance/Accounting	Marketing/Logistic	Management	Technical/Engineer	Business Relation	Economics	Strategic/International	Mining	Power	Oil & Gas	Technology
1. Mr. Chanin Vongkusolkrit	Chairman of the Board of Directors	•	•	•		•	•	•	•	•		
2. Mr. Teerana Bhongmakapat	Independent Director	•		•	•	•	•	•				
3. Mr. Piriya Khempon	Independent Director			•		•	•	•				
4. Mr. Suthad Setboonsarng	Independent Director			•		•	•	•				
5. Mr. Pichai Dusdeekulchai	Independent Director	•		•		•		•				
6. Mr. Teerapat Sanguankotchakorn	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	Director, CEO	•		•		•		•	•	•		

**Note:** Mr. Sarayuth Saengchan (Person no.12) was appointed as a director, effective from 2 April 2022, and a member of the Corporate Governance and Nomination Committee, effective from 1 May 2022.

## Board of Directors Performance Evaluation

The Corporate Governance and Nomination Committee is responsible for reviewing methodology and criteria for the Board of Directors' performance evaluation. Annually, the performance self-assessment is performed by every individual, which covers the Board as a whole, sub-committees and individual directors. Assessment results and suggestions are discussed for improvement to ensure good governance and benefits to the Company and the shareholders.

# STAKEHOLDER AND MATERIALITY MATTERS

## Stakeholder Engagement

The Company places importance on the opinion of all stakeholders as it helps to strengthen the Company's management efficiency. In considering the issues that stakeholders are interested in, the Company applies the stakeholder analysis standard, which was developed based on the international AA1000 Stakeholder Engagement Standard (AA1000SES). Three principles – inclusivity, materiality, and responsiveness – underpin the stakeholder engagement framework. Results from each business unit are collected and analyzed at corporate level under supervision of the Sustainability Committee and ESG Committee. Details of engagement methods and stakeholder's issues are disclosed on pages 86-87.



More  
Information

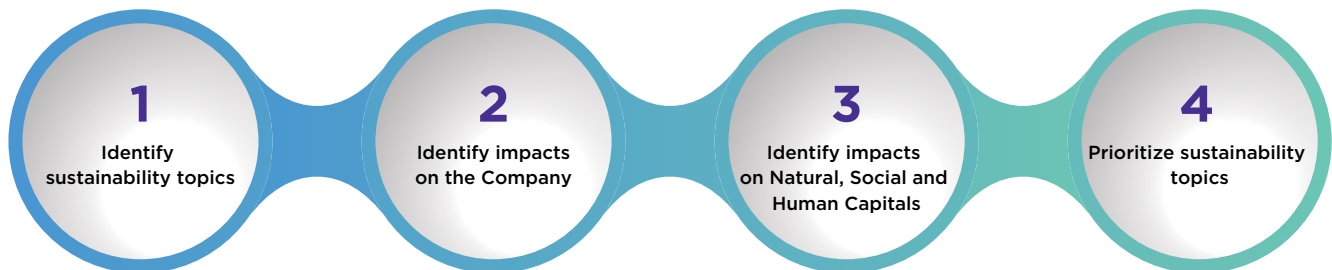
## Materiality Assessment

The assessment and prioritization of material topics are carried out through the corporate management standard, which was developed based on the internationally recognized GRI Standards and AA1000 AccountAbility Principles Standard (AA1000APS), while taking into consideration the governance, environment and social aspects for impacts on the Company and impact on Natural, Social and Human Capitals. The material topics are annually reviewed and approved by the Sustainability Committee and ESG Committee.



More  
Information

## Process of Materiality Assessment



## Re-validation of Material Topics

The Company conducted a materiality assessment for 2022-2023 period by consolidating the assessment results from the mining business in Indonesia, the global trend, and material topics of peers in related industries, as well as other issues concerned by senior executives in each business unit. The assessment results were reviewed and approved by Sustainability Committee in September 2022. At the same time, some topics were merged such as “Mineral Waste” has been merged with the “Waste” topic. In addition, some topics were renamed to emphasize the current business circumstances, for instance “Employee Engagement”. Moreover, the Company considered impact on the Company and Impact on Natural, Social and Human Capitals. As a result, the report contents cover 25 topics with 14 material topics.

## Materiality Matrix



## Impact Boundary of Material Topic

Material Topic	Impact Boundary									
	Employee	Business Partner	Community	Contractor	Financial Institution	Customer	Government	Investor	Shareholder	Supplier
Business Ethics	•	•		•	•		•	•	•	•
Digital Transformation									•	
Supplier Management				•			•			•
Compliance							•			
Data Privacy & Cybersecurity						•				•
GHG Emissions						•	•			
Energy				•			•			
Air Emissions			•				•			
Biodiversity							•			
Employee Engagement	•									
Human Capital Development	•									
Occupational Health & Safety	•			•						
Community Engagement			•							
Community Development			•							

# SUSTAINABILITY RECOGNITIONS

With a long-term commitment to ESG and a solid corporate sustainability governance, the Company has been recognized by several leading sustainability rating agencies nationally and globally.

## International Recognition

Member of  
**Dow Jones  
Sustainability Indices**  
Powered by the S&P Global CSA

The Company has been recognized as a member of the Dow Jones Sustainability Indices (DJSI) for the 9<sup>th</sup> consecutive year.

**MSCI**  
ESG RATINGS

CCC	B	BB	BBB	<b>A</b>	AA	AAA
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The Company received a rating of A (on a scale of AAA-CCC) in the MSCI ESG Ratings assessment.

**Sustainability Award**  
Gold Class 2022  
**S&P Global**

The Company maintains "Gold Class" in Coal & Consumable Fuels for the 8<sup>th</sup> consecutive year from S&P Global Sustainability Yearbook 2022.

## National Recognition



The Company achieved Sustainability Awards of Honor in Sustainability Excellence at SET Awards 2022 for the 5<sup>th</sup> consecutive year.

**THSI**  
THAILAND  
SUSTAINABILITY  
INVESTMENT 2022

The Company maintains one of the companies in Thailand Sustainability Investment by the Stock Exchange of Thailand for the 8<sup>th</sup> consecutive year.



The Company remains one of the top listed companies with excellent corporate governance scoring according to the Corporate Governance Report of Thai Listed Companies in 2022, developed by The Thai Institute of Directors Association (IOD) with support from the Stock Exchange of Thailand.

# VOLUNTARY COMMITMENTS

Banpu has supported and applied a number of global initiatives and international best practices to improve its sustainability performance.



As a UN Global Compact (UNGC) member, the Company embeds ten UNGC principles into its strategies and annually submits the Communication on Progress (CoP) to UNGC.



Banpu has aligned its long-term corporate strategies with the United Nations Sustainable Development Goals (SDGs).



Banpu has been invited to participate in S&P Global Corporate Sustainability Assessment since 2014. The Company has used the assessment result as a guidance to formulate a corporate sustainability strategy and improve ESG performances.



Banpu has participated in CDP climate change questionnaires since 2010 and extended to water security and forests questionnaires in 2017 and 2019 respectively. The findings have been used to enhance the Company's environmental management system.



Banpu publishes sustainability reports referring to the GRI Sustainability Reporting Standards. The report is also annually assured by an external party in its alignment with the GRI Standards.



Banpu has adopted AA1000 Accountability Principles Standard (AA1000APS) and AA1000 Stakeholder Engagement Standard (AA1000SES) to create its stakeholder engagement and materiality assessment frameworks.



Banpu assures accuracy of data in its sustainability reports using International Standard on Assurance Engagements (ISAE) 3000 issued by the International Federation of Accountants (IFAC).



Banpu has adopted IFC Performance Standard on Environmental and Social Sustainability for ESG risk management.



Banpu has developed the corporate governance standard in accordance with OECD Guideline for Multinational Enterprises.



Banpu has followed TCFD recommendations in reporting its climate change management practices.



Banpu has adopted ICMM's mining principle to define ESG management standards of the mining business, in particular mine subsidence, mine closure, and community resettlement.

# PARTNERSHIPS

## Corporate Philanthropy Policy

For almost four decades, the Company has been guided by ESG principles to create a balance between business growth and sustainable value creation for stakeholders. The Company strives to support philanthropic activities following the corporate philanthropy policy to strengthen a strong and sustainable community and society.



Corporate  
Philanthropy Policy

### Education

#### Partnership school

Banpu has continually partnered with the Ministry of Education and other private sectors to support schools to improve school administration, raise academic achievement, and prepare students for the future. The Company has supported three schools, namely, Non Sa-at Phithaya School, Khon Kaen Province; Chumchon Phon Ngam Phon Sawang School, Maha Sarakham Province and Rong Kham Hong Thong Witthaya School, Roi Et Province. In 2022, all these schools continued to improve their education, for example, an extension of the Active learning approach for the student at early childhood and primary levels which improves academic achievement, analytical thinking skills, and communication. In addition, the project supported in several dimensions, including improving technology and information technology, enhancing English language skills, developing vocational and life skills, and creating a learning community.



### Social Welfare

#### Promoting and improving the well-being of disabled

Banpu recognizes the importance of people with disability by hiring visual impairment masseurs and supporting a direct donation of the Fund for the empowerment of persons with disabilities or hiring of persons with disabilities through government agencies to work in communities.

### Health

#### Banpu Table Tennis Club

Banpu Table Tennis Club (BTTC) was established in early 2008 as a commitment 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.



Banpu Table Tennis Club
106 Members
75 Athletes
12 Coaches
19 General members
9 Training centers
Achievement of Banpu Table Tennis Club's athletes since its establishment
2 national athletes competing in the SEA Games
49 national junior athletes
6 national junior youth athletes
2 professional athletes in the Republic of Poland
34 athletes admitted to universities for their excellence in table tennis

## Economic Development

### Banpu Champions for Change

The “Banpu Champions for Change” project is a collaboration between Banpu and ChangeFusion Institute, a non-profit organization under the Rural Restoration Foundation of Thailand under the Royal Patronage. This project has been running since 2011 with a mandate to support young social entrepreneurs who are full of creativity and potential for social change, extending business ideas to achieve income growth while positively impacting society, the community, and the environment. The project promotes learning and understanding of social enterprise as well as morals and ethics, and sustainability principles (ESG) in business.

#### “Banpu Champions for Change” No. 11

- Supported 7 social enterprises and each of which received THB 80,000 in seed capital for operations and business development for a period of 3 months
- 3 social enterprises were chosen for their distinctions in business and social impacts. Each winning team received THB 250,000



The project also organized “Impact Day” with the theme “Maximize the Impact, Creating a Strong Network, and Expanding the Power of SEs” to offer a venue for social enterprises to introduce their products and services to the general public. It is also a learning space for SEs and partners in the field to create a SE network in the future.

## Emergency Relief

### Earthquake in Indonesia

In November 2022, an earthquake occurred in the city of Cianjur, which is far away from Jakarta, Indonesia’s capital, about 100 kilometers. This earthquake impacted several areas and ITM, our subsidiary in Indonesia, sent a rescue team to search and help the victims, as well as organized a team for first aid, arranged temporary housing and supported on consumer goods for the victims.



## Environment

### Power Green Camp















Banpu collaborated with the faculty of environment and resources studying, Mahidol University, in hosting the “17<sup>th</sup> Power Green Camp” under the theme of “Climate Change, We Must Change”. For this year, the camp was open to applicants from high schools as well as vocational colleges. 50 students from 50 schools in 40 provinces were selected to join the camp to learn about climate change. Examples of activities - surveying the coastal erosion of Ban Khun Samut in Samut Prakarn Province and studying the problem of coastal change and visiting Mahidol University, Kanchanaburi campus to learn about biodiversity in the forest. The camp concluded with the environmental science group project competition, which was presented both online and offline to the camp committee and the general public. This camp enabled young people to learn about real climate change problems and realize how the importance of sustainable environmental management, as well as be able to adapt to daily life for living in balance with nature.



## BANPU AND SDGs

Our contribution to the UN Sustainable Development Goals (SDGs) is integrated into the Company's strategies across the value chain. Based on prioritization, 7 SDGs most relevant to the business have been highlighted with objectives to both increase positive impact and reduce negative impact from business operations. The long-term targets specific for all 7 Goals are developed and monitored.

## SUSTAINABLE DEVELOPMENT GOALS

ISSUES	2022	2025	
 Waste	<ul style="list-style-type: none"> <li>Less than <b>0.130 kg/MWh</b> of non-hazardous waste disposal intensity for thermal power business</li> <li>Less than <b>0.010 kg/tonne</b> of hazardous waste disposal intensity for mining business</li> <li>Less than <b>0.140 kg/tonne</b> of non-hazardous waste disposal intensity for mining business</li> </ul>	<ul style="list-style-type: none"> <li><b>Zero</b> hazardous waste to landfill</li> </ul>	<b>6</b> CLEAN WATER AND SANITATION 
 GHG Emissions		<ul style="list-style-type: none"> <li>More than <b>1.1 GW</b> of renewable energy production capacity</li> </ul>	<b>7</b> AFFORDABLE AND CLEAN ENERGY 
 Occupational Health & Safety	<ul style="list-style-type: none"> <li>More than <b>70%</b> of business units assessed for human rights risks</li> <li><b>Zero</b> occupational fatalities of employees and contractors</li> </ul>	<ul style="list-style-type: none"> <li>Less than <b>10.93</b> of injury rate for employees and less than <b>0.53</b> for contractors</li> <li><b>Zero</b> high-consequence injury rate for contractors and less than <b>0.06</b> for employees</li> <li>Less than <b>1.99</b> of lost time injury rate for employees and less than <b>0.14</b> for contractors</li> </ul>	<b>8</b> DECENT WORK AND ECONOMIC GROWTH 
 Energy		<ul style="list-style-type: none"> <li><b>5%</b> energy intensity reduction from 2019 for mining business</li> </ul>	<b>12</b> RESPONSIBLE CONSUMPTION AND PRODUCTION 
 GHG Emissions		<ul style="list-style-type: none"> <li><b>7%</b> GHG emissions intensity reduction from BAU for mining business</li> <li><b>20%</b> GHG emissions intensity reduction from BAU for thermal and renewable power business</li> </ul>	<b>13</b> CLIMATE ACTION 
 Biodiversity		<ul style="list-style-type: none"> <li>Net positive impact on biodiversity upon closure of the mine</li> <li>All business units assessed for potential biodiversity impact</li> <li>All business units assessed for biodiversity value</li> </ul>	<b>15</b> LIFE ON LAND 
 Community Development	<ul style="list-style-type: none"> <li>Raise SDGs awareness among the communities</li> <li>Embed SDGs into community development projects</li> <li>All community development projects linked to the SDGs</li> </ul>		<b>17</b> PARTNERSHIPS FOR THE GOALS 



## PERFORMANCE HIGHLIGHT

		2022	Target 2022	Target 2025
	Coverage of material ESG aspects embedded in CEO's KPI and deployed to senior management	 86%	100%	100%
	Number of significant corporate governance complaints	 0	0	0
	Complaints regarding customer privacy	 0	0	0
	Ratio of the dividend payout to net profits	 21%	≥50%	≥50%
	Availability factor	 94%	≥90%	≥90%
	Unplanned outage factor	 0.82%	<5%	<5%
	Coverage of BCP exercise for critical business functions	 11%	≥12%	≥64%
	Coverage of CMT/IMT exercise	 42%	≥71%	100%
	Significant socioeconomic non-compliance	 0	0	0
	Significant fines from environmental non-compliance	 0	0	0
	Coverage of ESG risk management	 95%	>98%	100%
	IT and IoT assets securely managed by Security Operation Center	 60%	≥60%	≥90%

# ENVIRON- MENT

## PERFORMANCE HIGHLIGHT

		2022	Target 2022	Target 2025
	GHG emissions intensity			
	• Mining business	✓ 0.136	≤0.140	≤0.137
	• Power business	✓ 0.542	≤0.620	≤0.540
	GHG emissions intensity reduction			
	• Mining business	✓ -3%	-2%	-7%
	• Power business	✓ -13%	-8%	-20%
	Energy consumption intensity			
	• Mining business	✗ 0.47	≤0.442	≤0.428
	• Thermal power business	✓ 0.95	≤1.55	≤1.55
	Air emissions intensity (SO <sub>2</sub> )			
	• Mining business	✓ 25.52	≤30	≤30
	• Thermal power business	✓ 21.81	≤76.6	≤76.6
	Hazardous waste to landfill	✗ 78.21	0	0
	Non-hazardous waste direct to disposal			
	• Mining business	✗ 0.244	≤0.140	-
	• Thermal power business	✓ 0.120	≤0.130	-
	Business units assessed for potential biodiversity impact	✗ 88%	100%	100%
	Business units assessed for biodiversity value	✓ 100%	100%	100%
	Water consumption intensity			
	• Mining business	✗ 1.260	≤0.144	-
	• Thermal power business	✓ 0.818	≤0.868	≤0.868
	Progress of subsidence management activities against plan	✓ 100%	≥90%	≥90%



## PERFORMANCE HIGHLIGHT

		2022	Target 2022	Target 2025
	Employee engagement level	✓ 79%	≥70%	≥80%
	Banpu Heart score	✓ 79%	≥70%	≥80%
	Proportion of high critical positions with successor identified	✗ 57%	100%	100%
	Employees with individual development plan	✗ 70%	≥89%	100%
	Occupational fatalities			
	• Employees	✗ 1	0	0
	• Contractors	✓ 0	0	0
	Lost time injury frequency rate			
	• Employees	✓ 2.41	≤2.55	≤1.99
	• Contractors	✗ 0.21	≤0.17	≤0.14
	Significant human rights issues	✓ 0	0	0
	Significant resettlement complaints	✓ 0	0	0
	Indigenous peoples and ethnic minorities' rights violations	✓ 0	0	0
	Number of significant community complaint	✗ 97	0	0
	Coverage of social impact assessment	✓ 67%	≥40%	≥90%
	Coverage of community perception survey	✓ 48%	≥20%	≥80%
	Proportion of mines with mine closure plan	✓ 100%	100%	100%
	Progress of mine closure activity against plan	✓ 98%	≥90%	≥90%
	Coverage of annual stakeholder satisfaction survey on community development project	✓ 100%	>60%	>80%
	Stakeholder satisfaction level on community development project	✓ 85%	>73%	>75%

# SDGS CONTRIBUTION MATRIX

Material topic	1 NO POVERTY	2 ZERO HUNGER	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION	5 GENDER EQUALITY	6 CLEAN WATER AND SANITATION	7 AFFORDABLE AND CLEAN ENERGY	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	10 REDUCED INEQUALITIES	11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE ACTION	14 LIFE BELOW WATER	15 LIFE ON LAND	16 PEACE, JUSTICE AND STRONG INSTITUTIONS	17 PARTNERSHIPS FOR THE GOALS
Sustainability Governance																●	
Business Ethics																●	
Digital Transformation								●									
Supplier Management								●								●	
Customer Management																●	
Economic Distribution								●									
Reliability of Power Plants								●									
Business Continuity								●									
Compliance																●	
Risk Management																●	
Data Privacy & Cybersecurity																●	
GHG Emissions							●						●				
Energy												●	●				
Air Emissions			●									●					
Waste						●						●					
Biodiversity															●		
Water						●						●					
Mine Subsidence															●		
Employee Engagement								●		●							
Human Capital Development								●									
Occupational Health & Safety								●									
Human Rights								●									
Community Engagement										●	●					●	●
Mine Closure															●		
Community Development		●															●

● Direct Contribution

● Indirect Contribution

# FEEDBACK SURVEY



Please provide your feedback by scanning this QR Code or send this feedback form to the address specified at the back cover or e-mail to Sustainability@banpu.co.th.

## 1. Which of the following group of readers best describe you?

- ☐ Employee    ☐ Community    ☐ Customer    ☐ Government    ☐ Supplier    ☐ Contractor    ☐ Financial institution  
☐ Business partner    ☐ Shareholder    ☐ Investor    ☐ NGOs    ☐ Other (Please specify.....)

## 2. How did you receive this report?

- ☐ Annual general meeting    ☐ Company's website    ☐ Employee    ☐ Seminar    ☐ Other (Please specify.....)

## 3. What is your reason for reading this report?

- ☐ To support an investment decision    ☐ To understand the Company's business    ☐ For research and education purpose  
☐ For report preparation    ☐ Other (Please specify.....)

## 4. Please indicate the Company's topics that you are interested in.

### Governance

- ☐ Sustainability Governance  
☐ Business Ethics  
☐ Digital Transformation  
☐ Supplier Management  
☐ Customer Management  
☐ Economic Distribution  
☐ Reliability of Power Plants  
☐ Business Continuity  
☐ Compliance  
☐ Risk Management  
☐ Data Privacy & Cybersecurity

### Environment

- ☐ GHG Emissions  
☐ Energy  
☐ Air Emissions  
☐ Waste  
☐ Biodiversity  
☐ Water  
☐ Mine Subsidence

### Social

- ☐ Employee Engagement  
☐ Human Capital Development  
☐ Occupational Health & Safety  
☐ Human Rights  
☐ Community Engagement  
☐ Mine Closure  
☐ Community Development

## 5. In your opinion, how does the sustainability performance align with the Company's strategy?

- ☐ High    ☐ Medium    ☐ Low

## 6. Please rate your satisfaction towards the design of this report.

- |                    |                            |                              |                           |  |
|--------------------|----------------------------|------------------------------|---------------------------|--|
| Overall design     | <input type="radio"/> High | <input type="radio"/> Medium | <input type="radio"/> Low | <input type="radio"/> Need Improvement |
| Infographic design | <input type="radio"/> High | <input type="radio"/> Medium | <input type="radio"/> Low | <input type="radio"/> Need Improvement |
| Ease to understand | <input type="radio"/> High | <input type="radio"/> Medium | <input type="radio"/> Low | <input type="radio"/> Need Improvement |

## 7. Please rate your satisfaction towards the content of this report.

- |              |                            |                              |                           |  |
|--------------|----------------------------|------------------------------|---------------------------|--|
| Completeness | <input type="radio"/> High | <input type="radio"/> Medium | <input type="radio"/> Low | <input type="radio"/> Need Improvement |
| Materiality  | <input type="radio"/> High | <input type="radio"/> Medium | <input type="radio"/> Low | <input type="radio"/> Need Improvement |
| Reliability  | <input type="radio"/> High | <input type="radio"/> Medium | <input type="radio"/> Low | <input type="radio"/> Need Improvement |

## 8. In your opinion, does the report cover all of your interests?

- ☐ Yes    ☐ No

If not, please specify the topic(s) that should be covered.

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## 9. Please provide any additional comments or suggestions.

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Thank you for your opinion and feedback



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