



SHAPING
THE FUTURE
— SUSTAINABILITY REPORT 2017

MEMBER OF

**Dow Jones
Sustainability Indices**

In Collaboration with RobecoSAM 

Banpu Public Company Limited became a member of the Dow Jones Sustainability Indices (DJSI) in Coal & Consumable Fuels sector for 4 consecutive years in 2017 and ranked highest level (Gold Class) from the assessment by Robeco Sustainable Asset Management (RobecoSAM).



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

Message from CEO

Banpu made great progress in 2017 towards its sustainability objectives. Our new vision emphasizes our determination to put Banpu at the heart of technological innovation in the Asian energy sector. Innovation is the key to ensure sustainable energy supplies for the region which are affordable, reliable and environmentally-friendly. By positioning Banpu at the heart of this dynamic, we also ensure that our ability to deliver strong shareholder's returns and sustainable value to all stakeholders.

In this light, we take great pride in having been selected for the fourth consecutive year as a member of the Dow Jones Sustainability Indices (DJSI). We were once again ranked Gold Class in the Coal & Consumable Fuels sector and recognized as an Industry Mover by Robeco Sustainable Asset Management (RobecoSAM). Banpu also received "Sustainability Awards of Honor", and was listed for the third consecutive year in "Thailand Sustainability Investment" (THSI) granted by the Stock Exchange of Thailand (SET) to the listed companies.

In 2017, we continued to deliver on the promises we made two years ago. Step-by-step, Banpu is becoming 'Greener and Smarter'. Banpu is bridging the old and the new in the energy sector. We are leading the transition to greater sustainability in a responsible way. With a hybrid fusion of conventional and unconventional energy we are developing both horizontal and vertical energy supply chain synergies. A unique business model is evolving at Banpu with integration from upstream extraction through midstream logistics to downstream energy generation and services. We are reaching out to learn innovative new technologies, new ways of doing things and new markets.

We are investing in upstream businesses with lower emissions profiles like shale gas. We now have

attributable gas production of over 200 million cubic feet per day in North America. In our conventional power business we are focused on higher efficiency and lower emissions technologies (HELE). And we are developing a rapidly growing renewable energy business with over 385 megawatt of committed solar capacity added to our development portfolio in Japan and China in 2017. Last year also saw the launch of a new smart energy business, 'Banpu Infinergy' with a plan to develop over 300 megawatt of solar rooftop capacity within 3 to 5 years. Banpu Infinergy also made a strategic investment in Singapore's leading solar rooftop company towards the end of 2017.

Banpu delivered impressive financial results in 2017 and a stronger balance sheet. TRIS Rating affirmed Banpu's corporate rating and senior unsecured debentures at 'A+ with stable outlook'. We also maintained best governance practices with a commitment to value-reporting and transparency in our investor relations. We received "Outstanding Investor Relations Awards" from SET for companies with a market capitalization of between THB 30-100 billion. Banpu Power, our power subsidiary, was granted "Outstanding Deal of The Year Awards" by the SET for its initial public offering ('IPO') in 2016 and entered the SET 50 Index.

Banpu remains focused on alignment with the United Nations Sustainable Development Goals (SDGs). We are on track to deliver both a 25% reduction in greenhouse gas (GHG) emissions from our coal business and a 15% reduction from the power business by 2020. Our community and social responsibility programs have grown in its scope over the years securing effective engagement and support amongst our host communities ensuring conditions which are favorable for further growth at all our operations.

In 2017, we conducted a survey of employee engagement and corporate culture. The results showed significant improvements compared to previous years - and clear evidence that the Banpu Spirit is alive and well. Our corporate culture based on integrity, care, innovation, synergy, passion and commitment is strong amongst management and staff at every level.

While we continue to pursue excellence in all aspects of health and safety, sadly we did not achieve our goal in 2017 with a fatal accident at one of our operations in Indonesia. We have extended our sincere condolences and support to the family and colleagues of the deceased. A comprehensive investigation into the causes and circumstances of the accident has been carried out and measures have been implemented to prevent a recurrence.

On behalf of Banpu management and the Sustainable Development Committee, I would like to express deep appreciation to all parties for their outstanding efforts and contributions to sustainability best practices over the past year. But while we can continue to hold our heads up high as representing the responsible Asian Face of Energy, there is plenty of room for improvement. There can be no excuse for complacency. I look forward to working with all our stakeholders towards excellence in all areas of our corporate development and operations in 2018.



Somruedee Chaimongkol

Chairman of the Sustainable Development Committee
and Chief Executive Officer



About This Report



Banpu's sustainability report is published annually with the aim to disclose our management approach and performance in regards to the material topics related to economy, environment, social, and governance in the past year to our stakeholders. This report has been prepared in accordance with the GRI Standards: Core option with additional indicators from GRI Mining and Metals specific sector disclosure.

Reporting Content

Contents in this report covers 39 topics, both material and other sustainability topics. There is no significant different comparing to the topics disclosed in the previous report. However, the GHG emissions performance calculation is changed from last year since the Company updated the Global Warming Potential (GWP) factors based on IPCC Fifth Assessment Report (AR5)* and started to incorporate emissions from the use of SF₆ and HFCs. This change affects both the values of base year and 2014-2016 performances.

Reporting Boundary

This report covers our performance during the fiscal year starting from 1st January to 31st December 2017 in the assets that Banpu holds investment of greater than 50 percent and has management control. The boundary is remained the same as previous report. Therefore the contents encompasses our coal business in Indonesia, coal business in Australia and power business in China for all material topics. As well as the boundary covers our power business in Japan, coal business in Mongolia, head office in Thailand and the sales office in Singapore for some material topics. In 2017, two solar power plants entered its commercial operation, one in Japan and another in China. Details can be found in page 146.

Hence, this report excludes the performance of the assets that Banpu holds less than 50 percent either direct or indirect investment and does not directly participate in their management, in other words only supervision through their board of directors; for example, coal business in China, BLCPP power plant in Thailand, Hongsa power plant in Lao PDR, and natural gas business in the U.S.

Assurance

To ensure that the content in our sustainability report is accurate and material to the company and our stakeholders as well as in accordance with the GRI Standards. Starting this year, we annually have the report assured by an external party. The external assurance scope covers information on:

- Energy and greenhouse gas (GHG) emissions of the coal business in Indonesia and Australia, and the power business in China.
- Occupational health and safety of the coal business in Indonesia.

We commit to enhancing scope of external assurance in regards to both of material topics and business units in our next sustainability report.

*Except the coal business in Australia which calculation based on AR4 according to country's guideline.

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Additional Information



Business Value Chain

Banpu Public Company Limited is a pioneer energy company with over 30 years of operation.



Up-stream



Mid-stream



Coal Business

The core business of Banpu for over 30 years with production bases in Indonesia, Australia, China, and Mongolia. Coal produced is sold to industrial customers and coal-fired power plants in Asia and Europe.



Gas Business

The Company started to invest in unconventional shale gas with production bases in the U.S. All natural gas produced is transferred via national pipeline domestic network to serve both major and retail customers.



Coal Trading Business

A business responding to the needs of coal users in delivering various quality of coal product through logistic networks both by trains and vessels. For example, our Indonesian deep seaport with its geographical location and capability are appropriate to handling large ocean vessels.



Banpu is an integrated energy company through its business value chain covering up-stream extraction, mid-stream logistics, and down-stream energy generation and service with a vision to be the Asian energy company at the heart of innovation technology and sustainability. We have dedicated to deliver affordable, reliable, and environmental-friendly energy for the Asia-Pacific region.



Down-stream



Conventional Power Business

A business that brings technological innovation to promote high quality and secured power supplies; for instance, Clean Coal Technology and High Efficiency Low Emissions (HELE). The Company has invested in coal-fired power plants bases in Thailand, Lao PDR, and China. In addition, the combined heat and power plants in China also provided varieties of products, such as steam and chilled water, to meet the diverse needs of both industrial and household customers in the surrounding area.



Renewable Power Business

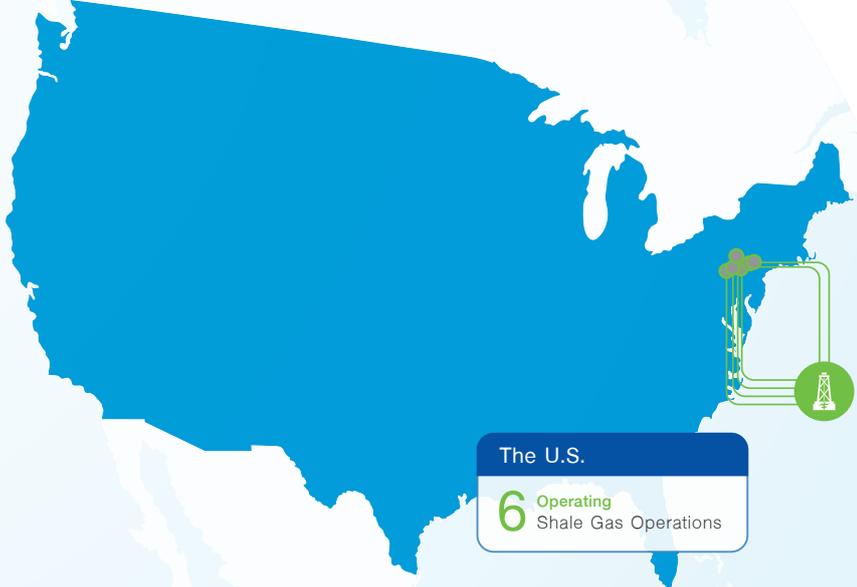
The business contributing to reducing impacts on the environment and responding to low carbon society. The Company has invested in solar power plants located in Japan and China, some of them are under construction. Our target is to have an electricity generation portfolio from renewable sources more than 20 percent by 2025.



Smart Energy Business

A new energy business of Banpu aiming to meet the needs of retail customers under strategy “Greener & Smarter” by providing solar power generation systems installation, inspection and maintenance service. Currently, our business serves customers in Thailand and Singapore.





Map of Operations



Open-pit Coal Mine



Shale Gas Operation



Underground Coal Mine



Solar Power Plant



Coal-fired Power Plant



Solar Rooftop

● Operating

● Project or Maintenance

● Management Control

● Non-Management Control



Our Business

Banpu expands business opportunities both in vertical and horizontal growth under the strategy “Greener & Smarter” creating the sustainability for Banpu by using “technological innovation”. At present, Banpu has operations based in nine countries across Asia-Pacific region, including Thailand, Indonesia, China, Australia, Lao PDR, Mongolia, Singapore, Japan and the U.S.



Thailand

Banpu invested in a coal-fired power plant with capacity of 1,434 MW through Banpu Power Public Company Limited (BPP), a subsidiary of Banpu. BPP holds 50% share in BLCP Power Limited, located in Map Ta Phut Industrial Estate, Rayong Province. Since 2017, the Company has expanded its down-stream business to be energy solutions provider of solar rooftop with capacity of 12 MW, installed at large industrial customers and business sectors through Banpu Infinergy Co., Ltd (Banpu Infinergy).



Indonesia

Banpu has entered into coal industry since 1991 and holds 68.09% share in PT Indo Tambangraya Megah Tbk (ITM), which is a listed company in the Indonesia Stock Exchange. ITM has 5 open-pit coal mines located in Kalimantan, comprising of Indominco,

Jorong, Kitadin-Embalut, Trubaindo, and Bharinto, with total coal sale volume of 22.1 million tonnes in 2017. The coal produced is delivered to domestic and oversea customers through Bontang Terminal, with the approximate annual capacity of 20 million tonnes. Moreover, ITM invested in a coal project at the end of the year 2017 with operation scheduled to start in 2019.



Australia

Banpu wholly acquired Centennial Coal Co., Ltd. (Centennial) in 2010, which is a thermal coal producer. Presently, Centennial has 6 underground mines operated, namely, Airly, Clarence, Mandalong, Myuna, and Springvale, with coal sale volume of 14.7 million tonnes in 2017, including Mannering which is operating under a mining cooperation deed. Coal produced is transported to domestic customers via

train and exported to overseas customers through Kembla (PKCT) or Newcastle (NCIG) port. There are additional 4 coal projects under development, or care and maintenance phases.



Mongolia

In late 2011, Banpu successfully acquired Hunnu Coal Limited (Hunnu), an expert company in coal exploration and mine development in Mongolia. Currently, Hunnu has several coal projects under development, including Tsant Uul which conducts feasibility study of Coal to Coal Tar production, Altai Nuurs which conducts drilling test for coal reserve verification, and Unst Khudag which develops Geological Models.





China

Banpu expanded investment through BP Overseas Development Co., Ltd. by holding 45% share of Gaohe, the underground mine in Shanxi province. Also, Banpu Minerals Co., Ltd., holds 40% share of Hebi, the underground mine in Henan province. Total coal sale volume of both coal mines was 10.3 million tonnes in 2017.

The Company also expanded investment into China's power business through

Banpu Investment (China) Co., Ltd. (BIC). At present, BIC operates 3 Combined Heat and Power (CHP) plants in the north of China, namely, Luannan, Zhengding, and Zouping, with total power production capacity of 298 MW; steam production capacity of 1,168 tonnes per hour, and chilled water production capacity of 35 MW. Furthermore, BPP holds 30% share in Shanxi Lu Guang Power Co., Ltd., a coal-fired power plant which is now under construction with the power production capacity of 1,320 MW, the commercial operation is scheduled to start in 2019.

Besides the conventional power plants, Banpu has started investment in renewable based power plant through BPP since 2016. Currently, there are 6 solar power plants operated, namely Jinshan, Huineng, Haoyuan, Hui'en, Deyuan, and Xingyu, with a total power capacity of 152.1 MW.

Lao PDR

Banpu invested into Hongsa Power Plant through BPP with cooperation with Ratchaburi Electricity Generating Holding Public Company Limited (RATCH) and Lao Holding State Enterprise (LHSE), a state-owned enterprise of Lao PDR. BPP holds 40% share in Hongsa Power Plant, which is a mine-mouth power plant consuming lignite as coal-based fuel, located in Hongsa District, Xayaburi Province in Lao PDR, with the power capacity of 1,878 MW.





Japan

Banpu has studied and invested in renewable based power plant in Japan through BPP. At present, BPP has 3 solar power plants operated, namely Olympia, Hino, and Awaji with a total power production capacity of 21.5 MW. Moreover, there are 3 solar projects under construction and 7 projects under development, with a total power capacity of 336.9 MW. The commercial operation scheduled have proceeded gradually during 2018-2020.

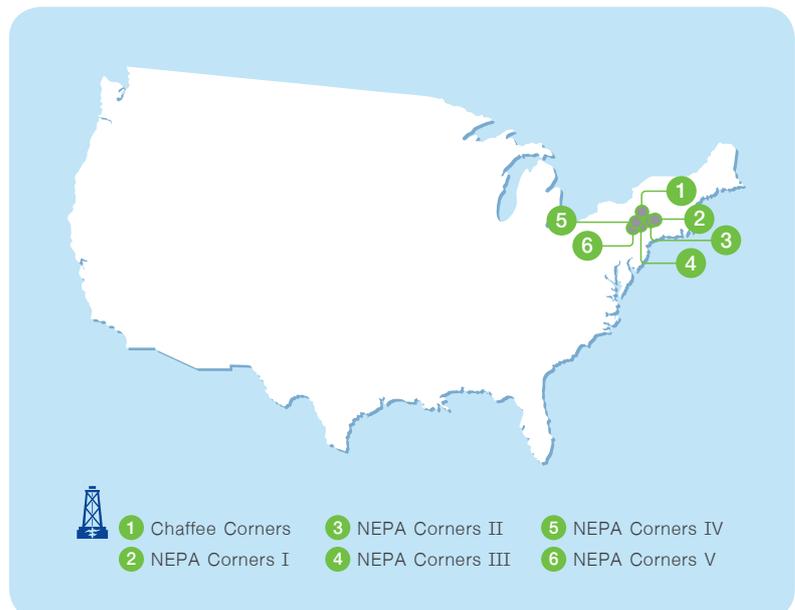


Singapore

In 2017, Banpu expanded investment in down-stream business through Banpu Infinergy, which invested in Sunseap Group Pte Ltd, the leading clean energy solutions provider in Singapore, with a total power production capacity of 85 MW base on Banpu's 25.7% share. In addition, Banpu's sales office in Singapore is the center of coal trading and logistics for the group.

United States of America

Since 2016, Banpu has invested in gas business which is low-cost unconventional shale gas production. The operation bases in Marcellus Shale, located in the northeast of Pennsylvania. At present, the Company has investment in 6 operations of shale gas with the production capacity more than 200 MMcf/day based on Banpu's share. All natural gas produced is delivered to domestic customers via national gas pipeline.



*Additional information of each operation are provided in page 140-141



Corporate Governance

The key responsibilities of the Board of Directors is to oversee and govern the Company to its goals while adhering to good governance and being fully aware of the social and environmental impacts that may arise to ensure optimal benefits to all stakeholders. The Chief Executive Officer is responsible for the management of the Company’s business operations, including sustainability management to attain the balance between the corporate growth and social and environmental development.

In 2009, the Board of Directors has formulated “The Practices of the Board of Directors of Banpu Public Company Limited” as a guideline for the Board practices, which was periodically reviewed and amended in compliance with regulatory and business changes. In 2014, the Board of Directors has amended the practices to comply with good corporate governance regarding disclosure and transparency as well as the Board’s duty. Subsequently, an independent director shall hold office for a term up to 9 years or 3 consecutive terms. In addition, the appointed director shall hold a limit of 5 board seats in other listed companies in the Stock Exchange of Thailand, and the resolution shall be passed by the Board of Directors meeting with a quorum of at least 2 out of 3 directors.

Corporate Governance Structure

Banpu Public Company Limited’s structure of the Board of Directors is a one-tier board structure with three sub-committees, namely, the Corporate Governance and Nomination Committee, the Audit Committee and the Compensation Committee.

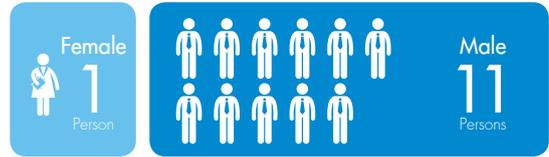
	The Corporate Governance and Nomination Committee	The Audit Committee	The Compensation Committee
Board of Directors	4	3	3
• Executive Directors	-	-	-
• Non-executive Directors	3	-	1
• Independent Directors	1	3	2
Related Charters	The Charter of the Corporate Governance and Nomination Committee	The Charter of the Audit Committee	The Charter of the Compensation Committee
Roles and Responsibilities	<ul style="list-style-type: none"> - Determine the Company’s Corporate Governance Policy and the Code of Conduct - Monitor compliance with the policy and good governance practices - Recruit and nominate persons as Directors, Chief Executive Officers and Executive Officers - Monitor a succession plan of senior executives 	<ul style="list-style-type: none"> - Review the financial report, internal control and risk management system as well as regulatory compliance - Consider action plans and performance review of the Internal Audit Office - Consider the disclosure of the Company’s information in case of related party transactions and conflicts of interest 	<ul style="list-style-type: none"> - Recommend guidelines with regard to management of compensation and other benefits for the Board of Directors, sub-committees and the Chief Executive Officer - Review the overall compensation and the structure of salary and annual bonus



Board of Directors Nomination

Fully aware of the importance of the Board's significance and roles in the company's sustainable growth, the Corporate Governance and Nomination Committee has set the rules and procedures for the Board's nomination, taking into account the diversity of qualifications, namely, independence, knowledge, skills, experience, expertise, gender, nationality and age. Such qualifications are assessed by "Board Skills Matrix" to ensure appropriate composition of the Board to the oversight of the Company and the ability to respond to stakeholder's expectations.

Gender



Composition of the Board of Directors



Board Meeting Attendance

In the previous year, Directors attended the Board of Directors and sub-committee meetings as follows:

	Percentage of Meeting Attendance
The Board of Directors	97.2
The Compensation Committee	100
The Corporate Governance and Nomination Committee	100
The Audit Committee	100



Board of Directors Performance Evaluation

To maximize the efficiency of the Board and to provide the Board members opportunities to periodically review their performances and challenges and consider feedbacks, the Corporate Governance and Nomination Committee purposes performance evaluation criteria to the Board of Directors for approval. The annual performance evaluation of the Board of Directors covers the Board as a whole, sub-committees and individual directors. Recommendations and results from the evaluation are used for the improvement of the Board's performance to ensure greater benefit to the Company in the future. In 2017, the evaluation of the Board's performance was as follows:

Board/Committee	Average Score	Results
Board of Directors	4.86 out of 5	Very Good
Sub-committees	4.79 out of 5	Very Good
Individual Directors	4.80 out of 5	Very Good

Competency Development of the Board of Directors

In the previous year, Directors attended the following competency development programs:

Programs	Organizers	Number of Directors Attending
Knowledge Sharing "Essentials of the Securities and Security Exchange Act"	Banpu Public Company Limited	3
Knowledge Sharing "Corruption: Impacts on Corporate Credibility and Business Operations"	Banpu Public Company Limited in collaboration with Thailand's Private Sector Collective Action Coalition against Corruption (CAC)	2
Audit Committee Forum "The Audit Committee's Role in Compliance and Ethical Culture Oversight"	Thai Institute of Directors (IOD)	1
Cyber Incident Management for Executive Committee's of Listed Companies	The Securities and Exchange Commission	1
Thailand 4.0 under the National Strategy Preparation Act and National Reform	University of Thai Chamber of Commerce and the Members of the National Reform Council	2
Dinner Talk "Board of Directors and their Roles in Driving Thailand Forward"	Thai Institute of Directors (IOD)	2
IOD National Director Conference 2017 "Steering Governance in a Changing World"	Thai Institute of Directors (IOD)	1
"Business Renovation and Innovation Network" Class 1 (BRAIN 1)	The Federation of Thai Industries	1



Challenges and Opportunities

Country	Challenges and Opportunities	Banpu's Strategies
Coal Business		
Indonesia	<ul style="list-style-type: none"> The demand for coal in the domestic and global market continued to rise, but the coal production was affected by the heavy rainfall which could lead to production lower than target. All coal producers need to obtain a Clean and Clear (CNC) license which they need to legally pay concession fee and comply with environmental regulations. The Indonesian government agenda to limits coal production quantity. The Indonesian government's law indicating that only Indonesian-registered vessels and a compulsory insurance must be engaged for the coal transportation and export. Competitors are local big coal producers and a large number of other small-scale coal miners, including coal traders and producers in global markets. 	<ul style="list-style-type: none"> Focusing on high-yield markets, such as Japan and adjusted the production ratio to drive more exports to South Korea and Taiwan, where coal demands are high. Market expansion into Vietnam due to its high market potentials, and location, which is closed to production base in Indonesia. Production development to meet quality requirements for targeted markets to increase overall product value. The flexibility and stability in delivery, the Company owns a seaport for the exclusive purpose of coal transportation, thus stabilizing delivery to customers.
Australia	<ul style="list-style-type: none"> The demand for high quality coal is higher than low quality coal. Australia has higher coal reserve, especially along the eastern seaboard states of New South Wales and Queensland. Newcastle's port in New South Wales is the largest coal export center of the country. Most of domestic customers are power plants, which Centennial has extensive delivery infrastructure, including private hauling roads and belt conveyors. 	<ul style="list-style-type: none"> Maintaining a sales of 60% domestic and 40% export markets. Determining the volume and price of coal in the long-term for domestic coal contracts. Blending the higher quality Australian coal with lower quality coal from other sources to achieve the reasonable blended price and quality. The continual improvement of the coal transport infrastructure from western mines to eastern mines.
Mongolia	<ul style="list-style-type: none"> Mongolia has abundant coal reserves and a rapid development of basic infrastructure. Advantage of geographical locations, supporting the export of coal to the nearby markets, such as China which is a country with high energy demand. 	<ul style="list-style-type: none"> Conducting feasibility study of Coal-to-Liquid research and development project to increase value and reduce transportation costs. Studying geological structure and potential environmental impacts in order to plan and prepare for future operation.



Country	Challenges and Opportunities	Banpu's Strategies
Coal Business		
China	<ul style="list-style-type: none"> The restructuring of the coal sector in China has impact on domestic coal production and standard coal pricing. Enforcing stricter safety standards for mining. 	<ul style="list-style-type: none"> Blending the coal from various sources to meet the needs of domestic customers. Improving safety standards to be higher than the Chinese government's standards.
Conventional Power Business		
Thailand	<ul style="list-style-type: none"> Environmental awareness by stricter laws and standards including community concerns due to coal-fired power plants. Competitors are domestic producers and other international producers and investors. 	<ul style="list-style-type: none"> Investing in the efficiency improvement of power plants and continuous equipment maintenance to reduce pollution. Supporting community activities and a mutual understanding with the community. Preparing to participate in various projects of the government.
Lao PDR	<ul style="list-style-type: none"> The power generation is solely from hydro-power due to the lack of oil and gas reserve, and limitation of coal. Development of urbanization and continual improvement of basic infrastructure in the country. Competitors are other international producers and investors. 	<ul style="list-style-type: none"> Focusing on promoting community's participation in the area, along with improving the quality of people's life. Investing in the efficiency improvement of power plants including equipment preparation and maintenance.
China	<ul style="list-style-type: none"> Coal prices in the global market impact on domestic coal prices, resulting in higher cost of production. Stricter environmental quality standards by the Chinese government. Combined Heat Plants are supported from the government. The government also provides such incentives as exclusive rights to sell steam in permitted zones. 	<ul style="list-style-type: none"> Conducting business in line with market conditions through cost management and production efficiency. Supplying stable and available electricity and steam to customer to meet their needs. And continue to support community activities. Improving the efficiency of equipment to reduce pollution in accordance with new government standards. The development of new products to sell chilled water in the summer through the same pipeline as hot water in the winter.



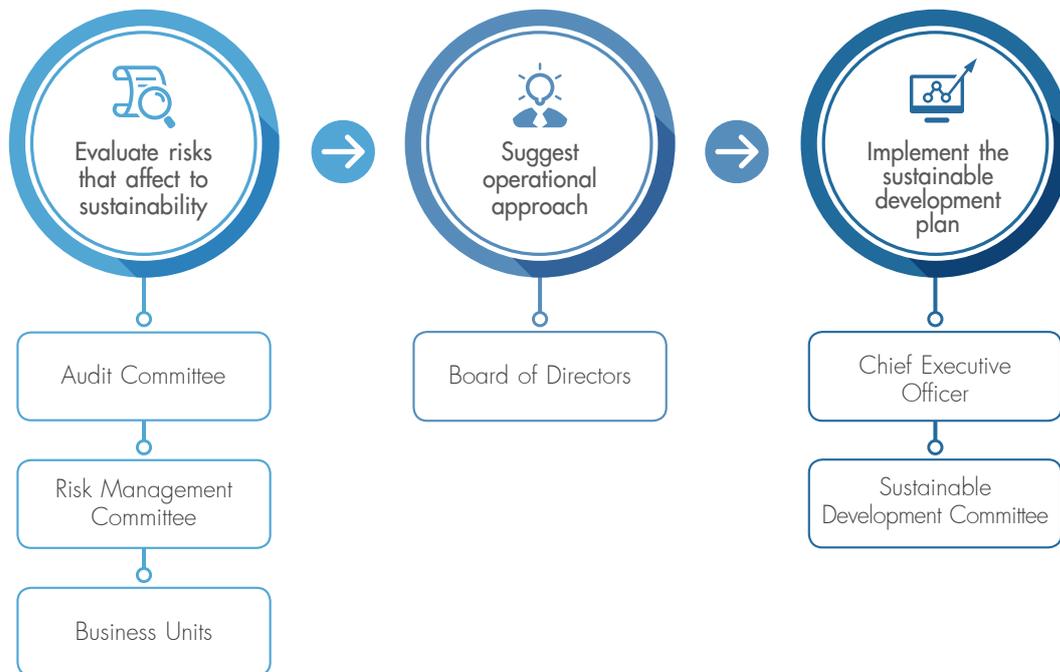
Country	Challenges and Opportunities	Banpu's Strategies
Renewable Power Business		
China	<ul style="list-style-type: none"> • Well-defined National Energy Policy and government support, which support the Company's projects with low risk investment. A feed-in tariff (FIT) scheme offers guaranteed purchase at a fixed rate throughout the full cycle of power plants. • The government has a plan to use the domestic carbon trading system. • Competitors are other international producers and investors. 	<ul style="list-style-type: none"> • Focusing on monitoring and maintenance of equipment in the solar cell system by developing a Data Center. • Studying the carbon trading system.
Japan	<ul style="list-style-type: none"> • Supports from the government and financial institutions are key factors that drives the business quickly. • Well-defined National Energy Policy and energy management system, which support the Company's projects with low risk investment. A feed-in tariff (FIT) scheme offers guaranteed purchase at a fixed rate throughout the full cycle of power plants. • Competitors are Japanese and other international producers and investors. 	<ul style="list-style-type: none"> • Preparing to evaluate potential investment opportunities and project development to seek for growth opportunity in renewable power business. • The investment in solar power plants can start commercial operations, and generate profit in a shorter period. • The investment management by collaboration with partners to seek investment opportunities, including cost management.
Gas Business		
The U.S.	<ul style="list-style-type: none"> • Demand for natural gas in the U.S is on the rise and expected to export to Mexico and global markets. • Marcellus and Utica shales are, and will be major sources of natural gas. 	<ul style="list-style-type: none"> • Preparing to evaluate potential investment opportunities and project development to seek for growth opportunity in up-stream business with lower emissions.
Smart Energy Business		
Thailand and Singapore	<ul style="list-style-type: none"> • Upward trend in clean energy demand. • Risks from investment in new business. 	<ul style="list-style-type: none"> • Focusing on environmental-friendly business and smart energy technologies. • Collaboration with local partners.



Sustainability Governance

Banpu strives towards the vision to be “the Asian energy company at the heart of innovation, technology, and sustainability” by striking a balance between economy, social and environment under the 2016 sustainable development policy and the 5-year plan (2016-2020) of sustainability governance. The Company integrates the sustainability governance into strategies, operations and corporate culture through synergy across all internal and external stakeholders for the sake of sustainable company in a long run.

Strategic Integration



The Company drives sustainable development by integrating sustainability into the corporate risk management system. Each business unit conducts a risk assessment on economic, social and environmental dimensions that affect sustainability performance of the Company and related stakeholders. The assessment results are reported to the Board of Directors through the Risk Management Committee and the Audit Committee. The Board of Directors considers those risks to suggest an appropriate operational approach to the Chief Executive Officer to execute according to the strategic plan.



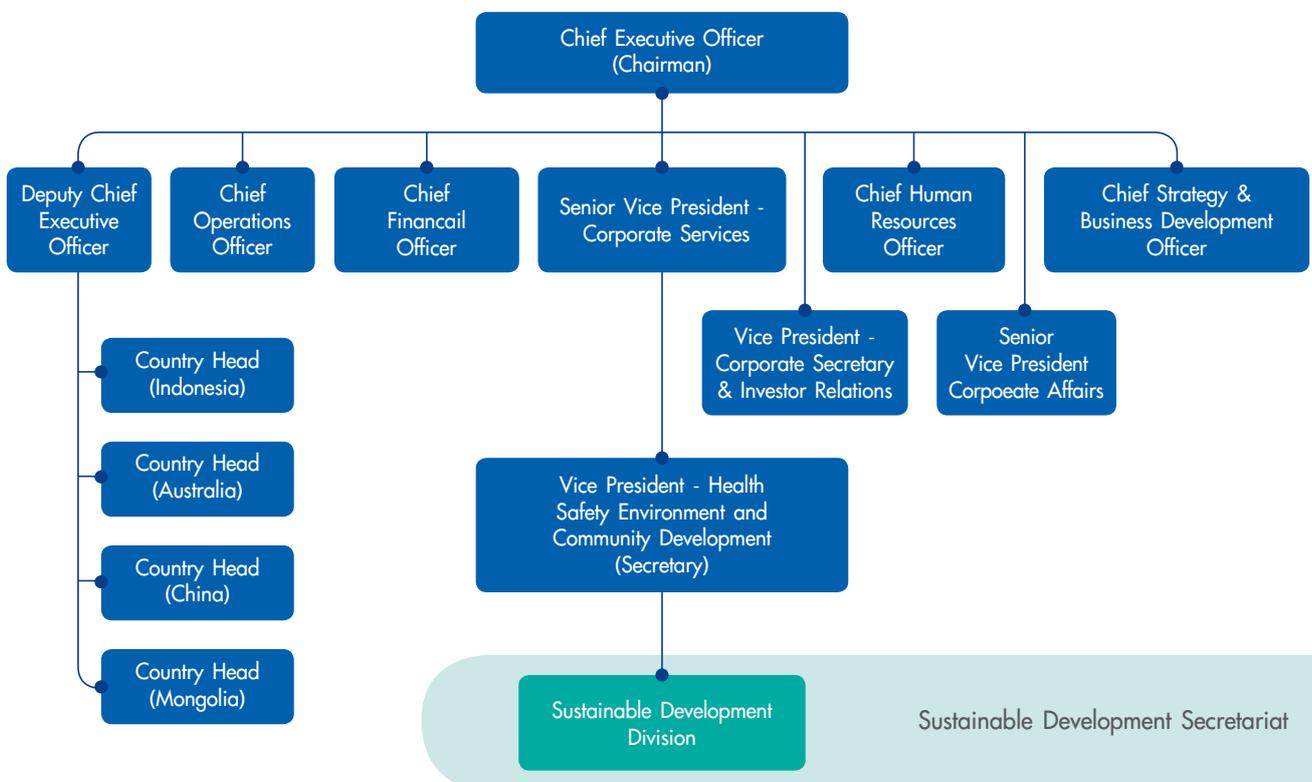
Operational Integration

Banpu's Sustainability Governance is implemented under the supervision of the Sustainable Development Committee, which consists of the Chief Executive Officer as Chairman, senior executives and heads of business units in every countries where the Company operates. Roles and duties of the Sustainable Development Committee includes:

- To monitor and evaluate sustainability performance in the past year.
- To determine and review policies or management standards to enhance competitiveness and to ensure that the Company's business growth is in harmony with social and environmental responsibilities.

In order to ensure the effectiveness of sustainability governance, the Sustainable Development Committee meetings are held twice a year. In defining the policy and management standards, the Company has applied the national and international principles, for example, UN Global Compact (UNGC), UN Sustainable Development Goals (SDGs), and UN Guiding Principles on Business & Human Rights to ensure that its sustainable development is aligned with the international standards and well acknowledged by all stakeholders.

Sustainable Development Committee





Evaluation of Sustainability Performance

To review and evaluate the progress of sustainability governance as well as to achieve the Company's sustainability governance goal, the Company annually establishes sustainability Key Performance Indicators (KPIs) including single year and long-term targets. The sustainability KPIs and those targets are the criteria for determining compensation for the management executives in all business units.



Performance Appraisal and Compensation of Chief Executive Officer

The Compensation Committee is responsible for the performance and compensation evaluation of the Chief Executive Officer. The evaluation of compensation will base on the Company's performance, the Chief Executive Officer's performance, and the executive compensation survey in similar businesses. Noting that, the Chief Executive Officer's KPIs were jointly set up by the Board of Directors and the Chief Executive Officer, covering achievement in business goals together with social and environmental objectives. Finally, the Compensation Committee's proposal will be submitted to the Board of Directors for further approval.



Performance Appraisal and Compensation of Senior Executives

To design the company salary structure, the Company employs job evaluation and information from industry salary survey. Then the Company considers salary adjustment based on individual performance, behavioral assessment, single year and long-term targets covering economy, social and environment. These targets are aligned with the corporate sustainability Key Performance Indicators and the Chief Executive Officer's KPIs.



Sustainability Recognition

The Company has been selected as a member of Dow Jones Sustainability Indices (DJSI) for the fourth consecutive year.



The Company remains the Gold Class 2018 in the Coal & Consumable Fuels sector the Robeco Sustainable Asset Management (RobecoSAM) Sustainability Award.



The Company remains the Industry Mover 2018 in Coal & Consumable Fuels sectors on Robeco Sustainable Asset Management (RobecoSAM) Sustainability Award.



The Company was listed as one of the companies in Thailand Sustainability Investment list by the Stock Exchange of Thailand (SET) for third consecutive year.



The Company was awarded the Sustainability Awards of Honor from the Stock Exchange of Thailand (SET).



Stakeholder Engagement

The Company emphasizes on stakeholder engagement in order to realize and response to the opinions and expectations of all stakeholders. Therefore, the Company has developed a Management Framework: Stakeholder Analysis as a framework to identify all stakeholder's issues and integrate those issues into the organization's strategies. The framework was developed based on AA1000 Stakeholder Engagement Standard (AA1000SES) consisting of 3 principles namely inclusivity, materiality and responsiveness.

1

Inclusivity

Through the stakeholder engagement

2

Materiality

Considering the issues that are significant to the Company and impacts on the stakeholders

3

Responsiveness

Systematic management practice and transparent on performance disclosure

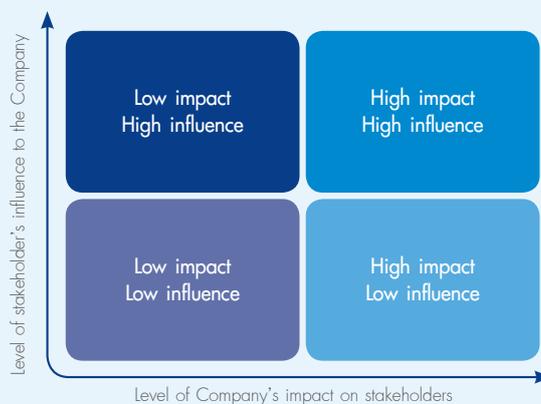
Stakeholder Analysis

1. Identify Stakeholders: by considering various factors, for example, dependency, responsibility, influence, and other factors as appropriate.

2. Define levels of Company's impact on Stakeholders: by considering economic, social, and environmental issues.

3. Define levels of Stakeholders' influences to the Company: by considering the influence of finance, operation, regulation, reputation, and operational strategies.

4. Categorize Stakeholders: by categorizing the stakeholders into four groups based on the level of impacts and influences.



5. Prioritize Stakeholders: base on the appropriate engagement methods for each stakeholder.



Each business unit is responsible to identify and analyze stakeholders related to its operations. Results are collected and considered at corporate level under the supervision of sustainable development committee. All stakeholder's concerned issues in previous year are as follows.

Stakeholders	Example of Engagement Methods	Stakeholder's Expectations	Banpu's Material Topics
Government	<ul style="list-style-type: none"> - Occasional visits - Support to governmental initiatives and activities - Response to requests for information disclosure or report - Publication of annual report and sustainability report 	- Value creation for economic and social	- Sustainability Governance
		- Business Ethics - Business Transparency and disclosure	- Business Ethics
		- Compliance with laws and regulations	- Compliance
		- Maximization of natural resources	- Process Improvement
		- Supply chain management	- Supplier Management - Contractor Management - Customer Management
		- Social and environmental impact management	- GHG Emissions - Mine Rehabilitation - Mine Closure - Air Quality, Water and Waste - Community Engagement
Employee	<ul style="list-style-type: none"> - Communication between human resources department and employees - Develop a communication channel - Employee involvement in committees - "Banpu spirit" behavioral surveys - Employee engagement survey - Town hall meeting 	- Direction of the organization	- Challenges and Opportunities
		- Business ethics and responsible business practices	- Business Ethics
		- Happiness in workplace - Reasonable wages and benefits - Opportunities for career advancement and development - Knowledge development	- Employee Engagement - Competency Development - Succession Planning - Leadership Development
		- Safe and healthy work environment	- Safety
		- Quality and price of products - On-time product delivery	- Product Stewardship
Customer	<ul style="list-style-type: none"> - Customer satisfaction surveys - Develop a communication channel - Occasional visits - Response the requests for disclosure and report 	- Impacts of products and production processes towards social and environment	- GHG Emissions
		- Fair and Transparent procurement process - Job opportunities	- Business Ethics - Supplier Management
Supplier	- Regular meeting with supplier	- Fair and Transparent procurement process - Job opportunities	- Business Ethics - Supplier Management



Stakeholders	Example of Engagement Methods	Stakeholder's Expectations	Banpu's Material Topics
Contractor	<ul style="list-style-type: none"> - Regular meeting with contractors - Executive mine contactor meeting 	- Safety in workplace	- Safety
		- Energy consumption	- Energy
		- Job opportunities	- Contractor Management
Community	<ul style="list-style-type: none"> - Communication satisfaction survey - Develop a communication channel - Establish Community Consultative Committees (CCC) 	- Social and environment impact management	- Air Quality, Water, and Waste - Community Engagement
		- Safety in life and residence - Respecting human rights	- Community Engagement
		- Community well-being	- Community Development
Media	<ul style="list-style-type: none"> - Response the requests for information disclosure or reports - Publication of annual report and sustainability report 	- Value creation for economic and social	- Sustainability Governance
		- Business ethics - Business transparency	- Business Ethics
		- Compliance with laws and regulations	- Compliance
Civil Society	<ul style="list-style-type: none"> - Response the requests for information disclosure or reports - Publication of annual report and sustainability report 	- Value creation for economic and social	- Sustainability Governance
		- Optimization of natural resources	- Process Improvement
		- Social and environmental impact management	- GHG Emissions - Air Quality, Water, and Waste - Community Engagement
Investor Shareholder Creditor and Business Partner	<ul style="list-style-type: none"> - Annual General Meeting of Shareholders - Board meetings at subsidiary and associated companies - Opportunity Investment Road Shows - Develop a communication channel - Analyst Meeting - Presentation on Opportunity Day organized by Stock Exchange of Thailand 	- Professional Board of Directors and Management	- Corporate Governance
		- Value creation for society and environment	- Sustainability Governance
		- Transparency	- Business Ethics
		- Risk management	- Risk Management
		- Innovation and operational excellence	- Innovation
		- Reputation	- Awards & Recognition
		- Economic growth and economics performance	- Performance Data



Materiality Assessment

The Company has adopted Global Reporting Initiative (GRI) and AA1000 AccountAbility Principle Standard (AA1000APS) as reference guidelines for developing the Corporate Sustainability Management Framework: Materiality Assessment. The framework covers materiality assessment of topics which have significant economic, environmental, and social impacts on the Company and all stakeholders. The results from materiality assessment are annually reviewed and approved by the Sustainable Development Committee.

Process of Materiality Assessment

1. Identify Sustainability Topics

Topics of the stakeholders' concerns or expectations are analyzed together with the Master List of general topics, which has been derived from a review of relevant laws, material topics in related industries, topics identified by international sustainability standards or assessment, and topics of global concern.

2. Identify Impact to Organization

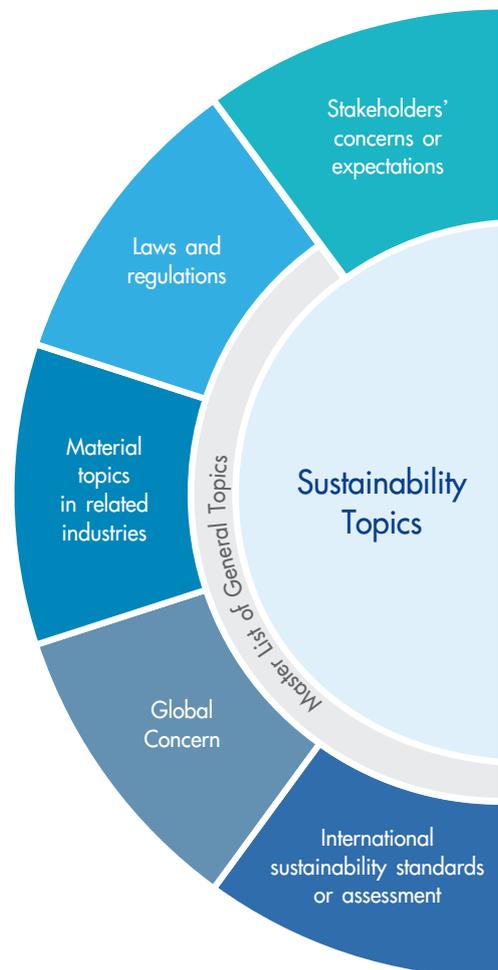
For each sustainability topic, degree of impacts to organization in terms of finance, operation, strategy, reputation, and regulation are identified by considering magnitude and likelihood.

3. Identify Impact to Stakeholders

For each sustainability topic, degree of impact to stakeholders are identified together with levels of influence of stakeholders on the Company.

4. Prioritize Topics

The topics are prioritized according to their impacts to the Company and to stakeholders into 3 categories, namely material topics, concerned topics and immaterial topics.



To improve the quality of materiality assessment, in 2017 the Company identified material topics according to the new Corporate Sustainability Management Framework, based on result from the internal panel discussions in 2016. The 14 issues in 2016 were divided into 39 topics, then after the assessment resulted in 10 material topics without significant differences from the 9 issues in the 2016 report.

The content of this report covers all 39 prioritized topics. The Company discloses its management approach, relevant indicators and performance with a linkage with GRI Standards for all material topics.



Materiality Matrix



Economy	Environment	Society
<ul style="list-style-type: none"> 1 Business Ethics 2 Compliance 3 Risk Management 4 Business Continuity Management 5 Process Improvement 6 Innovation 7 Supplier Management 8 Contractor Management 9 Customer Management 10 Product Stewardship 11 Community Development 	<ul style="list-style-type: none"> 1 GHG Emissions 2 Energy 3 Biodiversity 4 Mine Subsidence 5 Mine Rehabilitation 6 Mine Closure 7 Sulfur Dioxide 8 Oxide of Nitrogen 9 Particulate Matter 10 Water 11 Effluents 12 Non-Hazardous Waste 13 Hazardous Waste 14 Ash 15 Tailings 16 Overburden 17 Acid Mine Drainage Management 18 Spill 19 Environmental Compliance 	<ul style="list-style-type: none"> 1 Employee Engagement 2 Corporate Culture 3 Competency Development 4 Succession Planning 5 Leadership Development 6 Safety 7 Occupational Health 8 Community Engagement 9 Indigenous People's Engagement



Materiality Topics and Impact Boundary

Issue (Y2016)	Topic (Y2017)	Impact Boundary									Indicator	Linkage with GRI Standards	Page
		Internal			External								
		Barpu	Subsidiary	Business partner	Community	Contractor	Creditor	Customer	Government/Regulatory Body	Investor/Shareholder			
Business Ethics	1 Business Ethics	✓	✓	✓			✓	✓	✓	✓	<ul style="list-style-type: none"> Proportion of significant CG complaints that are resolved 	-	34
	2 Compliance	✓	✓					✓			<ul style="list-style-type: none"> Coverage ratio of the internal control and compliance system 	-	39
Supply Chain Management	8 Contractor Management	✓	✓			✓		✓			<ul style="list-style-type: none"> Number of work-related fatalities for contractors Total Recordable Injury Frequency Rate (TRIFR) for contractors 	[403-2] [308-1] [414-1]	56
Community Development	11 Community Development	✓	✓		✓						<ul style="list-style-type: none"> Proportion of mines being surveyed on stakeholder's satisfaction in CD projects 	[201-1] [413-1]	64
Climate Change	1 GHG Emissions	✓	✓					✓	✓		<ul style="list-style-type: none"> GHG emissions intensity 	[305-1] [305-2] [305-4]	72
	2 Energy	✓	✓			✓					<ul style="list-style-type: none"> Energy consumption intensity 	[302-1] [302-3]	78
Employee Management	1 Employee Management	✓	✓								<ul style="list-style-type: none"> Level of employee engagement 	[404-2]	112
Human Capital Development	5 Leadership Development	✓	✓								<ul style="list-style-type: none"> Ratio of employees trained according to the leadership development programs Ratio of trainees that are able to apply knowledge 	[404-2]	123
Occupational Health and Safety	6 Safety	✓	✓			✓					<ul style="list-style-type: none"> Number of fatalities Total Recordable Injury Frequency Rate (TRIFR) 	[403-2]	126
Community Engagement	8 Community Engagement	✓	✓		✓			✓			<ul style="list-style-type: none"> Proportion of significant community complaints that are handled 	[413-1] [MM6]	134



Banpu and Sustainable Development Goals

The company has placed great importance to be a part in driving the United Nations Sustainable Development Goals (SDGs) framework by setting the short-term goal: (2016-2020) and the long term goal (2016-2030) to be in line with 5 SDGs.

Integrating SDGs into Company's operation



Goal 13

Indicator 13.2

Topic: GHG Emissions

Target (2016-2020):

- Reduce greenhouse gas emissions by 25% for coal business and 15% for power business



Goal 7

Indicator 7.2 and 7.a

Topic: GHG Emissions

Targets (2016-2025):

- Expand investment in renewable power plants with more than 20 percent proportion in portfolio
- Invest in solar power generation system with total capacity over 300 MW
- Invest in the up-stream business



Goal 15

Indicator 15.1 15.2 and 15.5

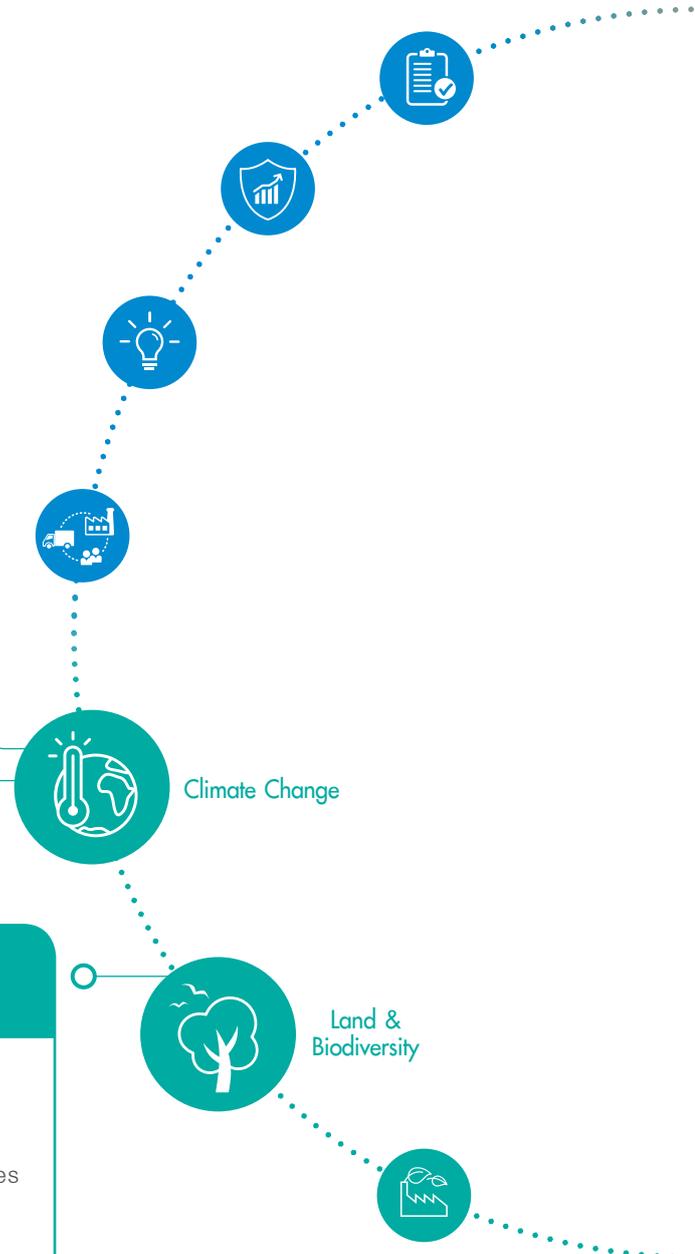
Topic: Biodiversity

Targets (2016-2019):

- Assess biodiversity risk at all business unit
- Support and collaborate in biodiversity studies

Targets (2016-2030):

- Achieve a net positive impact on biodiversity



Climate Change

Land & Biodiversity



Local Communities



Water



Goal 17

Topic: **Community Development**

Targets (2016-2020):

- Build awareness and understanding of the SDGs for employees and communities
- Integrate the SDGs into community development projects in six areas comprising of:
 1. Economic development and revenue generation
 2. Education development
 3. Basic Infrastructure development
 4. Health and Sanitation Development
 5. Environmental conservation
 6. Social, culture and community relations promotion



Goal 6 Indicator 6.3 and 6.4

Topic: **Water Management**

Targets (2016-2019):

- Develop a baseline for water utilization and water quality at all current operations
- Develop corporate and site-specific water utilization targets
- Review water related risks at all business units
- Engage with local community, academics and relevant stakeholders to study and improve the Company's water efficiency management

Targets (2016-2030):

- Reduce the pollution load in the effluent
- Reduce water utilization at each operation unit
- Reduce Water Footprint throughout the supply chain
- Contribute to conserve and manage water resources in operational areas



Economy



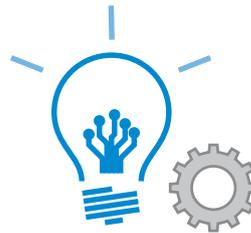
Zero Significant CG Complaints



Every Project conducted Risk Assessment



Value Creation
114
USD million
from Innovation



Zero Product Complaints related to Safety and Environmental Issues





Revenues
2,877
USD million



Business Ethics

<p>Indicator</p> <p>Proportion of significant CG complaints that are resolved</p>	<p>Strategy</p> <p>Apply international criteria and domestic regulations to corporate ethics management</p> <p>Cultivate the culture of business ethics by integrating into corporate value and a key performance indicator</p>
<p>Annual Target</p>  <p>All significant CG complaints being solved</p>	<p>Performance</p>  <p>No CG complaint in 2017</p>

Significance and Reporting Boundary

Business ethics is a material issue interested by all stakeholders. Business operation without ethics and only focusing on profit maximization would have direct and widespread impacts on stakeholders in terms of economy, social and environment, for example, any actions against corporate governance or tax avoidance. In order to maintain business ethics to reduce risks and to increase competitiveness from cultivation of trust among investors, the Company announced the Corporate Governance Policy and the Code of Conduct and also develop a channel for corporate governance complaints. The information disclosed in this report cover all business entities in which the Company holds greater than 50% of shares and has management control.

Management Approach

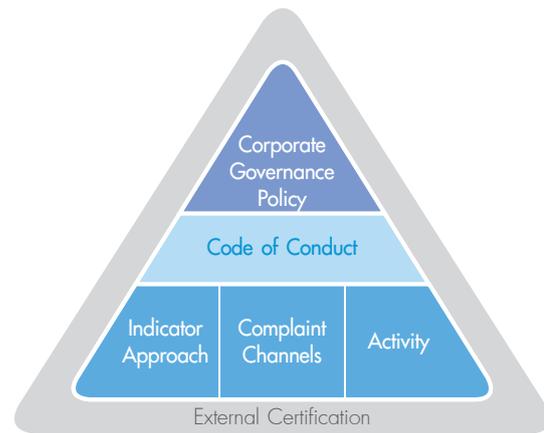
The Company announced a commitment to conduct its business with ethics and integrity, including all types of anti-corruptions by applying international and domestic business practice standards and criteria as follows:

- CG ASEAN Scored Card of ASEAN Capital Market Forum
- The principles of corporate governance by the Organization for Economic Co-operation and Development (OECD)
- The Securities and Exchange Act
- Policy Statement on Code of Best Practices of Directors of Listed Companies
- The Principle of good corporate governance by the Stock Exchange of Thailand (SET) and the Securities and Exchange Commission (SEC)



In practice, the Company announced the Corporate Governance Policy and Code of the Conduct in Thai, English, Indonesian and Chinese languages to ensure that employees in all areas where the Company operates understand and adhere to the same standards. For maximum efficiency, the Company also issued additional policies and guidelines for business ethics as follows:

- Corporate Compliance Policy
- Human Rights Policy
- Human Resources Policy
- Corporate Social Responsibilities Policy
- Whistleblower Policy
- Anti-corruption Policy
- Tax Management Approach
- Market Sensitive Information Policy
- No Gift Policy



All employees need to perform their duties in accordance with the Corporate Governance Policy and the Code of Conduct while the Board of Directors and senior executive will act as a role models in adhering to good conduct. To implement sustainability on good corporate governance throughout the organization, the Company cultivates its corporate culture by conducting on ethics and set KPIs for all executives and employees by organizing a variety of activities to educate them about business ethics and anti-corruption as follows:

- Good Governance training for new staffs
- Corporate Governance and code of conduct Refreshment Session for employees
- The Annual CG Day to promote the understanding of business ethics among employees
- Articles on trends and directions of Corporate Governance in Thailand and other ASEAN countries in internal newsletters distributed in countries where Banpu has investments

- Communicating knowledge and interesting issues via electronic mails to the Board members, executives and all employees regularly

In addition, to build stakeholder confidence on the Company's compliance with the principles of business ethics and anti-corruption, the Company applies for the annual assessment by the Corporate Governance Report of Thai Listed Companies (CGR) project. In 2017, the Company received "Excellent" assessment results. Apart from that, the Company was certified by the Thai Institute of Directors (IOD) on 10 July 2015 as a member of Thailand's Private Sector Collective Action Coalition Against Corruption's (CAC).



Performance

In 2017, Banpu announced the Market Sensitive Information Policy and management approach of confidential information which potentially affects to the stock exchange. It is the duty of directors, executives, employees, consultants and subsidiary companies to understand and comply with the policy and practices as follows:

1. Set up an internal system to prevent the leak of confidential information.
2. Cultivate as a corporate culture through communication in order to raise awareness of relevant persons on their responsibility to keep it confidential.
3. Limit the number of persons who have authorize to access the confidential information on a need-to-know basis. Set up an information access control system to contract parties and other service providers.
4. Extremely care in receiving and sending information to and from third parties, being aware of one's responsibility in using and controlling confidential information.
5. Set up an appropriate information technology and control system.

In the past year, the Company received no CG complaint from any stakeholders. The summary of CG complaints is submitted to the Corporate Governance and Nomination Committee quarterly and reported to the Board of Directors annually.

No Gift Policy

No Gift Policy is the declaration of the Company's intention to refrain from receiving gifts, entertainments or other benefits in performing business aligning with the principle of Corporate Governance, business ethics, transparency and to avoid discrimination or any activities that would cause the conflict of interests.

To ensure that executives and employees conducting business adhering to international standard, in 2017, the Company announced "Guidelines of Giving and Receiving Gifts, Entertainments and Other Benefits regarding to Anti-Corruption Policy Handbook". Executives and all employees are requested for corporation to refrain from receiving gifts from external parties. In cases of the received gifts, employees shall return or register that gifts in data system. The gifts would be later transferred to Secretariat for donation.



Declaration of Anti-Corruption Policy

To conduct concrete anti-corruption actions in accordance with the Company's intention as member of the Private Sector Collective Action against Corruption (CAC), Banpu strictly complies with legal practices and good corporate governance policy. Additionally, the Company has also developed the preventive measures of possible risks on corruptions occurred either intentionally or unintentionally or even by lack of understandings about such practices. In addition to the anti-corruption contents in the Good Corporate Governance policy and the Code of Conduct, Banpu issued the specific Anti-corruption policy in 2015 approved by the Audit Committee and its Board of Directors. After the Anti-corruption policy was announced, it has been implemented covering all business entities in which the Company holds greater than 50% of shares and has management control.

The Company has a clear business policy, based on integrity, transparency, fairness, value maximization for involved and not involved parties, in any activities that may cause conflict of interest. The Company, therefore, take it as a very important policy allowing committee, executives and employees not to exploit information or opportunities obtained from being in such positions for their personal interest, conduct business as a competitor of the Company or disclose inside information for their own or others' personal interest in buy/sell the Company's stocks.

In case that executives or employees of the Company participate in any special projects related to strictly confidential information and/or under negotiation process, especially internal information not yet disclosed to the public or any data or information that may affect the business of the Company or its share price, they must sign the Confidentially Agreement until such information is released to the Stock Exchange of Thailand and the Securities and Exchange.

Conflict of Interests

Giving and Receiving Bribes

According to the Company's Code of Conduct on giving and receiving bribes, executives and staff are strictly prohibited from offering and receiving any benefit to or from business partners, contractors, product handlers, consultants and any parties doing business with the Company. Moreover, executives and staff are also strictly prohibited from offering any interest to government officers, customers, labor unions or any other external parties in any attempt of persuasions to commit fraudulent actions. Related to the issues of donating fund to support political activities, the Company will take into account that such donation would comply with laws and ethical principles as well as regulations.

In the previous year, the Company announced the Tax Management Approach with an aim to reinforce its commitment to be a "good corporate citizen" in every countries where it has business operations. The Company has adhered to work transparently and in compliance with the laws, with regards to right taxation and continuous disclosure of tax information. However, to maximize the efficiency of tax administration according to laws and regulations, the Company regularly conducts tax risk assessment.

Transparency of Tax Payment



Complaint Handling Process

In 2015, the Company announced and implemented the “Whistleblower Policy” in order to establish a platform for any stakeholders to file complaints related to any wrong-doing of the company against the laws, rules and regulations, corporate governance policy and code of conduct. The company will treat such complaints in a confidential and sensitive manner as well as protect the whistleblowers.



Complaint Channels

1. Letter to Corporate Governance and Compliance Division
Banpu Public Company Limited
27th Floor, Thanapoom Tower,
1550 New Petchburi Road,
Makkasan, Ratchathewi, Bangkok 10400
2. Company website: <http://www.banpu.co.th/complaint/>
3. Company web portal:
<http://portal.banpu.co.th>: Corporate Governance Receiving Complaint
4. E-mail to Corporate Governance and Compliance Division: at Secretariat@banpu.co.th

The complaints will be brought into the corporate fraud management process by the Investigation Committee. Complaints received are investigated in accordance with the guidelines of the Corporate Fraud Management Handbook. The investigation result with recommendations will be presented to the Chief Executive Officer for making decision and guiding appropriate actions. Such complaints will also be reported to the Corporate Governance and Nomination committee every quarter and will later be summarized to the Board of Directors.

CG Day 2017 Activity

CG Day is the activity organized to endorse its business standpoint and cultivate business ethics to employees at all levels. The previous CG Day was organized on 16 October 2017 under the theme of “CG



Raise Your Voice” aiming to promote a two-way communication and encourage employees to file complaints via the channels provided by the Whistleblowing system, which has been improved to allow the submission of anonymous complaints.



Compliance

Indicator



Coverage ratio of the **internal control** and **compliance** system implemented in Banpu Operations

Strategy



Internal audit and **compliance** are monitored regularly by internal audit unit and compliance unit which are independent and directly reporting to compliance committee

Annual Target

Internal control and **compliance** system covering all business entities in which the Company holds greater than 50% of shares and has management control

Performance

Internal audit and **compliance** system cover all business entities in which the Company holds greater than 50% of shares and has management control

Significance and Scope of the Report

Banpu's business operations are related with laws and regulations, such as mineral law, environmental law, safety law, labor law, trade and investment laws, rules and regulations of the stock exchange as well as other permits. Strict compliance with laws and regulations by all business units is the Company's top priority in order to prevent severe impacts on the operations and to earn stakeholder's trust that social and environmental responsibility is observed in all countries where the operations are based. Legal and regulatory compliance reported here cover all business entities in which the Company holds greater than 50% of shares and has management control.

Management Approach

In order to control the business's operation compliance with laws and regulations in the countries where it operates as well as routine operational audit, the Company was divided the operation into 3 parts as follows:

- Corporate Compliance
- Internal Audit
- Operational Audit by the International Certified Body

To ensure that our operations comply with both external laws and regulations and internal policies and code of conduct, the Company has established Global Internal Audit & Compliance with 2 dimensions. The assessment of compliance with external laws and regulations under the supervision of Corporate Compliance Unit and the assessment of compliance with internal policies, rules and regulations and code of conduct under the supervision of the Global Internal Audit Unit.



Corporate Compliance

Corporate Compliance Unit was established with an objective to guarantee that the operations of all business units are in compliance with relevant external laws and regulations through the specialized monitoring and reporting system based on ISO 19600 standard (Compliance Management Systems - Guidelines).

Internal Audit

In order to ensure compliance with internal policies, laws, regulations and operation guideline, the Company endeavors to regularly conduct an operational and internal control system audits based on the Committee of Sponsoring Organizations of the Treadway Commission's (COSO) framework which consists of 5 areas Internal control, Risk assessment, Operational control, Information and communication technology system, and Monitoring systems.

The Company has set up an independent Internal Audit unit reporting directly to Senior Vice-President of Global Internal Audit and Compliance and the Audit Committee by target to evaluate the adequacy and effectiveness of internal control system and activities implemented in the organization.

Operational Audit by the International Certified Body

The Company has continuously incorporated international standards into its management in order to improve the operations and to win stakeholders' trust. Business units in each countries were certified with international standards, consist of Quality Management System (ISO 9001), Environmental Management system (ISO 14001), Occupational Health and Safety Management System (OHSAS 18001) and Business Continuity Management System (ISO 22301).

Country	Site	International Standard			
		ISO 9001	ISO 14001	OHSAS 18001	ISO 22301
Indonesia	Indominco Mine	✓	✓	✓	
	Jorong Mine	✓			
	Trubaindo Mine	✓	✓	✓	
	Bharinto Mine	✓	✓	✓	
China	Zouping Power Plant	✓	✓	✓	
	Zhengding Power Plant	✓	✓	✓	
	Luannan Power Plant	✓	✓	✓	
Thailand	Bangkok Office				✓



Performance

At year-end 2017, the internal control system and supervision of compliance covered all business entities in which the Company holds greater than 50% of shares and has management control, namely the Bangkok office, the trading office in Singapore, coal business in Indonesia, Australia and Mongolia, and power business in China and Japan.

Other businesses of which the Company directly or indirectly owns less than 50% of shares and has no direct management include coal business in China, the BLCP Power Plant in Thailand, the Hongsa Power Plant in Lao PDR and natural gas business in the U.S. For these units, the Company oversees their legal and regulatory compliance through their Board of Directors.

Inspection by the Governmental Agencies in China

Beside random inspection on the operations of the Company's power plants in China, the Chinese government issued the environmental law which enforces the coal-fired power plant to install Continuous Emission Monitoring System (CEMS) to monitor ambient air quality and to report the real time monitoring results to government agencies. At present, Banpu's coal-fired power plants have successfully installed the system and already reported the results to related government agencies. In 2017, the air quality of every power plant in China met relevant standards.

Inspection by the Governmental Agencies in Indonesia

According to Indonesian laws, mining operations at every locations are required to be inspected by the government agencies on a monthly basis. Scope of the inspection includes occupational health, safety, and environment. The audit results in 2017 revealed that all five mines have operated in compliance with Indonesian laws and regulations.



Risk Management

Indicator



Coverage Ratio of
risk management system

Proportion of business units
having risk **indicators**

Strategy

Integration of risk management into the KPIs of executives

Integration of risk indicators into the internal risk management

Improve risk management system to meet international standard

Annual Target

Risk Management System
covers all business entities over which the Company has management control

Every business unit develop its
risk indicators

Performance



Risk Management System
covered all business entities which the Company has management control

Every **business unit develops risk indicators** and report to risk management committee quarterly

Significance and Reporting Boundary

Energy business is relevant both directly and indirectly to social and environment. The Company hence emphasizes on operating in full compliance with applicable laws and regulations including the stakeholders' expectations. Effective risk management is a key mechanism that the Company uses to gain business opportunities and to reduce potential impacts. The disclosed information about risk management and performance in this report cover all business entities in which the Company holds greater than 50% of shares and has management control, namely the head office in Bangkok, coal business in Indonesia & Australia as well as a sales office in Singapore and power businesses in China.

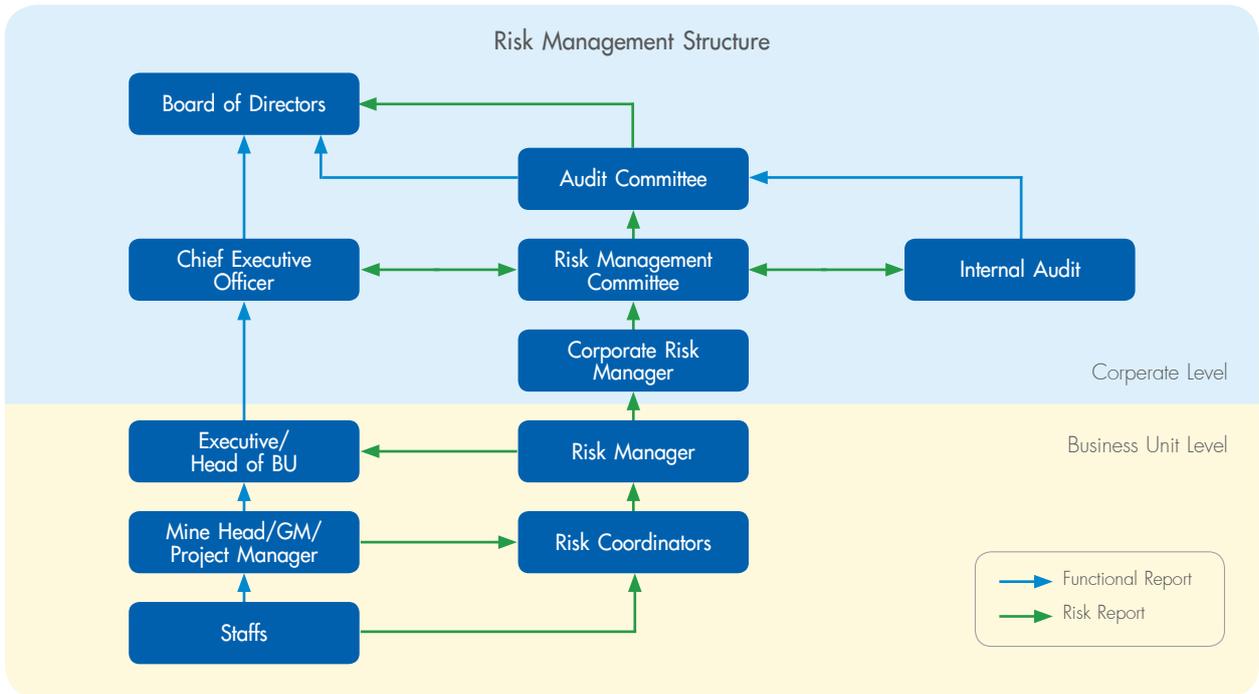
Management Approach

The Company's risk management is under the supervision of the Audit Committee. In order to ensure effective risk management, the Company has set the Risk Management Committee (RMC) chaired by Chief Executive Officer, who is also a Board member. Moreover, it has developed the Risk Management Committee Charter, which stipulates three main duties of the committee as follows:

1. Monitor risks and risk management according to the mitigation plan
2. Monitor risk management performance according to the mitigation plan
3. Ensure that the implemented risk management framework and process are sustain and continuously improved according to the relevant situation



To implement risk management, the Company declared Banpu's Risk Management Policy & Manual which is updated regularly. The recently update was done in February 2017. The Risk Management Committee convenes quarterly to monitor risks and risk management performance according to the risk mitigation plan and reports the reviews of the Risk Management system to the Audit Committee and the Board of Directors on a quarterly basis.



For the highest efficiency of risk management, the Company has integrated risk management process into its operation strategies by emphasizing on value based management for the Company and stakeholders and analyze risk covering in both positive and negative aspects based on Risk Correlation. Moreover, there are meetings of other committees relevant to risk management, for instance, Financial Management Committee's monthly meetings to monitor financial risks and Commodity Risk Management Committee's monthly meeting to monitor coal and oil price risks.





Performance

Currently, the Risk Management System covers all business entities in which the Company holds greater than 50% of shares and has management control as well as its joint ventures. Each business unit develops Key Risk Indicators (KRIs) and reports to Risk Management Committee quarterly as targets. Moreover, the Company aims to improve those management continually. In 2017, the external expertise benchmarked the Risk Management System against international standard and the gap was set as a risk management developing plan in 2018-2020.

Risk Categories	Example of Risks
1. Strategic Risk	<ul style="list-style-type: none"> • Risk in strategic planning and implementation • Risk in Human Resource (HR) management and development to facilitate future growth • Corporate reputation risk • Risk from the inability to increase coal reserve for commercial purpose • Risk from investing in new business
2. Financial Risk	<ul style="list-style-type: none"> • Exchange rate risk • Taxation risk • Risk from volatility in coal and gas prices
3. Operational Risk	<ul style="list-style-type: none"> • Risks in coal business • Risk in power business • Risk in Shale Gas business • Occupational, health and environmental risks • Risk from social and community impact
4. Compliance Risk	<ul style="list-style-type: none"> • Risks from regulatory and policy change in the countries where the Company has invested • Risk from the Hongsa Power Project court case
5. Emerging Risk	<ul style="list-style-type: none"> • Risks from disruptive technology • Risks from climate change
6. Other Risks	<ul style="list-style-type: none"> • Human Rights Risk

Communication of Risk Management System

The Company acknowledges employees in risk management system regularly by several methods namely, risk management system training for new staff, training via an e-learning system, communication through the e-mail, communication via press releases and internal newsletter. Risk management is an issue that each business unit needs to consider during annual planning. In 2017, the enterprise management was a topic in the annual organization's meeting to ensure that the report and risk control system are operated under the same standard.





Emerging Risks

According to the Company's risk assessment, two major emerging risks were found, namely disruptive technology risk and climate change risk.

Risk from Disruptive Technology

Emerging energy technology trends have driven changes in consumer behavior and relevant laws and regulations. In the third quarter of 2017, the Company launched its a renewable business through Banpu Infinergy Co., Ltd., its new subsidiary, aiming to become a comprehensive and professional service provider in solar power generation system installation, ranging from providing consultation, system design, installation, inspection and maintenance service for industrial and large businesses.

Risk from Climate Change

Climate change is a risk that directly affects the Company as both roles of power producer and power consumer. The Company emphasizes on climate change risk management by implementing 2 approaches:

1. Reduction of GHG emissions per production unit both in coal and power businesses
2. Developing an investment plan and seeking opportunities in alternative energy to achieve the 20% share of the total energy production from renewable energy by 2025

Furthermore, the climate change also affects to the Company's operation resulting from rising sea level and rain quantity as well as drought and water scarcity in some areas. However, so far none of the Company's business units has experienced significant water scarcity.

Human Rights Risks

Banpu recognizes that all human being equal in dignity, liberty and rights. The Company declared Human Rights Policy and strictly adheres to such international standards as the Universal Declaration of Human Rights (UDHR) and the United Nations Guiding Principles on Business and Human Rights (UNGPs). The Company shall not violate or encourage any infringements of human rights. Currently, it is during the process of Human Rights Impacts Assessment and long-term planning to ensure that all its operations throughout the supply chain do not violate human rights. Additionally, it is conducting human rights due diligence to identify (a) human rights issues that may arise and (b) stakeholders who might suffer from the impacts throughout the supply chain.

Other Risks



Business Continuity Management

Indicator



Proportion of **annual BCP drill** at country and site levels in **all countries**

Strategy

Regular **BCP drill** at the country and site levels
Installation and **improvement of the BCM** of all business units to align with the corporate standard and the ISO 22301:2012

2017 Target

The head office in Thailand **conducts a BCP drill** at a **corporate level**

The head office in Thailand **was recertified** for **ISO 22301:2012**

Long-term Target

The offices in Indonesia, China and Australia conduct their first BCP drill at the country level in all countries by 2022

The offices in Indonesia, China and Australia conduct their BCP drill at the country level every year in all countries from 2022 onwards

The business units in Indonesia, China and Australia conduct their BCM drill at the site level every year by 2022 onwards

Performance



The head office in Thailand ran a **BCP drill** at **the corporate level**

The head office in Thailand **was certified for ISO 22301:2012** (2nd surveillance)

Significance and Reporting Boundary

Business continuity management is one of the Company's material issues owing to rapidly changing business environment, for example, natural catastrophes (e.g. floods, storms, and earthquakes) or man-made disasters (e.g. fires, protests and riots). It is one of the risks that can strike an organization and cripple business operations, and cause damage to the Company and involved stakeholders, for instance, the loss of ability to respond to customers' needs and impacts on the Company's financial status, reputation and credibility. The information about business continuity management disclosed in this report covers all business entities in which the Company holds greater than 50% of shares and has management control, namely, the head office in Thailand, coal businesses in Indonesia and Australia and the power business in China, excluding the coal business in Mongolia, which is in coal reserve exploration phase.

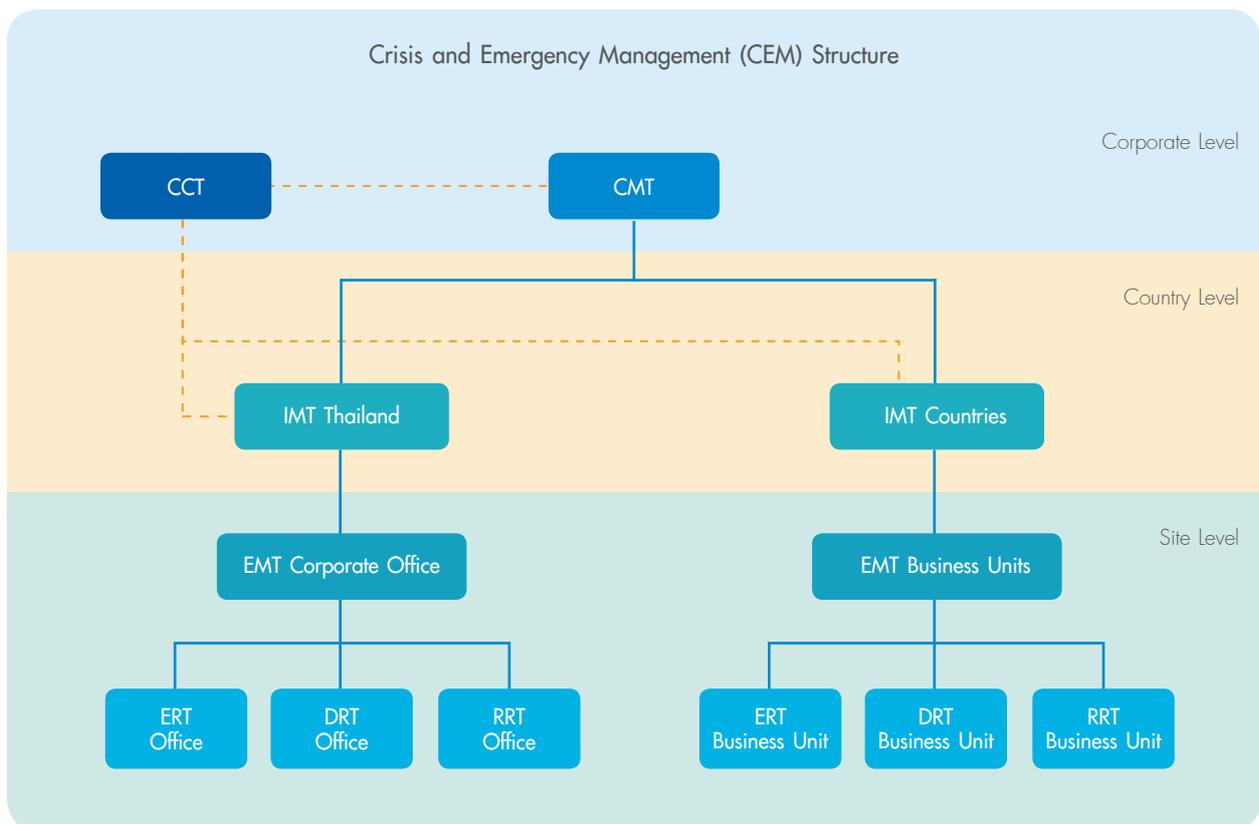


Management Approach

The Company has developed the business continuity management system since 2005, starting from announcement of the Business Continuity Policy, conducting business impact analysis and risk assessment, development of the business continuity plan, and regular business continuity plan (BCP) drills to ensure that the Company's BCM systems in all countries meet the same standards and follow the same direction. The Company has integrated the operating principle and requirements of the ISO 22301:2012 business continuity management standard into its business continuity management system.

The Company started using the ISO 22301:2012 business continuity management standard at the head office in Thailand in 2013 and acquired ISO 22301:2012 certification in 2015. The target was set to install and improve the BCM system of all business units according to the ISO 22301:2012 standard.

The Company annually conducts BCP drills for an incident response by dividing the plan into 3 levels: site, country and the corporate. The system efficiency is regularly improved via capacity assessment, the management review meeting, and internal audit.



Remark: Crisis Management Team: CMT
 Incident Management Team: IMT
 Emergency Management Team: EMT
 Crisis Communication Team: CCT

Emergency Response Team: ERT
 Disaster Recovery Team: DRT
 Relative Response Team: RRT



Performance

In 2017, the head office in Thailand conducted the BCP drill at the corporate level and was certified for the ISO 22301:2012 (2nd surveillance). In addition, the power business in China started applying the BCM system accordance with the corporate standard and ISO 2230:2012 and has a plan to conduct the BCP drill in the near future.

Business Continuity Plan (BCP) Drills

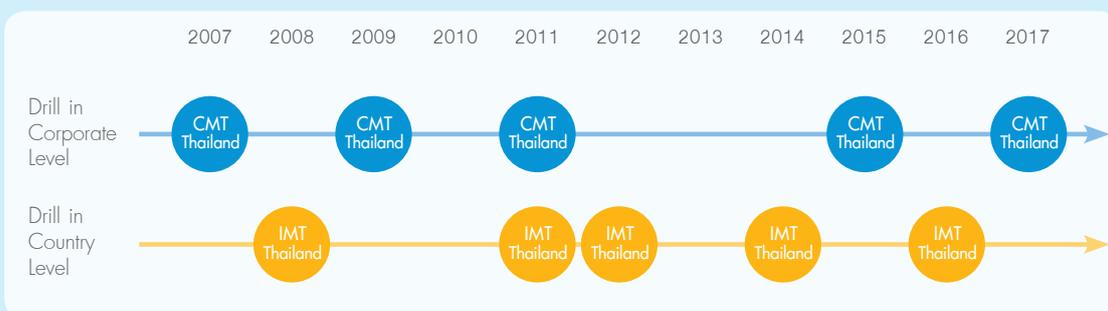
The Company conducts the incident response drills annually at three levels as follows:

- Site Level: Exercise for emergency situation which has an impact on site level
- Country Level: Exercise for incident situation which has an impact on country level
- Corporate Level: Exercise for crisis situation which has an impact on corporate level

The objectives are:

1. To enhance an organization's efficiency against business disruption
2. To minimize the impacts of the incident
3. To recover system to a pre-defined level of operation

At the head office in Thailand, the Company set the target to conduct a BCP drill alternately at the country and at the corporate level every two years since 2014, for example, conducting a BCP drill at the country level in 2016 and at the corporate level in 2017. The BCM drill at the site level at the head office in Thailand will be conducted annually.



In regards to the offices in Indonesia, China, and Australia, the Company aims to conduct annual BCP drills at the country level and the site level and aims to achieve the first BCP drill at the country level in all countries by 2022. The Company rotates the drill at the site level in each country by conducting a BCP drill at a subsidiary business unit of each country, for example, at the Trubaindo mine in 2019 and at the Indominco mine in 2020.



Rescue Competition in Indonesia

The rescue team from the Indominco mine joined the 2017 Indonesia Fire & Rescue Competition (IFRC) at the headquarters of the National Disaster Management Agency. The Indominco team was awarded the gold medal in the category of High Angle Rescue (HAR) and a silver medal in the category of Motor Vehicle Accident. These awards demonstrate the team's capability and readiness to respond to emergencies and incidents.



First Aid Competition in Australia



The rescue team from the Mandalong mine was awarded from the 2017 Annual Coal Service First Aid Competition by showing such exceptional first-aid skills that the committee believed employees will be well taken care of in case of an emergency.



Process Improvement

Indicator

Production efficiency per person of each business unit

Strategy

Production process management by **continuous improvement** with collaboration from employees at every level

Long-term Target

Continuous increase in production efficiency



Performance

Production efficiency per person increased



Significance and Reporting Boundary

The increase in production costs affected by external factors that are beyond the Company's control, such as fuel costs, is one of the Company's concerns. The Company believes that continuous improvement of process management system as well as application of innovations and state-of-the-art technologies in the production processes will lead to sustainable growth. The information about the process improvement disclosed in this report covers all business entities in which the Company holds greater than 50% of shares and has management control, i.e. coal business in Indonesia, coal business Australia, and power business in China.

Management Approach

The Company has improved production efficiency based on the principles of lean manufacturing together with Total Productive Maintenance (TPM). Employees at all levels cooperate in identifying problem including its root causes through a systematic process and continuous improvement in order to minimize production costs and losses in production process and machinery. The process begins with training for employees with the support from corporate to enable them to identify the problems that may arise during their working processes. There is also an annual seminar on operational excellence where employees can present their innovation projects to improve operational processes. The activities carried out to improve the production process in each country also vary according to the characteristics of each business, for example, open-pit mining in Indonesia or underground mining in Australia.



Performance

In Indonesia, our subsidiary, ITM annually organizes a workshop on operational excellence (OE) with the aim of creating an understanding of the OE principles and significance as well as demonstrate commitment of executives and all employees. During the training, the participants share their ideas and talk about the past records, framework, and achievement of OE.

In Australia, our subsidiary, Centennial has carried out a process improvement project named “Step Change Productivity” (SCP). In 2017, there were various aspects of progress, such as the improvement of real time monitoring, which resulted in a significant increase in production efficiency.

The Complete Cable Management System



The Myuna Mine has improved a cable management system, aiming at educating and raising employee awareness about the fact that cables are a critical equipment in the production process. Hence, not only can the cable premature damage increase the production costs but also cause hazards to employees. The improvement at the Myuna Mine has reduced the cable maintenance

costs from AUD 400,000 to AUD 170,000 due to a 63% decrease of damaged cables. In addition, the injuries caused by cable maintenance activities decreased. This project was honored by the coal industry to be a finalist for safety projects at the annual award presentation hosted by NSW Minerals Councils.

The Indominco Mine won Award for Open Mining System

The Indominco Mine won the first runner-up award for its open mining system at the ASEAN Energy Award 2017 held by ASEAN Center for Energy. The Indominco Mine is one of the Indonesian mines that were nominated for the assessment by the Coal and Mining Department, Indonesia, and has received recognition for the promotion of environmentally-friendly mining technology.





Innovation

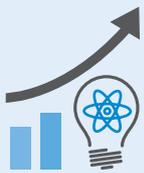
Indicator

Value creation from
innovation projects

Strategy

Promoting application of innovations
in working processes

Long-term Target



Add value creation
from innovation projects
Enhance employees
participation in innovation projects

Performance



Top 10 innovation
projects with value creation
of USD 114 million

Significance and Reporting Boundary

Innovation in Banpu's context is that we "Think" to adapt change in work process for higher effectiveness, and "Drive" towards "Change". Innovation, part of the corporate culture "Banpu Spirit", is the core of Banpu's business value as the Company believes that innovation will drive strong and sustainable growth amid the changing industry landscape. The information about innovation management disclosed in this report covers all business entities in which the Company holds greater than 50% of shares and has management control, namely the head office in Thailand; coal businesses in Indonesia, Australia and Mongolia; power businesses in China and Japan; and the sales office in Singapore.

Management Approach

The Company underlines the promotion of innovations through various activities at all levels ranging from the operational level to the management level in order to stress the importance of applying innovation in the workplace. Started at the head office in Thailand in 2008, different activities to promote innovation have been carried out in each country, for example, Thailand Innovation Award in Thailand, KOMPAK in Indonesia, and Innovation Sharing Day in China.

Since 2012, the Company has incorporated innovation promotion into the corporate strategies, and Banpu Innovation Convention has been held annually to provide each country an opportunity to share the underlying concept of their innovation project. The committee to judge the best innovation awards consists of the Chief Executive Officer, the chair of the committee, and senior executives.

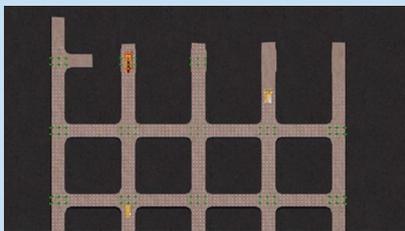


Performance

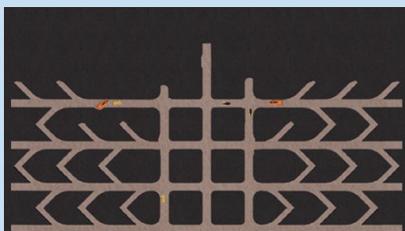
In March 2018, there was a showcase of the top 10 innovations in 2017 from Thailand, Indonesia, China and Australia with value creation of USD 114 million.

	2014	2015	2016	2017
Number of best innovations	9	10	12	10
Value creation (million USD)	129	240	76	114

Sustainable Mining Innovation at the Myuna Mine



Conventional Mining System

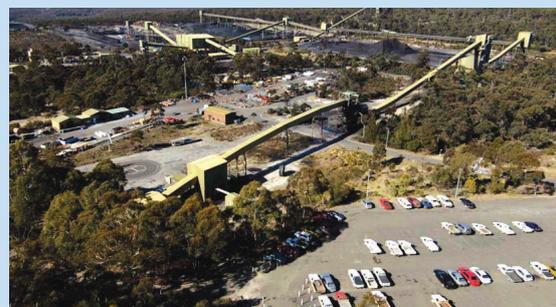


Myuna Herringbone System

The Myuna Mine has developed a mining innovation called “Myuna Herringbone System”, a herringbone layout without cable bolt supports, which increased the productivity by 80% and reduced costs of cable bolt supports by 85%. In addition, the innovation provides a safer work environment. For instance, work-related injuries are reduced when there is less need to move vent pipes, cables, and electricity wires, resulting in a 21% decrease in Lost Time Injury Frequency Rate (LTIFR) during 2016-2017. This innovative project has won the Myuna Mine “Australian Mining Prospect Awards”.

Improvement of Coal Crushers at the Clarence Mine

Clarence Mine has improved its coal crushing system which is one of the Coal Handling and Preparation Plant (CHPP) process with objective to reduce the amount of coal being washed to decrease the by-product of the washing process (coarse reject and ultrafine coal fines) in response to fast running out of space onsite to emplace reject. This needed to be achieved without compromising coal quantity or quality. The improvement has enabled the production of right coal size and reduced the need for cleaning and improved the management of stockpile area.





Supplier Management

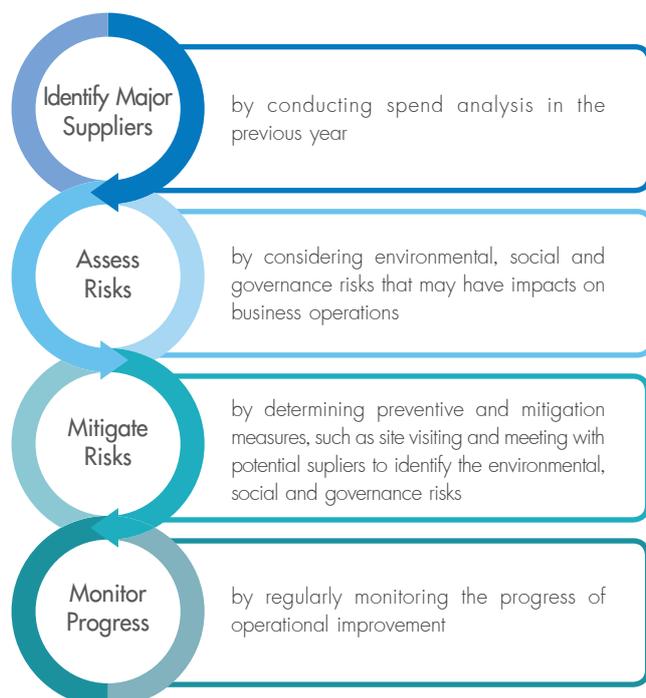


Significance and Reporting Boundary

Supplier management is an issue in supply chain management which is one of the stakeholders' interest, especially transparency and accountability in procurement process as well as supplier's operation with environmental and social responsibility in alignment with the Company's corporate governance policy. In fact, product and services procurement that takes into account the environment, society and good governance will create sustainable value and support mutual growth of the Company and suppliers. The data of supplier management disclosed in this report covers all business entities in which the Company holds greater than 50% of shares and has management control.

Management Approach

Owing to different types of businesses and modes of operations in each country, the Company divides the supplier management process into steps, starting from identifying major suppliers who have a significant impact on the Company's business operations. According to the analysis, major products and services for coal and power businesses include fuels, explosives, parts and equipment for machinery and vehicles. In addition, the Company has continuously supported and educated procurement staff by organizing trainings and workshops in collaboration with the business unit among countries in order to share knowledge about procurement process and to strengthen the supply chain management.





Performance

In 2017, the Head Office at Bangkok successfully drafted green procurement standard. The subsidiary in Australia reviewed and improved the procurement process and increased supplier engagement to minimize risks in the supply chain. Currently, the Company is developing an action plan for supplier management, which is expected to be completed by 2018. The plan consists of the development of Suppliers and Contractors Code of Conduct and a group-wide data collection system with the plan to disclose the proportion of the new suppliers selected based on the environmental and social criteria by 2019 and to cover all business entities in 2022.

Selection of New Suppliers

Supplier Selection Criteria

- ✓ Reliability and quality of product and service delivery
- ✓ Cost effectiveness
- ✓ Environmental and social responsibility
- ✓ Alignment of suppliers' operations with the Company's corporate governance policy

New suppliers are selected through Tender Evaluation Process and Contract Negotiation based on fair and transparent criteria as well as reliability and quality of product and service delivery, the alignment of suppliers' operations with the Company's corporate governance policy and environmental and social responsibility. After delivery of products and services, the Company conducts a satisfaction survey to collect feedbacks on suppliers' operations in order to improve the supplier selection criteria in the future.

To mitigate the environmental, social and governance risks from suppliers' operations, the Company has announced the policies which cover all aspects of the operations of suppliers and contractors throughout the supply chain, namely business ethics, environment, occupational health and safety and human rights policies. Currently, the Company is developing the Supplier and Contractor Code of Conduct to be used as guidelines for practice across Banpu Group.



Contractor Management

Indicator

Number of **work-related fatalities** for contractors

Total Recordable Injury Frequency Rate (TRIFR) for contractors

Strategy

Reduction of **occupational health and safety risks** in compliance with the policy and standards of practice adopted by the Company's own production activities



Annual Target



Zero **work-related fatalities** for contractors

Total Recordable Injury Frequency Rate (TRIFR) for contractors was less than **0.13**

Performance

1 work-related fatality of Indonesian contractor

Total Recordable Injury Frequency Rate (TRIFR) for contractors was **0.10**

Significance and Reporting Boundary

Beside purchasing products from suppliers, the Company also sources contractors' services for the production process, such as overburden removal and support activities in which some parts of operations are located in the same working area of employees. The contractors' operations can lead to impact on environment and society, as well as the Company's reputation. Accordingly, the Company places importance on contractor management together with cost management to improve the effective operations and procurement process, and build stakeholder confidence in the appropriate management for contractors, who are part of its supply chain.

The data of contractor management in this report will be disclosed only the management of occupational health and safety risks for coal business in Indonesia and Mongolia. For coal business in Australia and power business in China and Japan, they are in process of standardization and development of group-wide data collection system. The company will be gradually disclosed the remaining entities performance with the expectation of 100% coverage in the 2022 report.

Management Approach

The Company is committed to the development of contractor management, which is part of a supply chain, to account for economic, environmental and governance risks by announcing the Contractor's HSE Management Standard as a guideline. The standard requests that all entities should establish Contractor Management System (CMS) which include contractor engagement, contractor management and CMS assurance to ensure that the health, safety and environmental risks from contractor's operations are mitigated by an appropriate approach.



Health, Safety and Environment of Contractor Management System (HSE CMS)

Contractor Engagement



By establishing the processes of hazard identification and risk assessment on HSE issues that may arise in all contractors' activities. The HSE risk mitigation plans are incorporated as part of the contractor selection process and also as additional clauses in contractor agreements.

Contractor Management



Every contractor is required to develop a risk management plan on occupational health, safety and environment before starting work. Such a plan needs to have clear targets and indicators as well as a response procedure when an unexpected situation arises.

CMS Assurance

The assurance process for the CMS aims to reduce and control occupational health and safety and environmental risks includes the annual contractor performance assessment throughout the duration of contract.



To continually improve the contractors' performance, the Company set the 2017 target to achieve zero work-related fatalities for contractors. In addition, the long-term targets have been set covering 2 main indicators as follows:

- 1) Zero Total Recordable Injury Frequency Rate (TRIFR) for contractors, which is developing database to set yearly target.
- 2) Ratio of total contractors selected by environmental and social criteria. Currently, this is in an initial phase of development of Suppliers and Contractors Code of Conduct and a group-wide data collection system.

Moreover, the Company organizes regular trainings for contractors on work safety and emergency response plan, for example, "Safety Day" of every mines in Indonesia to increase awareness of employees and contractors on potential occupational risks and share best practices to mitigate those risks. In Australia, there is an internal training for employees whose work related to procurement process between December 2017 and March 2018.



Performance

In 2017, the Company was unable to achieve an annual target because there was one fatality of an Indonesian contractor. However, the Company succeeded in reduction of Total Recordable Injury Frequency Rate (TRIFR) for contractors and subcontractors in Indonesia and Mongolia which was 0.10 person per 1 million working hour, and have been continually reduced since 2014.

The Company is establishing more measures to control possible risks and developing a contractor data collection method that will improve the efficiency of contractor management. Others are being developed include the Suppliers and Contractors Code of Conduct, data collection standards for developing the database of contractors selected based on the environmental and social criteria, which aims to cover all entities by 2022.



Supplier and Contractor Management in Australia

Centennial Coal, our subsidiary in Australia, emphasized its supply chain management to maximize the effectiveness in both operations and cost management. In 2016, Centennial revised Strategic Sourcing of Goods and Services Standards for supplier and contractor management in Australia which underpins the procurement strategy, including approval decision procedures of supplier engagement.

Apart from that, Centennial has an improvement plan for 2018 as follows:

- 1) Develop an assessment system for supplier and contractor selection to include considerations of waste reduction, environmental impact, ethic sourcing, community impact and local sourcing.
- 2) New system includes a due diligence process for assessing new suppliers such as subcontractors payment delinquency, conflict of interest and safety performance record.



Contractor Management in Indonesia

ITM, our subsidiary in Indonesia, has increased the effectiveness of the Health, Safety and Environment of Contractor Management System (HSE CMS) after announcing the EHS Code of Practice for Contractors and Suppliers since 2015 to be aligned by its suppliers and contractors. There have been close monitoring and supervision procedures as follows:

- **Hazard Identification and Risk Assessment** Contractors are required to adhere to a safety management system as well as to identify hazards and assess risks that may arise during operations. After the potential risks are identified, appropriate mitigation measures must be determined.
- **Identification of Aspects and Environmental Impact** Contractors are supposed to follow the environmental management system by identifying possible environmental risks related to the operations. After the potential risks are identified, appropriate mitigation measures must be determined.
- **Monitoring and Supervision** Contractor's activities must be monitored and supervision by ITM and subsidiaries to ensure compliance with relevant laws and standards. It is obligatory that the contractors submit the HSE report as scheduled.
- **Assessment** Internal HSE CMS Assessment on the contractor's activities must be undertaken, which covers a management system, regulatory compliance, OHS performance and environmental performance.
- **Environmental, Health and Safety Clauses under Contractor Agreement** New contractor agreements are expected to be proactive by inserting additional HSE clauses, and the practices, which is part of the agreements, must be regularly reviewed to ensure that they are up-to-date.
- **Environmental, Health and Safety Aspects** The contractors' activities shall comply with the Environmental, Health and Safety management aspects, which are preventive measures to reduce operational risks, by trainings on those topics of safety and environment, implementing environmental management and using personal protective equipment.



Customer Management

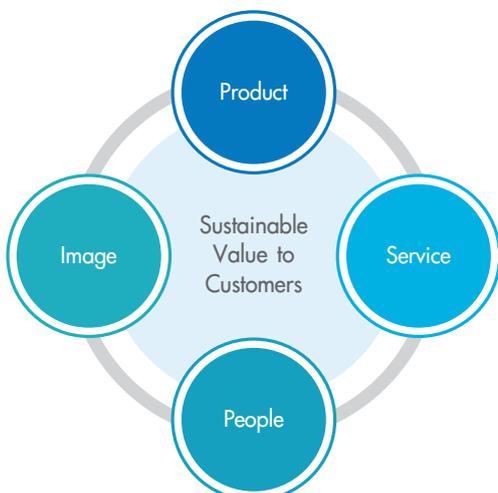
<p>Indicator</p>  <p>Proportion of customer complaints which are timely handled</p>	<p>Strategy</p>  <p>Maintaining a partnership with customers for business success</p>
<p>Annual Target</p> <p>All Customer Complaints are timely handled Zero complaints about customer privacy</p>	<p>Performance</p> <p>All Customer Complaints are timely handled Zero complaints about customer privacy</p>

Significance and Reporting Boundary

The Company places top priority on customer relation management as it believes that building trust and confidence as well as engagement with customers will contribute to long-term business success for both parties. Due to the fact that different types of customers have different demands for products, delivering value that satisfies every customer is quite a challenge. The data of customer management disclosed in this report covers all business entities in which the Company holds greater than 50% of shares and has management control.

Management Approach

The Company has a variety of approaches to manage diverse customer groups and different types of businesses by delivering sustainable value to customers in four aspects as follows:



- 1. Product Value** The Company improves coal quality to best fit customer's requirements and deploys High Efficiency Low Emissions (HELE) technology to reduce pollution from power plants.
- 2. Service Value** The Company facilitates convenient coal transportation for customers and carries enough inventory to satisfy their future needs. As for power business, the Company ensures ready and reliable delivery of electricity, heat and chilled water.
- 3. People Value** The Company's employees are knowledgeable and competent enough to respond to customers' issues in an accurate and timely manner both in coal and power businesses.
- 4. Image Value** The Company is committed to business ethics and good corporate governance. Moreover, it announced the Anti-Corruption Policy, which has earned customers trust and confidence.



Apart from that, the Company emphasizes on building a partnership with customers for business success. The approaches vary from business to business; for instance, the Company coordinates closely with each customer in coal business through sales representatives in order to establish a highly efficient two-way communication. However, as the Company's customers in power business are in the government sector, it has to emphasize on building business partnerships with local government agencies. Moreover, the Company has continued its support for surrounding community activities to gain social acceptance from the government agencies and communities.

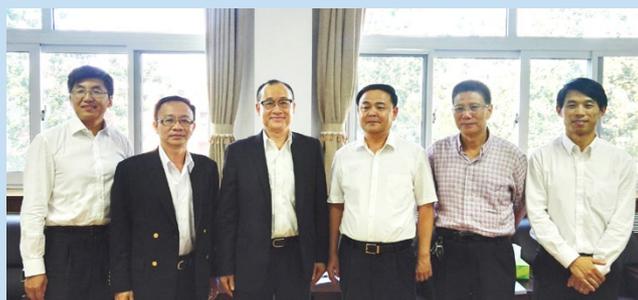
Customer Relationship Management in Coal Business	Customer Relationship Management in Power Business
<ul style="list-style-type: none"> • Regular customer visits • Meeting with customers • Mutual knowledge sharing • Report to customers on the Company's performance and plans on a quarterly basis • Hosting site visits for customers 	<ul style="list-style-type: none"> • Fully compliance with local government regulations • Providing continuously support for community activities

Performance

In the past year, the Company updated customer's information in coal business by having sales representative collect customer data such as policies and concerns about coal use and service recommendation for assessment of future demands. The data is also useful for product and service development plans to improve long-term customer satisfaction. In 2017, the Company achieved the target of handling all customer's complaints in a timely manner while there was no complaint about violation of customer privacy.

Maintaining Relationship with Local Governments and Alliances

In October 2017, the management team of BIC paid a visit to the Communist Party's Secretary of Zhouping to thank for the government's continued support for the Company. The Company also praised the Zhouping government's success in economic reform and power industry restructuring. Apart from that, the government representative expressed appreciation that Zhouping Power Plant has excellent management, outstanding performance and good governance. The government showed its readiness to have BIC invest in renewable energy and smart energy projects in Zhouping. The management team also visited the Chairman of Xiwang Group to build strong rapport in mutual creation of supply chain value.





Customer Complaint Handling Process

Customers can be able to directly submit their complaints about sales, product quality, delivery, and after-sales services to sales representatives via telephone or email, and also submit their complaints via the Company’s website. The Company has established a complaint recording system and a tracking system to monitor how the complaints are handled. Furthermore, a time limit for complaint handling is set. The Company also reports on root cause analysis of complaints and how complaints are managed. Customer complaints must be responded within a day by a unit in charge of monitoring progress of complaint handling, and the complaint’s status must be periodically reported to responsible parties. The process is established to ensure that all customer complaints are duly responded and solved within the set time limit.

Customer Satisfaction Survey

The Company conducted a customer satisfaction survey by sending questionnaires to customers and sending officers from the Customer Relations Department to conduct a face-to-face interview with customers. The survey and interviews are not only designed for assessing particular problems and expectations of customers, but are also aimed at nurturing relationships with them. Recommendations from customers are regularly used for improvement of products and work processes. Nevertheless, the Company does not conduct a customer satisfaction survey every year since the consumers of its products are not retail consumers. The most recent survey was conducted in 2015.

Safeguarding Customer Information

The Company is fully aware of the significance of safeguarding customers’ personal information. Customer information is kept confidential and secure in order to prevent damage and boost customer trust. The policy and guidelines for safeguarding customer information are as follows

Use of Information

- The Company uses customer-related database to serve customers and to improve the quality of service as well as to develop products that are tailored specifically to customer’s needs.

Information Disclosure to the Third Party

- The Company will disclose customers’ personal information to third-party companies, organizations or persons only with consent from the customers.
- The Company will disclose customers’ personal information to third-party companies, organizations or persons only when the Company honestly believes that there are necessary reasons in compliance with the law.

Maintenance of information security

- The Company tries its best to protect customer’s personal information against unauthorized access.
- Access to customer’s private information is restricted to authorized staff, contract workers and the Company’s representatives on a need-to-know basis only for the purpose of servicing customers. Those who have access to customer’s information must follow the information security protocol.



Product Stewardship

<p>Indicator</p>  <p>Number of product complaints related to safety and environmental issues</p>	<p>Strategy</p>  <p>Building a partnership with customers for business success</p>
<p>Annual Target</p> <p>Zero product complaints related to safety and environmental issues</p>	<p>Performance</p> <p>Zero product complaints related to safety and environmental issues</p>

Significance and Reporting Boundary

The Company is fully aware of the significance of potential impacts of products and services, especially the customer’s concern for safety and the environment in coal business; therefore, it has set up a quality control unit to oversee product quality from production, stockpiling, transport, to delivery. There are also health and safety standards that must be strictly followed. The data of product responsibility disclosed in this report covers all business entities in which the Company holds greater than 50% of shares and has management control.

Management Approach

Normally, purchase and sales of coal, transportation and stockpiling are done in the form of stockpiles without packaging; the Company, hence, prioritizes the selection of suppliers who have experience and expertise in coal properties. The Company also prepares a special document called Material Safety Data Sheet (MSDS) to issue to customers upon request, which complies with international standards and regulations. Several measures are put in place to eliminate safety risk and environmental impacts from products, for example, installing a windbreak wall at the stockpile area, spraying coal stockpiles with water to reduce dust dispersion, washing truck tires before entering and after exiting the stockyard, covering coal stockpiles with tarpaulin during transportation, and regular monitoring the environment at the stockyards and surrounding communities.

Additionally, the Company is determined to provide useful knowledge and information about particular products without manipulation or deception of customers about product quality. The Company also sends sales representatives out to visit customers on a regular basis to make sure that they could use the Company’s products without harmful effects on health, safety and the environment. As the Company’s customers are large factories, they have modern pollution control systems which comply with the government regulations in their countries, and are strictly oversight and controlled by local government agencies. Therefore, the Company is confident that its products do not have any harmful impacts on the environment and communities.

Performance

In 2017, there were neither reports of harmful impacts from the Company’s products, nor grievances from the community on safety and environmental impacts, nor warnings from relevant government authorities.



Community Development



Indicator

Proportion of the mines being surveyed on stakeholder's **satisfaction** in **community development projects**

Strategy



Through participatory approach, all **community development** projects will be implementing in collaboration with **the community, government** and **company**

Long-term goal

All mines in Indonesia conduct the **first stakeholder satisfaction survey** by 2019
All mines in Indonesia conduct the **stakeholder satisfaction survey once in every two years** starting from 2019
Result of satisfaction survey is at the **“Highly Satisfied”** level

Performance

80% of the mines in Indonesia have conducted their first stakeholder **satisfaction** surveys

Average satisfaction survey result was at the **“Highly Satisfied”** level



Significance and Reporting Boundary

The Company firmly believes in the norm that “an industry would be vigorous only when it is developed in tandem with social and environment responsibility”. Hence, in running its business, especially the mining business, the Company places great importance on the community, one of its key stakeholders, so that they can flourish together. The Company believes that laying a strong foundation for the community will be the key driver of the community's sustainable growth. The information about community development disclosed in this report covers only the mining business in Indonesia because community development is determined as a material issue by the stakeholders there.

Management Approach

The Company adopted both local regulations and international standards of practice such as Sustainable Development Goals (SDGs) for developing community development strategies and goals by enhancing cooperation among the Company, the community and local authorities through participatory approach. The Company announced the Community Development Policy and the management standards for three mining stages: pre-mining, mining and mine closure, which are carried out in six steps, namely preparation, planning, implementation, monitoring, evaluation, and reporting, to ensure that all the community development projects at all mines follow the same direction.

In performing community development, the Company understands the community's needs through a stakeholder analysis and social mapping prior to the mining stage. The results were then used as baseline data for developing community development projects. The targets of the community development operations at each mining stage are as follows:



- **Pre-Mining Stage:** the target is that all mines must have the results of a stakeholder analysis prior to mining operations.
- **Mining Stage:** the target is to have all mines conduct their first stakeholder satisfaction surveys by 2019 and conduct it once in every two years starting from 2019 onward. The satisfaction survey results are expected to be at the “Highly Satisfied” level.
- **Mine Closure Stage:** the target is the community can continue the projects by their own and should be in a strong and sustainable manner. For transparency and efficiency, the Company has adopted the Quality Assurance Review (QAR), which requires the employees who are not involving in the implementation of community development projects to conduct such review.

Objective	Standard	Practice
Pre-Mining Stage		
Fundamental Embedding	Management Standard: Stakeholder Engagement	1. Preparation <ul style="list-style-type: none"> - Conduct stakeholder analysis to be used for engagement guideline setup - Study social mapping as basic information for formulating community development master plan - Set up community development master plan covering from pre-mining stage to post mining stage
Mining Stage		
Maturity building & Community Empowerment	Management Standard: Planning and Implementation of Community Development Work	2. Planning <ul style="list-style-type: none"> - Stakeholder Perception Survey - Setting strategies and preparing a long-term plan 3. Implementation <ul style="list-style-type: none"> - Set up the Community Consultative Committee (CCC) that consists of representatives from the government, the community and the Company for project planning, implementation and evaluation - Seek cooperation with related stakeholders to bring sustainable value to the communities, for example, collaboration with contractors on community development - Review community development action plans in the annual Community Development Officer Forum
	Management Standard: Monitoring, Evaluation and Reporting of Community Development Work	4. Monitoring <ul style="list-style-type: none"> - Monitor the status of the community projects whether they are aligned with the action plans - Review the action plan with the community 5. Evaluation <ul style="list-style-type: none"> - Stakeholder Satisfaction Survey - Assess and develop the capacity of the Community Consultative Community, group committee and contractors both in project management and subject-specific areas 6. Reporting <ul style="list-style-type: none"> - Report and evaluate performance to the management executive
Mine-Closure Stage		
Sustainability Enhancement	Management Standard: Mine Closure	<ul style="list-style-type: none"> - Prepare mine closure and post mining community development plan in collaboration with the Community Consultative Committee and local authorities prior to mine closure as a part of mine closure plan - Continue supporting community development works for at least 3 years after mine closure or for the duration required by law to ensure that the community will be able to continue the projects in a strong and sustainable manner - Collaborate with local government agencies and academic institutions to maintain supports for the community development projects



Performance

In 2017, the Company spent USD 1.45 million on supporting community development projects in Indonesia. More than one-third of the budget was spent on basic infrastructure development.

Budget for Community Development Project (thousand USD)

Project	2016	2017
Economic Development and Income Generation	485	204
Education Development	369	306
Basic Infrastructure Development	386	479
Health and Sanitation Development	133	128
Environmental Conservation	222	36
Social, Cultural and Community Relations Promotion	435	296
Total Budget	2,030	1,449

Since 2015, the Company has conducted Stakeholder Satisfaction Survey on community development projects at its five coal mines in Indonesia, which are in the mining stage. In 2017, the Company conducted the survey at Embalut, Jorong and Bharinto mines, and thus the proportion of the Indonesian mines which conducted their first stakeholder satisfaction surveys reached 80%. According to the surveys, the average satisfaction result was at the “Highly Satisfied” level. However, the satisfaction in some projects was at the Moderately Satisfied level, and the Company will improve its project performance based on the results to improve the satisfaction level in future surveys. For Indominco mine, the company is planning to conduct the satisfaction survey within 2018.

Satisfaction Level of Community to Community Development Projects

Mine	2015	2016	2017
Trubaindo	★ ★ ★		
Embalut		★ ★	★ ★ ★ ★
Jorong			★ ★ ★
Bharinto			★ ★ ★ ★

Remark: Satisfaction Level

- ★ Least Satisfied
- ★★ Slightly Satisfied
- ★★★ Moderately Satisfied
- ★★★★ Highly Satisfied
- ★★★★★ Extremely Satisfied



Examples of Community Development Projects

1. Economic Development and Income Generation		
Project	HITIM (Home Industry Team Indominco Mandiri)	Integrated Farming System
Venue	Indominco Mine	Embalut Mine
Participants	74 villagers from HITIM groups of farmers in Bontang Lestari Village	65 villagers from Embalut Village
Objective	To increase income and improve the well-being of people in the community	To increase income and improve the well-being of people in the community
Details	<ul style="list-style-type: none"> - The HITIM program creates positive impacts to surrounding communities both additional productive activities and processed products that help increase family income - The project that focusing on pregnant women, infant and youth, is increasing a family income from IDR 300,000 per member in 2005 to IDR 850,000 per member in 2017 	At the initial stage, farmers relied on only one farming activity (neither vegetable nor rice farming). Until 2017, the farming activity has increased up to 3 activities that raised more productive farmings as horticultural, cattle and chicken raisings
Achievement	Since 2005, the variety of product types was increased from 4 to 8 products, for example, ginger drink, preserved fruits, banana chips, crispy fish snack, rice chips and organic rice.	Increased family monthly income from IDR 500,000 to IDR 1,900,000 in 2017

2. Education Development			
Project	Non-Formal Education	Computer Training	Capacity Development for the Teachers
Venue	Indominco Mine	Embalut Mine	Bharinto Mine
Participants	1,248 villagers from 7 villages	202 participants including students, teachers, community leaders and youth	384 teachers from the Besiq, Bermal and Benangin
Objective	To provide learning opportunities for the elderly and youth who are unable to access to formal education	To develop basic skills of computer, internet, data management, and programming for the community members	To develop capacity of the teachers in the communities to improve the learning outcomes of young learners
Details	Building three learning centers, providing basic knowledge for daily living as well as equip the villagers with entrepreneurship and basic skills	Starting in 2010, this is an ongoing project	-
Achievement	This project can reduce illiteracy rate by 42.1%. There are 62 participants have been getting a job as an operational officer, mechanic, and driver. Among the participants, there are 10 persons have been pursuing their education at college or university level	(in the process of measuring achievement)	(in the process of measuring achievement)



3. Basic Infrastructures Development



Project	Renovation of Wooden Bridge
Venue	Trubaindo Mine
Participants	Lambing and Muara Lawa village
Objective	To improve the villagers' well-being by developing accessible public services and markets
Details	Partnering with the local government to achieve the target
Achievement	Renovation of the bridges was completed

4. Health and Sanitation Development



Project	Medical Service	Maternal and Infant Sanitation	Clean Water Supply
Venue	Trubaindo Mine	Indominco Mine	Indominco Mine
Objective	To provide medical service and knowledge of healthcare and disease prevention to community members	To improve the sanitation of pregnant women, infants and children in the community by preventing harmful behaviors to their health, well-being and quality of life	To improve sanitation and hygiene for the community members by providing quality water supply system
Achievement	As of December 2017, there were total 4,130 participants and service receivers including children, pregnant women, and the elderly	As of December 2017, 770 pregnant women participated in this project	Successfully developed the water supply system for 630 villagers in over 200 households in Santan Tengah village. In 2017, the water committee has been functioning to oversee and manage the water supply system

5. Environmental Conservation



Project	Biodiversity
Venue	Bharinto Mine
Participants	The villagers in Kampung Empas, Kutai Barat
Objective	To preserve local biodiversity
Achievement	Since 2010, the village leader had been collecting and developing rare orchids. The development had been implementing until the Center of Intermittent Orchid Development was established in Kutai Barat village in 2016 with the support from Bharinto Mine. In 2017, this program was being awarded Indonesia Sustainable Development Goals Award (ISDA) and won the silver medal



6. Social, Cultural Promotion and Community Relations



Project	Cultural Conservation
Venue	Trubaindo Mine
Participants	Puteri Dayak Group in Lambing village
Objective	To preserve the Dayak cultural heritage which is one of the important cultural identities of Indonesia
Details	Sponsoring musical instruments and teaching of traditional Dayak dancing skills for new generations of the Dayak as well as the interested public
Achievement	In the process of measuring achievement

Community Development Collaborating with Contractors

ITM coordinated with its contractors to create the synergy in implementing community development projects. This helps maximize the benefits for community members as well as enhances partnership. To gain collaboration, there are 33 contractors jointly implement community development programs at Bharinto and Trubaindo mines. The number of collaboration has been significantly increasing since 2014 which has only 10 contractors. The sample projects are as detailed below;

- School yards improvement project: the contractors contributed unused tires for school scenery improvement at Muara Begai.
- Flood victims assistance project: in May 2017, there was a flash flood occurred at Kutai Barat and this caused a large number of people suffered from this incident. The Company and contractors donated IDR 101 million to Regional Disaster Management Agency to support flood victims while the donation of 6 tonnes. of rice, 340 boxes of water and 520 boxes of convenience food were donated for immediate assistance to the victims.
- Toilet improvement: the company and contractors in cooperation with local army supported a budget sum of IDR 30 million for toilet improvement in the surrounding communities. Currently, there are 15 toilets completed with the target of 200 toilets that need to be built and repaired.





Environment



Energy Consumption Intensity

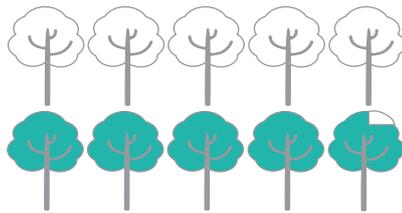
21% Increase from previous year in Coal Business



6% Reduction from previous year in Power Business



49.8% of Disturbed Areas were Rehabilitated



1 Significant Spill





GHG Emissions Intensity

▲ **13% Increase**
in Coal Business
against the 2012 Baseline

▼ **2% Reduction**
in Power Business
against the 2012 Baseline



GHG Emissions



Indicator



GHG emissions intensity

Strategy



FOCUS on 4 major areas:

Mitigation

Being a part of low-carbon society

Adaptation

Participating in Climate Change Community

Long-term Target

GHG emissions intensity

▼ Reduction **25%** in coal business by 2020 against the 2012 baseline
 ▼ Reduction **15%** in power business by 2020 against the 2012 baseline

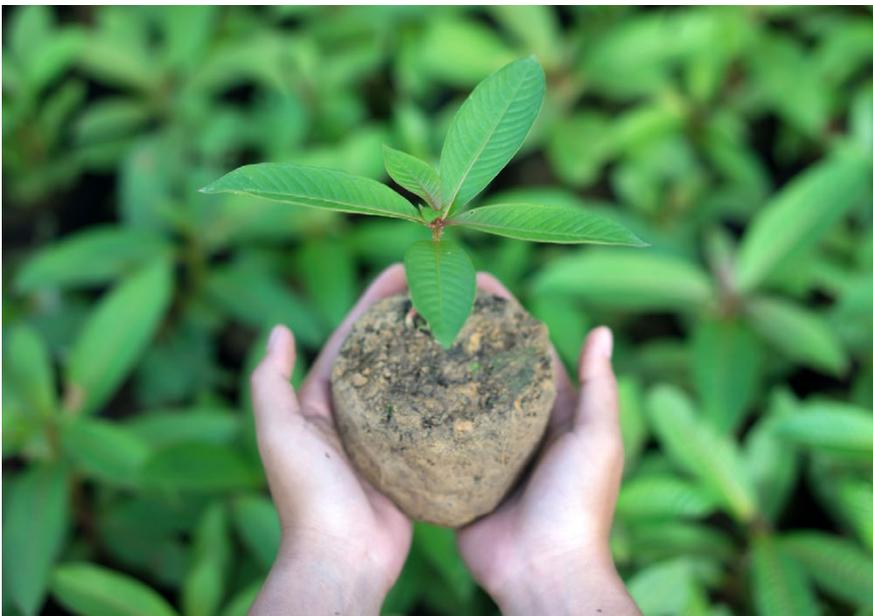
Performance

GHG emissions intensity

▲ Increase **13%** in coal business by 2020 against the 2012 baseline
 ▼ Reduction **2%** in power business by 2020 against the 2012 baseline

Significance and Reporting Boundary

Climate change is a global concern as can be seen from the collaboration across all sectors in fighting against the rise in average global temperatures. In particular, the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 21), the international outcome of Paris Agreement, set up to keep a global temperature rise this century well below 2 degrees Celsius. As such, the Climate Change has become the common concern of such stakeholders as trading partners, customers and non-governmental and governmental organizations.



The GHG emissions data disclosed in this report cover all business entities in which the Company holds greater than 50% of shares and has management control, including five open-pit mines in Indonesia, five underground mines in Australia, three combined heat and power plants in China and six and two solar power plants in China and Japan, respectively. GHG emissions data are as follows:



Business Type	Direct GHG Emissions from Company's activities (Scope 1 GHG emissions)	Indirect GHG Emissions from purchased electricity (Scope 2 GHG emissions)
Coal Business	<ul style="list-style-type: none"> • Use of diesel in heavy equipment • Use of diesel in truck and boat transportation • Use of diesel and coal for electricity generation in support of the Company's activities • Methane emissions from coal beds and coal stockpiles • Use of explosives • Use of gasoline for transportation • Use of SF₆ and HFCs 	<ul style="list-style-type: none"> • Use of electricity from external sources
Power Business	<ul style="list-style-type: none"> • Use of coal as the fuel for electricity, steam and heat generation • Use of waste gas as the fuel for electricity and steam generation • Use of diesel in heavy equipment • Use of diesel for transportation • Use of gasoline for transportation • Use of Calcium Carbonate (CaCO₃) in the air emission quality control system • Use of SF₆ and HFCs 	<ul style="list-style-type: none"> • Use of electricity from external sources

Management Approach

Fully aware of the importance of participating in GHG emissions control, the Company has set a target, from 2016 to 2020, to reduce GHG emissions intensity by 25% in coal business and 15% in power business based over the baseline in 2012 when the Company first consolidated Australian business unit performance into overall corporate for consideration. The targets are being met through power conservation project, and investment opportunities in renewable energy. The Company is keeping close watch on rules and regulations relevant to GHG emissions in order to promptly respond to energy market and all groups of stakeholders.

The Company has been assessing risks and reviewing climate change strategies. In 2017, the management proposed the strategies and action plans on climate change to the Board of Directors in the following four areas:

- **Mitigation** consists of GHG emissions reduction, energy efficiency initiatives, put a price on carbon and carbon offset.
- **Adaptation** consists of monitoring risks and opportunities, incorporating climate change issues in the Business Continuity Management (BCM) plan and supporting adaptation program.
- **Being a part of low-carbon society** includes investment in low-carbon energy, support to research and development and supply chain engagement.
- **Participation in Climate Change Community** includes participating in international conferences and being a member of climate change committee/taskforce.



In 2017, to be more effective in GHG emissions by monitoring and assessment, the Company has developed a calculation system to determine the GHG emissions including emissions from SF₆ and HFCs. Emissions Factors based on A Corporate Accounting and Reporting Standard, IPCC Fifth Assessment Report (AR5)'s Global Warming Potential (GWP) values, and specific emissions factors in the case where there are regional factors for GHG emissions, for instance, emissions factors for electricity generated within the operating country were used. However,

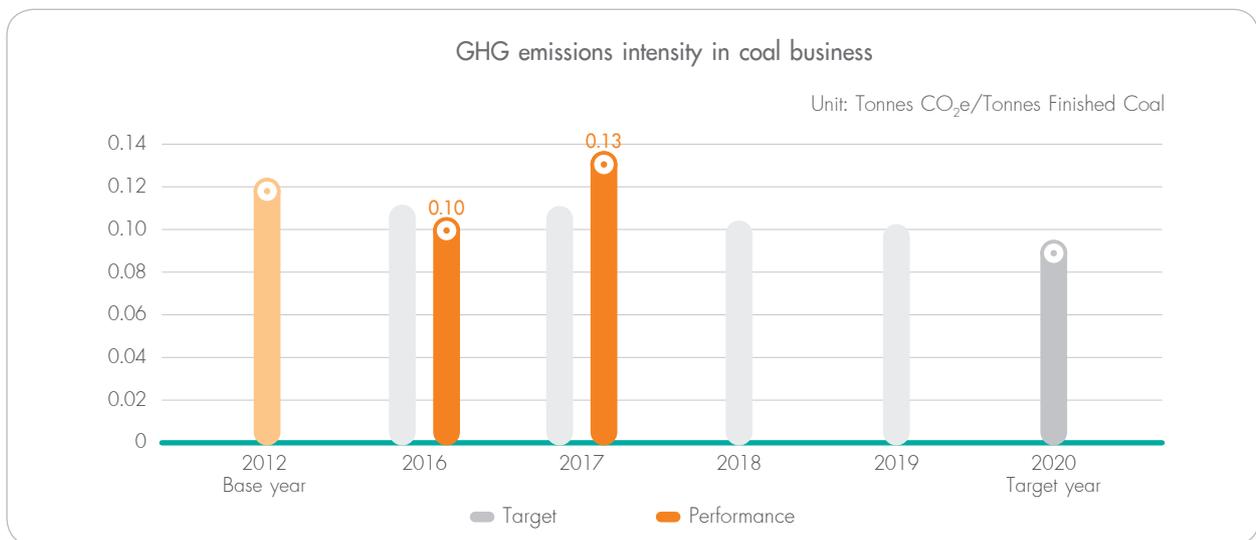
the GHG emissions from Australia business unit was calculated based on IPCC Forth Assessment Report (AR4) according to country's guideline.

To achieve GHG emissions reduction targets as planned, the Company determines that business development and operations according to the climate change strategy will be a part of KPI of CEO's performance as well as all heads of business units. Apart from that, the Company annually discloses GHG emissions performance via the CDP program.

Performance

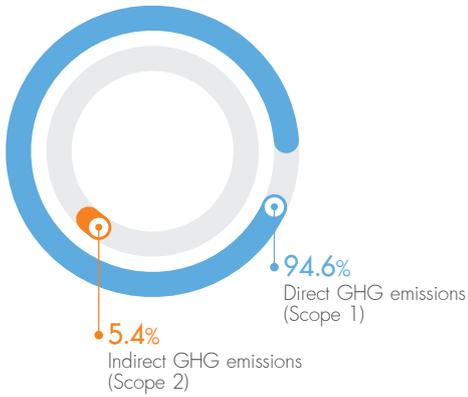
Coal Business

In 2015, company has studied and installed CH₄ flared system at Mandalong mine site, Australia. Some of this methane is drained prior to mining, with a concentration that is able to be flared to convert into less potent greenhouse gas, carbon dioxide. However, in 2017, there was a geological change in the mining and surrounding strata. This change came with significantly higher levels of methane gas that were at the higher end of the drainage system capability. As the flaring system can cause periodic disruptions to the drainage system, the safest option for the mine was to shut down the flaring system. Those caused GHG emissions intensity increased 13% over base year 2012. Meanwhile, company has researched and collaborated with experts for other technologies, funded by the Coal Innovation of NSW to convert those higher concentration methane to be carbon dioxide.

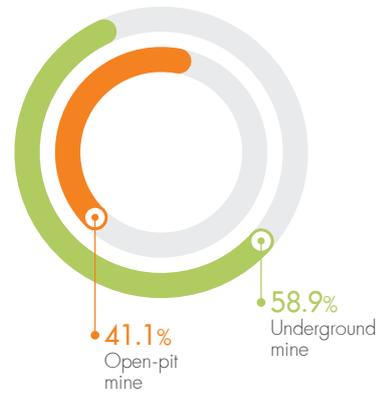




GHG emissions in coal business



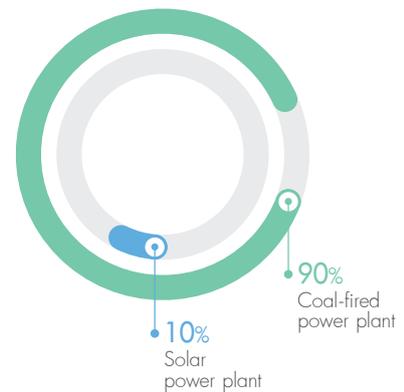
Proportion of GHG emissions separated by type of mining



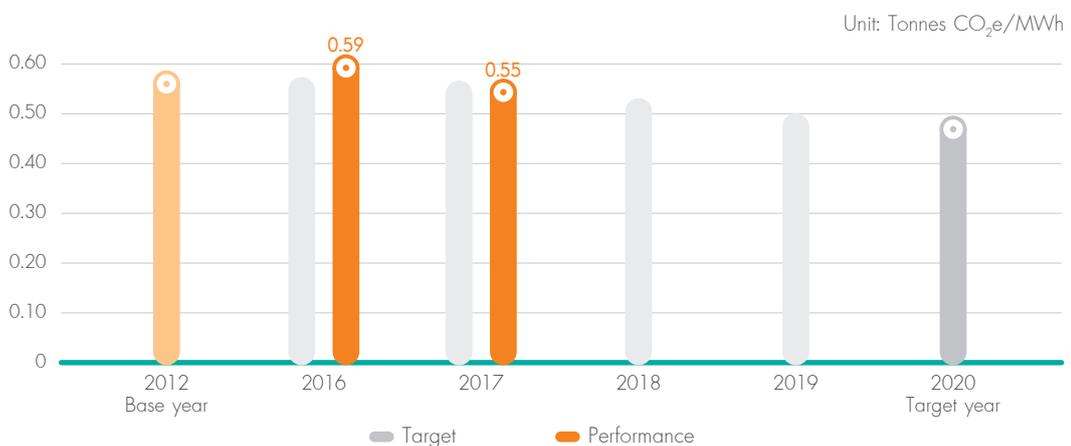
Power Business

The GHG emissions of 2017 reduced by 2% below base year levels because company has invested in renewable sources approximately 10% of total power production. Moreover, company has continuous improved by implementation of high-efficiency, low-emission technology. For instant, Zhengding, one of our CHP power plant in China, has recycled waste heat for steam generation.

Proportion of energy generation separated by type of power plant



GHG emissions intensity in power business





Indirect GHG (Scope 3) Emissions

The Company conducted a preliminary assessment of indirect GHG (Scope 3) emissions based on Technical Guidance for Calculating scope 3 emissions (Version 1). Activities that are associated with the Company's operations are as follows:

Type of Activities	Association		Description
	Coal Business	Power Business	
1. Purchased goods and services	○	○	Purchased goods and services that are associated with the Company's operations emit a tiny amount of GHG when compared with GHG emissions of the whole Banpu Group
2. Capital goods	○	○	The Company's capital goods mostly include large-sized machineries which are used in production processes. To determine the amount of carbon emissions from the manufacturing of such machineries need multiple-sourced data. Moreover, they accounts for a tiny amount of emissions when compared with the GHG emissions of the whole Banpu Group.
3. Fuel and energy related activities outside direct (Scope 1) and indirect (Scope 2) reports.	✗	✗	All fuel and energy related were calculated and reported in scope 1 and 2 emissions.
4. Upstream transportation and distribution	✓	✓	Transportation and distribution of raw materials, such as fuel, are operated by suppliers and/or logistics service providers before they are used in the production process.
5. Waste generated in operations	○	○	Wastes from production processes, such as rock, soil and ash, emit a tiny amount of GHG.
6. Business travels	✓	✓	The Company is collecting data to assess GHG emissions in this activity.
7. Employee commuting	✗	✗	The Company arranges daily commuter shuttles to facilitate employees' commuting. The amount of fuel used in this activity is calculated as direct GHG (Scope 1) emissions.
8. Upstream leased assets	✗	✗	There is no associated operation.
9. Downstream transportation and distribution	○	✗	Coal transportation and distribution are carried out by customers and logistics contractors. The Company will be collecting data in these activities for further GHG emissions assessment.
10. Processing of sold products	✗	✗	There is no associated operation.
11. Use of sold products	✓	✗	In coal business, there is an assessment of GHG emissions resulting from use of sold product, for instance, customer's purchase of coal for power generation.
12. End-of-life treatment of sold products	○	✗	End-of-life treatment of sold products results in a tiny amount of GHG emissions.
13. Downstream leased assets	✗	✗	There is no associated operation.
14. Franchises	✗	✗	There is no associated operation.
15. Investments	✓	✓	During the process of gathering data for GHG emissions assessment

Notes: ✓ Associated with the Company's operations
 ○ Associated with the Company's operations but without significance
 ✗ Not associated with the Company's operations

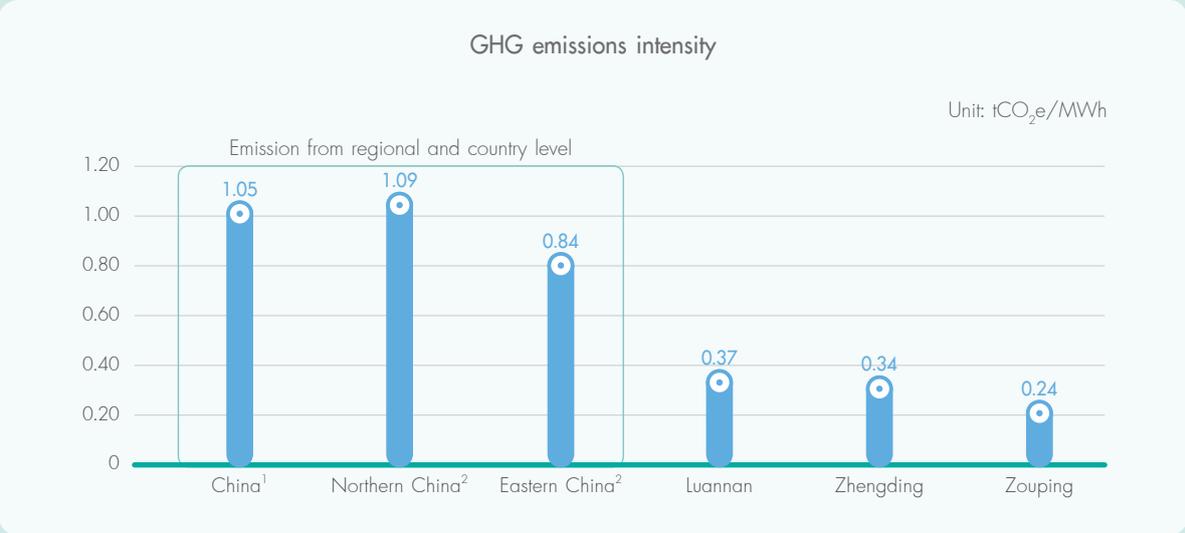


GHG Emissions Intensity of Combined Heat and Power Plants (CHP) in China

For customer information, company has calculated GHG emissions intensity from three CHP plants included Luannan and Zhengding located in Hebei county (northern part of China), and Zouping CHP plant located in Shandong county (eastern part of China). In 2017, GHG emissions intensity of three CHP plants are as follows;

- GHG emissions intensity of Luannan CHP plant was 0.37 tCO₂e/MWh
- GHG emissions intensity of Zhengding CHP plant was 0.34 tCO₂e/MWh
- GHG emissions intensity of Zouping CHP plant was 0.24 tCO₂e/MWh

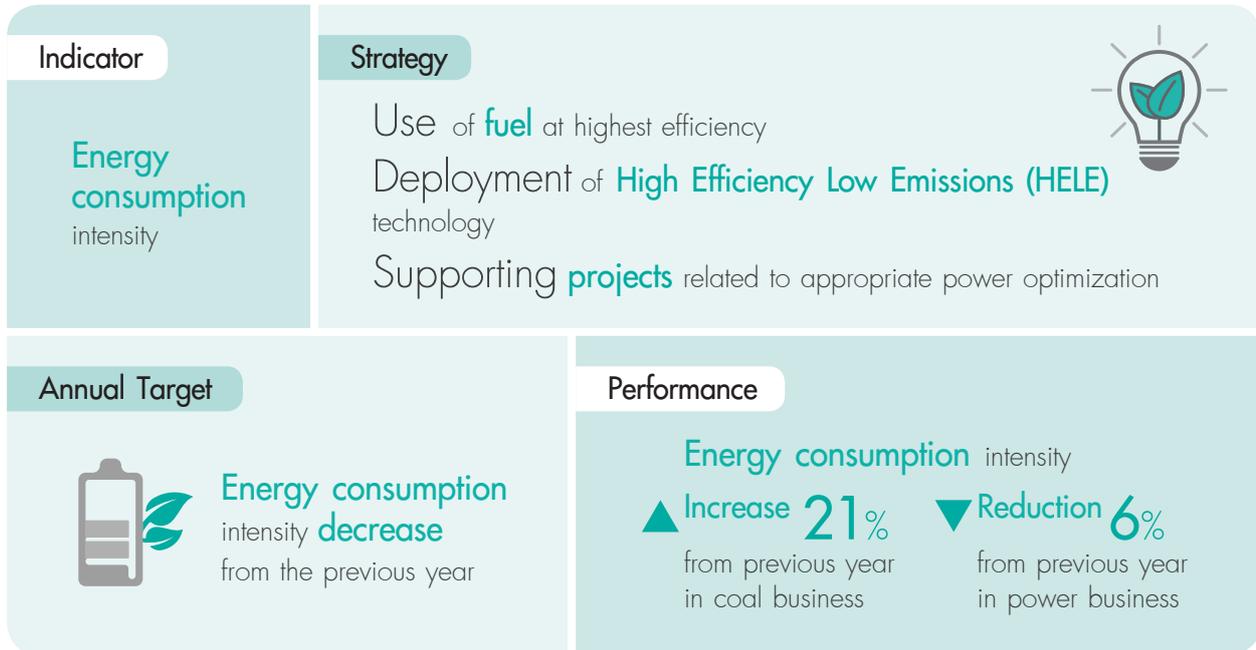
Hence, GHG emissions intensity from CHP plants were lower than the emissions from regional and country levels.



Source: ¹IGES List of Grid Emission Factors (2017)
²China's National, Regional, and City's Carbon Emission (2016)



Energy



Significance and Reporting Boundary

Based on the 2017 International Energy Agency (IEA) report on the energy outlook, the global energy demand between 2016 and 2040 will be expanding at a slow pace but still expand by 30%. Fully aware of the importance of efficient use of energy, the Company has initiated some energy conservation projects which are relevant to the goal of GHG emissions control, for example, the project to reduce fuel consumption in vehicles, the project to reduce power purchase from external sources and the project to increase the use of renewable power. The scope of the Company's data on energy consumption corresponds to GHG emissions data covering all business activities in which Banpu holds greater than 50% of the shares and has management control, including five open-pit mines in Indonesia, five underground mines in Australia, three combined heat and power plants in China and six and two solar power plants in China and Japan, respectively. Activities associated with energy consumption assessment are as follows:

Business Type	Activities associated with energy consumption assessment
<p>Coal Business</p>	<ul style="list-style-type: none"> • Use of diesel in heavy equipment • Use of diesel in truck and boat transportation • Use of diesel and coal for electricity generation in support of the Company's activities • Use of gasoline for transportation • Purchase of electricity from external sources
<p>Power Business</p>	<ul style="list-style-type: none"> • Use of coal as the fuel for electricity, steam and heat generation • Use of waste gas as the fuel for electricity and steam generation • Use of diesel in heavy equipment • Use of diesel for transportation • Use of gasoline for transportation • Purchase of electricity from external sources



Management Approach

In coal business, there are such major energy-consuming activities as the use of fuels for trucks and small and large-sized equipment. To maximize fuel use, the Company sets standard quantity of fuel consumption for particular activities and encourages employees to think of and propose innovations about economical use of power based on local conditions, which shall reduce energy consumption, cut production costs and provide models for other business units.

In power business, the Company has improved the efficiency of production processes by adjusting the proportion of power and heat output to cater to customer's demand and deployment of High Efficiency Low Emissions (HELE) technology in the projects which the Company is going to invest in and will commence commercial operations in the future. Additionally, the Company studied and improved boiler efficiency at the Zouping Combined Heat and Power Plant. Boilers were modified to be able to use blast furnace gas (BFG), a waste from customers' steel blast furnaces, as alternative to coal in steam production since 2015. There was a feasibility study of such renewable energy sources as hydro and solar power as alternatives to fossil fuels for electricity generation. The Company has set a target that at least 20% of power generation by 2025 should be from renewable sources.

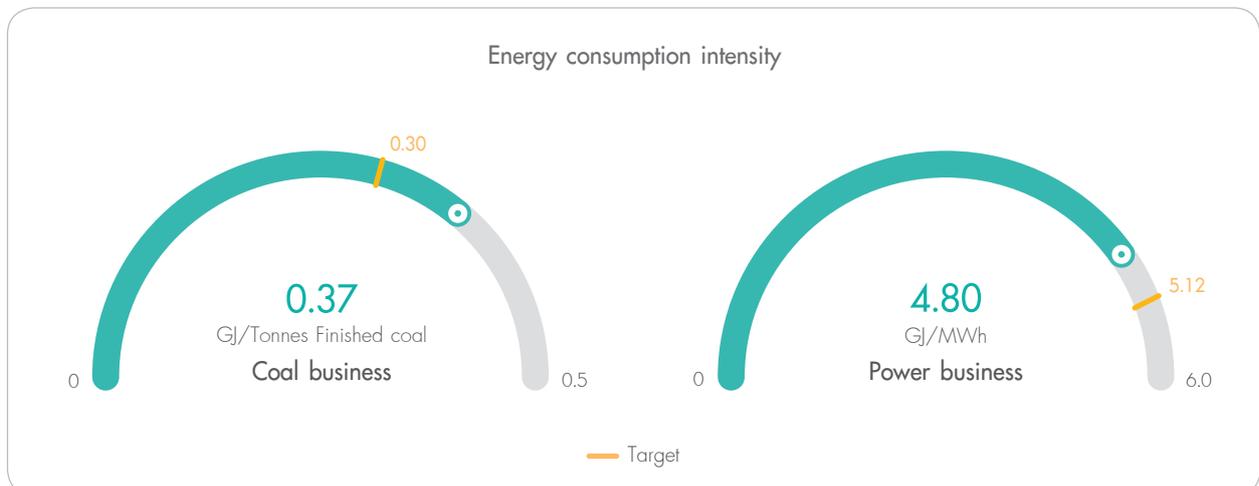
Performance

Coal Business

Energy consumption intensity increased 21% from previous year which was not achieved target because the energy was used for overburden removal.

Power Business

Energy consumption intensity decreased 6% from previous year which achieved target because waste gas for production process has been reduced, and directly affected to energy used in the process. Moreover, company has improved our process efficiently which produced more product but used less fuel.





Biodiversity



Indicator

Impacts
on **biodiversity**



Strategy

Avoidance of activities with potential impacts

Reduction of activities with potential impacts

Rehabilitation of mined areas

Biodiversity offsets for affected areas

Long-term Target

Biodiversity impact assessment is carried out in all business entities for open-pit mines by 2018

Biodiversity impact assessment is carried out in all business entities for underground mines by 2019

Positive impacts when the mine has closed

Performance

Positive impacts on
biodiversity
in **Bharinto mine**



Significance and Reporting Boundary

Biodiversity is another dimension related to the UN's Sustainable Development Goal 15 (conservation, restoration and use of terrestrial ecosystems for maximum benefits). In 2017, the Company has announced Biodiversity Policy to demonstrate awareness of reducing the degradation of natural resources in terms of biodiversity as well as the concept of ecological services. The policy also expresses the Company's commitment not to proceed any activities in or near World Heritage Sites or any activities with potential threats to plant or animal species at risk of extinction on the International Union for Conservation of Nature's (IUCN) Red List of Threatened Species. The Biodiversity Policy has been implemented in all business entities, especially the coal business in Indonesia and Australia.

Management Approach

The Company has been continually accumulating biodiversity knowledge by studying and developing a biodiversity impact assessment model according to Convention on Biological Diversity (CBD), aiming to achieve reduction of natural resources loss by at least 50%, also known as the Aichi Target.

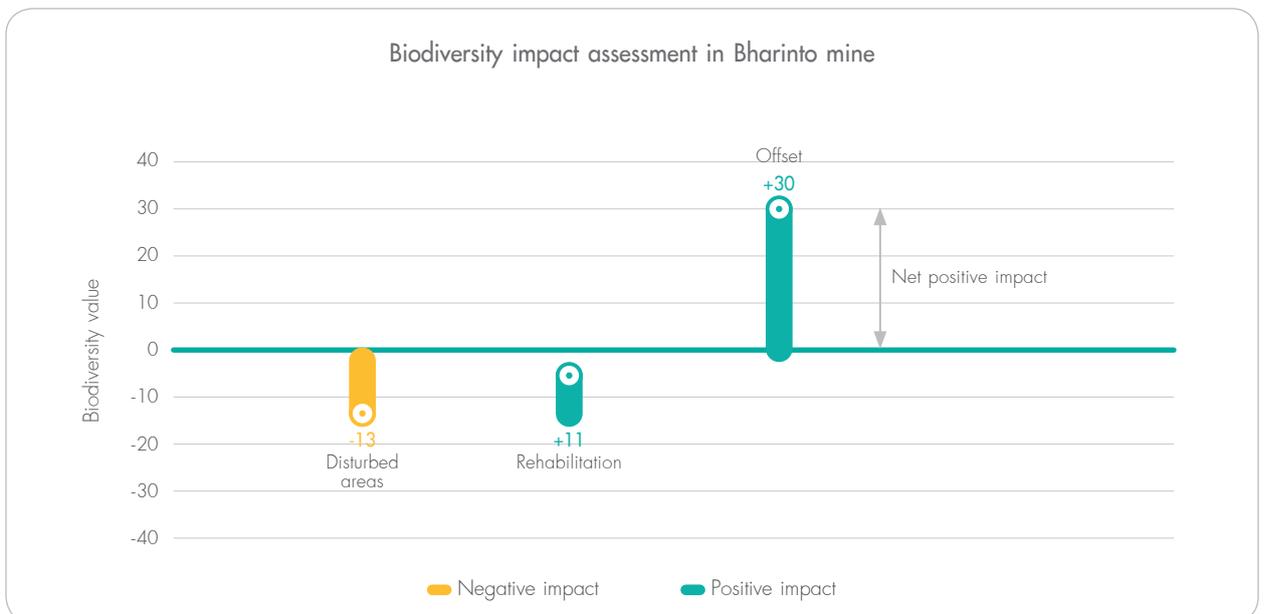
The Company has devised a plan to assess biodiversity impacts from all open-pit mines in Indonesia by 2018 and all underground mines in Australia by 2019. In the assessment, the Company uses a tool for reducing of biodiversity adverse impacts which is consistent with IUCN's concept. The concept consists of 4 approaches i.e. Avoidance of the activities that may cause impacts, Minimization of the activities that may cause impacts, Rehabilitation of mined areas and Biodiversity offset for the affected areas.



Avoidance	Minimization	Rehabilitation	Offset
Avoidance of negative biodiversity and ecosystem impacts caused by the Company's activities	When impacts are unavoidable, the Company must define measures to reduce such impacts	Revegetation to rehabilitate all post-mining areas is part of rehabilitation plan, the plan also includes annual target setting for mining and post-mining stages	The Company's activities may cause the negative biodiversity impacts to the mined areas. To reduce such impacts the Company hence revegetate in the areas of degraded forests and disturbed forests outside the mined areas

Performance

In Indonesia, the biodiversity impact assessment in the Bharinto mine based on the 2015 survey, the data showed a positive impact of biodiversity due to implementation of avoidance, rehabilitation and offset measures. In 2010, the Bharinto mine started a biodiversity baseline survey prior to mining and set a plan to conduct a survey every 2-3 years. The Company also has a plan to closely monitor operations and assess biodiversity impacts at every location with a long-term target to create positive biodiversity impacts at the post-mining stage.



With regard to its underground mining operations in Australia, the Company has monitored risks relating to biodiversity losses and performed its operations in accordance with land and ecosystem management. The Company also plans to assess the biodiversity impacts from all of its coal business in Australia by 2019.



Mine Subsidence



Indicator

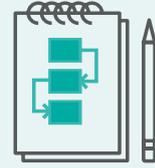


Impacts of
mine subsidence

Strategy

Development of a geological model for risk assessment of mining activities to monitor and mitigate potential impacts

Mine subsidence management plan



Annual Target

Zero hazards from **mine subsidence**

Performance

Zero hazards from **mine subsidence**

Significance and Reporting Boundary

Underground mining has a latent risk of mine subsidence caused by the movement of land due to underground voids which caused by underground mining activities. Mine subsidence can alter the environment and cause hazardous risks to local communities and species inhabiting in the areas. Centennial, our subsidiary in Australia, has incorporated mine subsidence as an issue in its risk management with full responsibility to minimize environmental impacts. Apart from designing optimal mining activities, Centennial also considers the mine subsidence risk in the underground mine, analyzes preventive costs as well as the fragility of the area in order to prevent subsidence and to develop measures for reducing subsidence risk.

Management Approach

The Company has implemented the Subsidence Management Plan not only to monitor and manage the impacts on the soil structure due to mining activities but also to monitor other environmental impacts. The Subsidence Management Plan has strict requirements including mining activities related to mine subsidence, designing suitable underground mines, preparing of strong pillars support mining systems and constant checking and monitoring. In cases where subsidence occurs and causes impacts on land or water habitats, the impacts will be strictly addressed and solved according to the Subsidence Management Plan.

Performance

So far there has been no report of mine subsidence caused by mining operations. However, the Company has assessed and analyzed future potential impacts, while periodically patrol and investigating the lands in respect of geology, hydrology and ecological systems. Apart from that, the Company has developed a geological model for impact assessment to facilitate operational improvement.



Mine Rehabilitation



<p>Indicator</p> <p>Ratio of rehabilitated areas to disturbed areas</p>	<p>Strategy</p>  <p>Starting land rehabilitation immediately after the mining stage</p>
<p>Annual Target</p> <p>Ratio of rehabilitated areas to disturbed areas is greater than 50%</p> <p>Long-term Target</p> <p>Revegetation is carried out according to the mine closure plan</p> 	<p>Performance</p> <p>49.8% of disturbed areas were rehabilitated</p> <p>600 hectares outside the mining concession were rehabilitated</p>

Significance and Reporting Boundary

Rehabilitation of mined areas is the process for restoring the condition of areas disturbed by mining activities to the original ecological niche as close as possible. In recognition of the importance of land rehabilitation as one of corporate responsibilities to the environment and stakeholders, the Company has standards for rehabilitation and biodiversity preservation to be aligned by all business entities. It is prescribed that there is rehabilitation master plan for every mine from the pre-mining to post-mining stages. Rehabilitation of a mined area will be proceeded along with mining operations which consists of 3 phases, i.e. planning and design, operation and monitoring, and maintenance. The information about rehabilitation of mined areas disclosed in this report covers all coal business in which the Company holds greater than 50% of the shares and has management control.

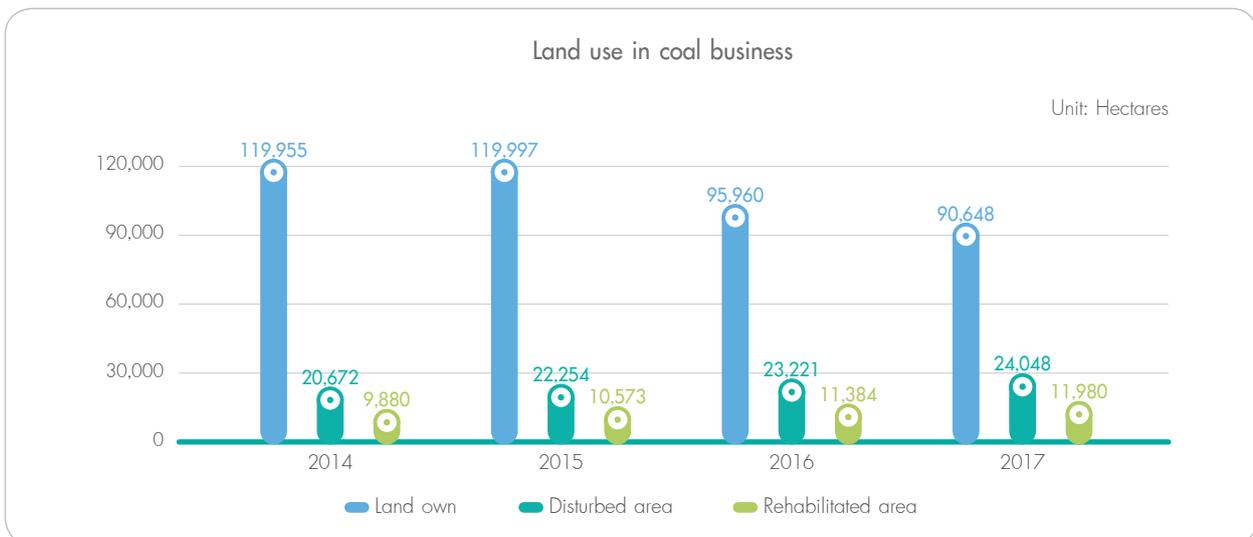
Management Approach

The Company operates according to the mining plan by backfilling overburden into the mine pits as much and as soon as possible after mining is completed to minimize voids and the rest overburden will be disposed offsite. The rehabilitation process is conducted to the areas where mining operation is completed. It starts with land treatment for stabilization, then covers the areas by planting the local perennials. However, concurrent mine rehabilitation during operation can be conducted to reduce costs and duration of the rehabilitation as the mine is approaching to closure. The Company also promotes community engagement in rehabilitating the impacted areas in order to align its operations with the needs of local communities throughout the life of a mine, thus leading to sustainability even after mine closure. In addition, the Company has undertaken afforestation of disturbed and degraded lands outside the concession areas to restore them to a fertile stage.



Performance

In 2017, the Company's coal business own mining concession lands of 90,468 hectares, of which only 24,048 hectares or 27% of total areas are used for mining activities. The Company has carried out revegetation of 11,980 hectares, or 49.8% of the areas. Besides, the Company reforested an additional area of 600 hectares outside the mining concession lands in Indonesia. The offset areas consist of degraded and disturbed forests. The above-mentioned activities are also in alignment with the biodiversity risk mitigation approach.



Workshops on Mine Closure Planning in Indonesia

A well-planned operation of mine closure is one of the priorities in coal business because it will lessen the impacts on the community and environment. Fully aware of the importance of mine closure planning, the Company organized a workshop on mine closure planning in Balikpapan



in Indonesia during 19-21 July 2017, which was attended by the Company's consultants, representatives from all 5 operating mines and representatives from relevant offices, so that they were able to share their working experience.

The topics in the workshop consisted of major issues in mine closure operation, such as land and pit management, management and reduction of environmental impacts, rehabilitation of mining areas and operation budgeting. Moreover, the Company set up a mine closure committee, which will convene quarterly to discuss on the approach and monitor the progress in mine closure.



Mine Closure



<p>Indicator</p> <p>Progress of activities according to the mine closure plan</p> 	<p>Strategy</p> <p>Management plan during the mine pre-closure and closure periods</p> <p>Guideline for revegetation after mine closure</p> 
<p>Annual Target</p> <p>Mine closure activities have made progress as planned</p>	<p>Performance</p> <p>Progress of mine closures activities as planned</p>

Significance and Reporting Boundary

Mine closure planning is a process that determines, in details, how to dismantle machinery and structures as well as reforestation to rehabilitate the mined areas. The process must take into account of associated risks such as erosion of soil and pits which the design will be examined according to environmental and safety standards. The process starts during the mining stage and continues well into the post-mining stage to ensure that the restored area can be used again or are in an acceptable stage in the eyes of the community and society. At present, 11 of the Company's mines are at the closure stage. Among these, one is an open-pit mine in Indonesia, Tandungmayang mine, while the rest are underground mines in Australia, i.e. Charbon, Commonwealth Colliery, Vale of Clwydd, Kerosene Vale, Blue Mountains, Ivanhoe No.1, Ivanhoe No.2, Munmorah, Endeavour and Awaba mines.

Management Approach

The Company has developed operational standards with regards to mine closure as group-wide practice guidelines. Such standards take into account many issues in environmental impact management such as stabilization of the area, overburden management, water treatment and management, waste management, mine rehabilitation and biodiversity impacts. There are criteria for evaluation of success and reliability of a closure plan before returning the mined area to the government as well as appropriate monitoring plan to ensure that there are no long-term environmental impacts. The Company has also carried out community development activities to prepare them for the future mine closure so that they will be self-reliant after mines are closed.

Performance

Mine closure preparation has been in progress as planned in all 11 mines.



Sulfur Dioxide

Indicator

SO₂ emission rate

per unit of product



Strategy

Continuous improvement on air quality control system

in power plants and power generators in coal business



2017 Target

SO₂ emission rate not exceeding 0.092 tonnes per GWh for power business

SO₂ emission rate not exceeding 0.009 gram per tonnes of finished coal for coal business

Performance

SO₂ emission rate per unit of product was at 0.026 for power business

SO₂ emission rate per unit of product was at 0.009 for coal business

Significance and Reporting Boundary

Sulfur Dioxide (SO₂) is a gas emitted from combustion of fossil fuels. When SO₂ is released to the atmosphere, it may undergo a chemical reaction with water and become sulfuric acid, which is corrosive and harmful to the environment. Thus, the concentration of SO₂ emissions is a key indicator for ambient air quality that the Company concerns. The information on SO₂ management disclosed in this report covers all business entities in which the Company holds greater than 50% of shares and has management control, i.e. coal businesses in Indonesia and Australia and power businesses in China and Japan. However, the performance excludes the coal business in Indonesia, which is developing its standards and data collection system in accordance with the Company's standards.

Management Approach

Sulfur dioxide emissions generated by the Company's operations are mainly from its power business in which coal is used as a raw material. Besides, power generators used in coal business also emit SO₂. Being fully aware of potential impacts on the community and the environment, the Company regularly assesses and checks the efficiency of power generators to control the concentration of SO₂ emitted and comply with legal standards.



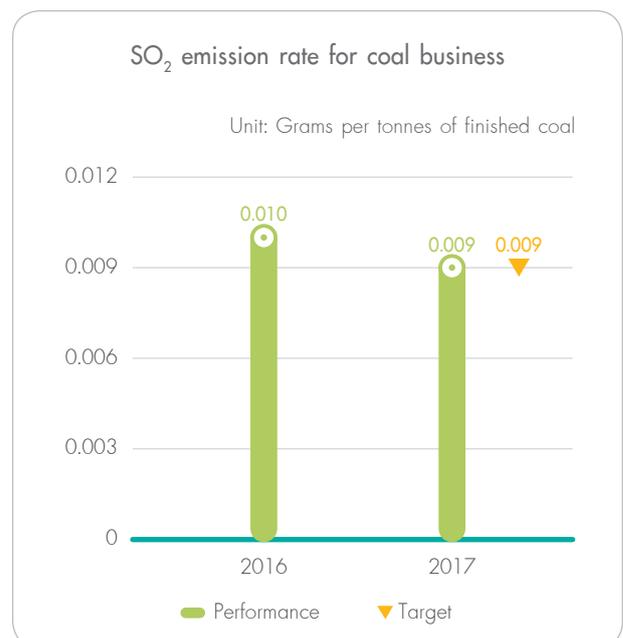
Due to severe air pollution in big cities, the Chinese government has become stricter on air quality standards. Accordingly, the Company has been studying and developing the more efficient approaches to eliminate pollutant at combined heat power plants in China by controlling at the sources, such as using low sulfur coal, installation of Circulating Fluidized Bed (CFB) to reduce sulfur dioxide and nitrogen oxides during coal combustion and installation of the Semi-dry and Wet Flue Gas Desulphurization (FGD) systems to remove residue SO₂ from the flue gases. Indicators and a systematic monitoring plan were also identified. For example, Continuous Emission Monitoring System (CEMS) was installed at the smokestacks and in the surrounding communities according to the long-term, 5-year plan (2013-2018), with investment of over USD 43 million, to improve the quality of air emitted from combined heat power plants in China so as to ensure that the air quality indicators comply with the legal standards and that there will be no harmful impacts on the community and the environment.

With regard to coal business where there is combustion of power generators to supply power for production process, the Company has a measure to continuously monitor, review and improve the efficiency of power generators.

Performance

The Company's continuous improvement of air quality has gradually decreased SO₂ emission rate per unit of product in power business from 0.242 tonnes per GWh in 2014 to 0.026 tonnes per GWh in 2017, or 174 tonnes of SO₂ emissions, which was well below the target of 0.092 tonnes per GWh.

The annual target for SO₂ emission rate for coal business in Australia was also met. The total amount of SO₂ emissions in 2017 was at 0.13 tonnes, or 0.009 grams per tonnes of finished coal, decreasing by 14% from 2016.





Oxide of Nitrogen

Indicator

NO_x emission rate
per unit of product



Strategy

Regular improvement of air quality control system efficiencies in **power plants**



2017 Target

NO_x emission rate per unit of product not exceeding **0.093** tonnes per GWh for power business

NO_x emission rate per unit of product not exceeding **14.29** grams per tonnes of finished coal for coal business

Performance

NO_x emission rate per unit of product was at **0.067** for power business

NO_x emission rate per unit of product was at **13.35** for coal business

Significance and Reporting Boundary

Oxides of Nitrogen (NO_x) are gases formed by the reaction between nitrogen and oxygen in atmosphere during complete combustion of fuels at the temperature of higher than 1,100 degrees Celsius, which occurs in power generation process in power plants and power generators in coal business. NO_x can induce chemical reactions and cause such pollutants as Nitrogen Monoxide (NO) and Nitrogen Dioxide (NO₂). Therefore, nitrogen oxides is one of the key air quality indicators the Company closely monitors.

The information on NO_x management disclosed in this report covers all businesses entities in which the Company hold greater than 50% of shares and has management control, i.e. coal business in Indonesia and Australia and power businesses in China and Japan. However, the performance excludes the coal business in Indonesia, which is developing its standards and data collection system in accordance with the Company's standards.

Management Approach

To manage NO_x emissions, the Company has applied various technologies to effectively reduce NO_x at its sources, including the low NO_x burners and the Circulating Fluidized Bed (CFB) for reducing SO₂ and NO_x during combustion. The Company has also utilized the methods of Selective Non-catalytic Reduction (SNCR) and Selective Catalytic Reduction (SCR) by injecting ammonia solution into the combustion chamber to convert NO_x into harmless nitrogen gas and water. Furthermore, the Continuous Emission Monitoring System (CEMS) was installed at the smokestacks and in the surrounding communities to ensure that the air quality indicators meet the regulatory standards and there will be no adverse impacts on communities.

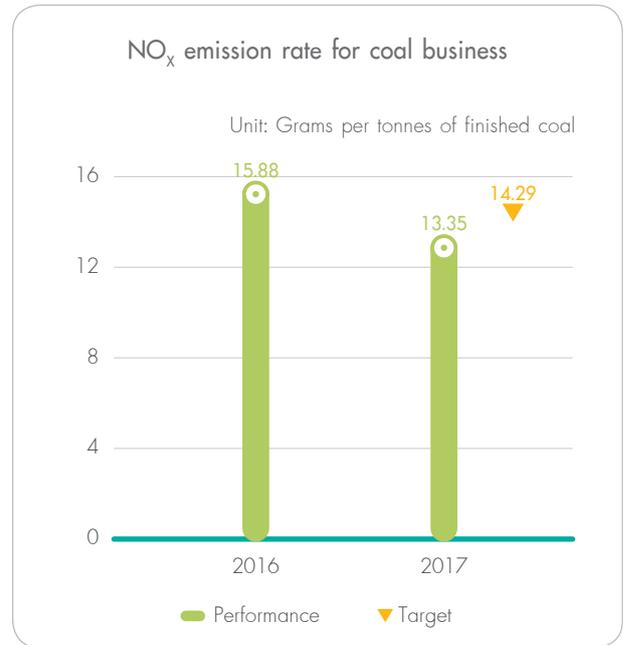
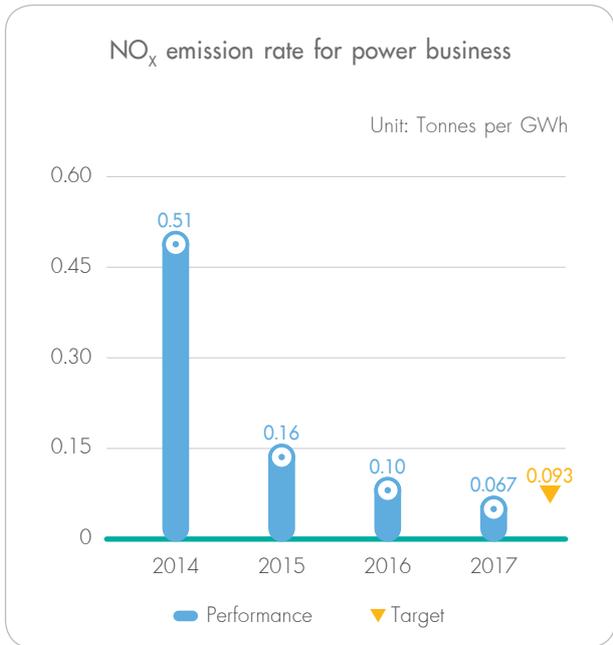


Performance

As a result of continuous air quality improvement plan, the intensity of NO_x emission rate per unit of product in power business has dropped from 0.51 in 2014 to merely 0.067 tonnes per GWh in 2017, which is below the target of 0.093 tonnes per GWh. The total NO_x emissions in 2017 amounted to 455 tonnes, which shows a gradual decrease from the year 2014. However, the Company will strive to reduce the NO_x emissions even further by continuous

development of High Efficiency Low Emissions (HELE) technology.

For coal business in Australia, the target for NO_x emissions was also met as the total amount of NO_x emissions in 2017 was 190 tonnes, or 13.35 grams per tonnes of finished coal, which decreased by 16% from 2016.





Particulate Matter



Indicator



Dust emission rate
per unit of product

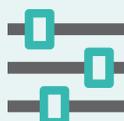
Strategy

Regular monitoring and improvement of air quality control system in coal stock yard and **power plants**

2017 Target

Dust emission rate per unit of product not exceeding **21.13** grams per tonnes of finished coal for coal business

Dust emission rate per unit of product not exceeding **0.013** tonnes per GWh for power business



Performance

Dust emission rate per unit of product was at **24.53** for coal business

Dust emission rate per unit of product was at **0.005** for power business

Significance and Reporting Boundary

One of the major pollutants from coal mining is particulate matter or dust, which can be dispersed during production process, coal stocking, coal quality improvement process and transportation. Larger quantities of dust will be dispersed in the area where there is low humidity. Dust in underground mines in Australia was generated by mining haul trucks' fuel combustion. Besides, fly ash from power generation process of power business can cause air pollution. Hence, it is the Company's responsibility to control dust emission at the sources in order to ensure that it meets legal standards and to prevent potential harmful impacts on the communities and living things in the surrounding areas.

The information on dust management disclosed in this report covers all business entities in which the Company holds greater than 50% of shares and has management control, i.e. coal business in Indonesia and Australia and power business in China and Japan. However, the performance excludes the coal business in Indonesia, which is developing its standards and data collection system in accordance with the Company's standards.

Management Approach

The Company's management approach to dust control is prevention and reduction of dust at its source by employing various appropriate measures to each operation. Such measures include planting trees as a wind-blocking barrier in high risk areas of dust, installing a windbreak wall at coal stock yards, reducing the truck speed in mining areas to reduce dust dispersion and enhance work safety, spraying roads and coal stock yards with water, replacing trucks with conveyors in coal transportation, setting up a tires washing area, and covering coal storage and haul trucks to minimize dust dispersion. Additionally, the Company has regularly monitored the amount of dust



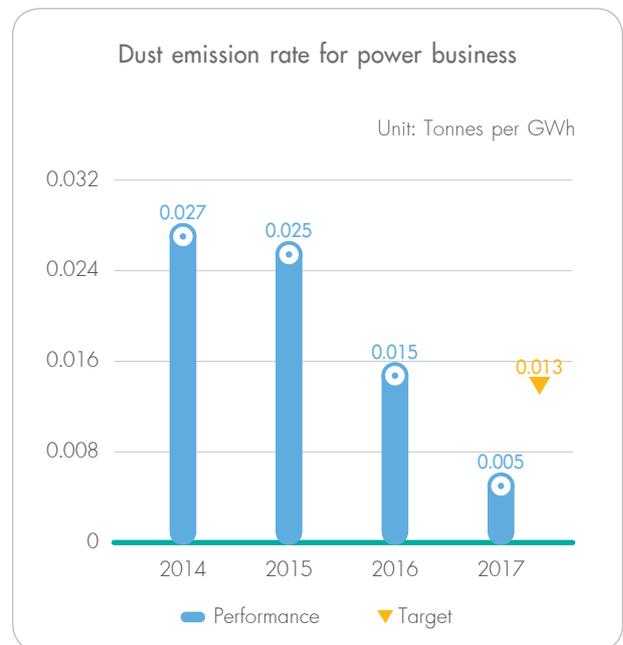
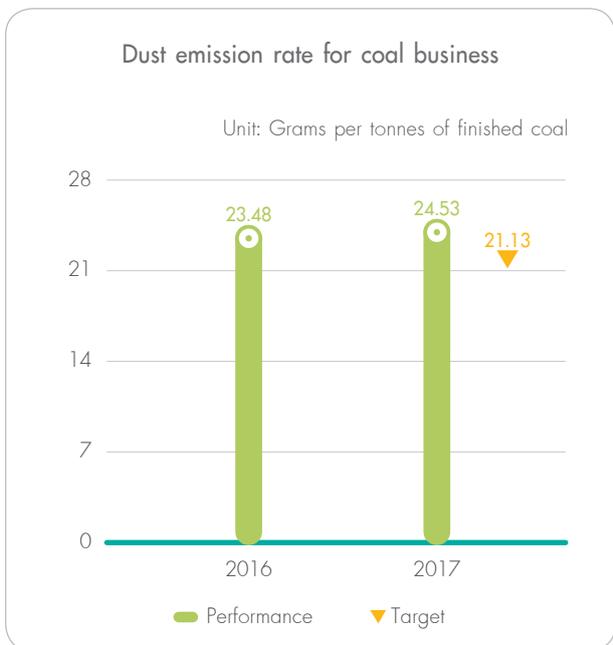
at mine site, coal storage and in the surrounding communities to ensure the effective control of dust from coal mining. To remove fly ash caused by the power generation in combined heat power plants, the Company uses an effective and advanced technology called Electrostatic Precipitator (ESP). With this apparatus, dust is passed through the electric field to be charged with negative electrode and later induced to the collecting chamber having the opposite charges in which the fly ash will be collected by collecting plates. Apart from that, there is the installation of a Continuous Emission Monitoring System (CEMS) at the smokestacks and in the surrounding communities to ensure that the air quality indicators meet the legal standards.

Performance

In 2017, the coal business in Australia was contributed to total dust emission at the amount of 349 tonnes, or 4% increased from the previous year, which equals to the intensity of 24.53 grams per tonnes of finished coal. In order to keep dust emission below the target, the Company has installed dust filters in diesel vehicles used in underground mines to filter dust that is smaller than 2.5 microns. It is expected to reduce dust emission

from vehicles used in underground mines by as much as 95%.

In 2017, the continuous improvement of the air quality control systems in power business resulted in a significant decrease in dust emission rate by 66% from the previous year, at 0.005 tonnes per GWh, amounting to 35 tonnes of dust emission





Water



<p>Indicator</p> <p>Proportion of reused and recycled water</p> 	<p>Strategy</p>  <p>Analysis on the production process to develop water usage database and to improve water usage efficiency</p>
<p>2017 Target</p> <p>A minimum of 5% of water is reused or recycled for coal business</p> <p>A minimum of 8% of water is reused or recycled for power business</p>	<p>Performance</p> <p>10.43% of water is reused or recycled for coal business</p> <p>7.67% of water is reused or recycled for power business</p>

Significance and Reporting Boundary

Water is used for the Company’s coal production and power generation. Although none of the Company’s operations in Indonesia, Australia, China and Japan is located in water-stress areas, the Company still recognizes water-related risks. All concerned sectors also prioritize water management with the target to achieve sustainable management of water resources. The target is directly linked to the UN’s Sustainable Development Goal 6, which aims at mitigating quality water scarcity that may lead to fights for water in the future. The information about water management disclosed in this report covers coal business in Indonesia and Australia and 3 combined heat and power plants in China but excludes solar farms in China and Japan which do not use water as main material in the production process.

Management Approach

The Company has announced the Water Policy in 2017, which comprises three principles, i.e. optimal water consumption, compliance with environmental laws, and engagement with stakeholders. Water usage in the Company’s operations varies according to business characteristics. In coal business, water is used to wash coal off impurities and for controlling dust from mine roads. In power business, water is used for reducing the machinery temperature, steam production and trapping fly ash in the air quality control system.

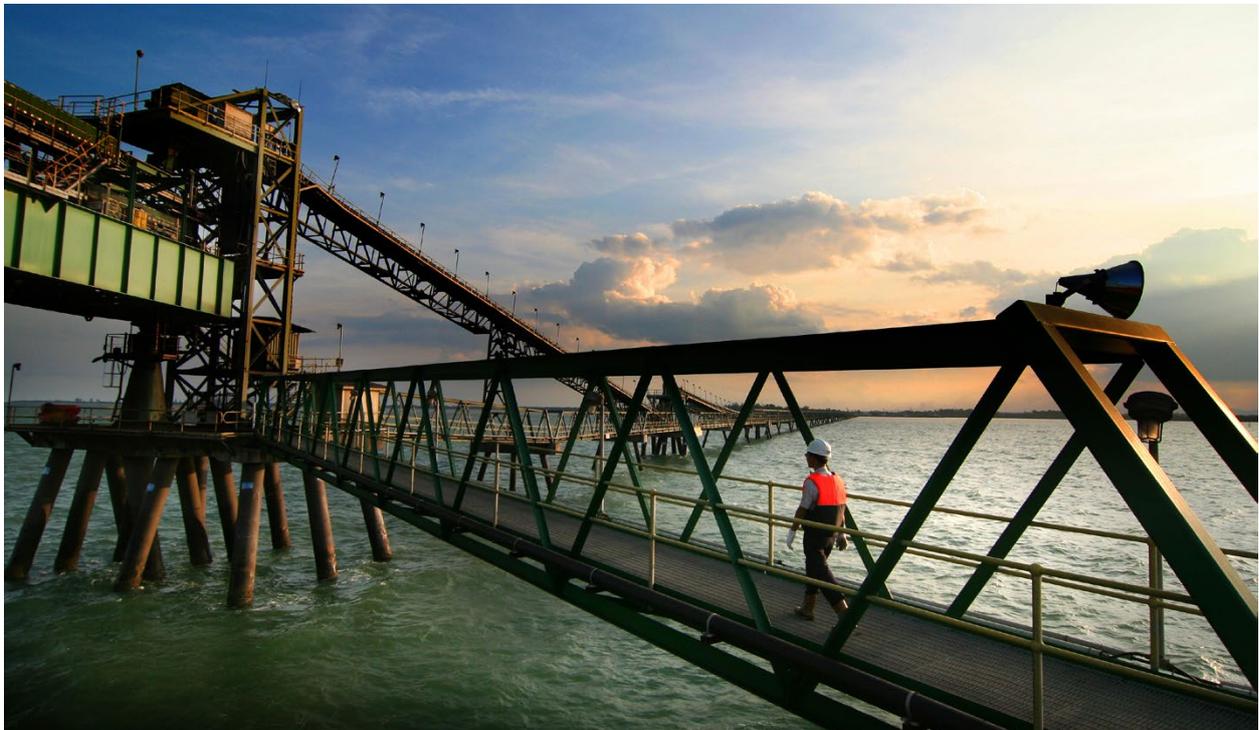


The Company emphasizes on the reduction of natural water usage and the increase of water reuse to maximize the benefits and efficiency by cutting water usage in all operations. The plan starts from production process analysis in order to develop water usage database and improve the production process to reduce water consumption by the following approaches:

- Improving the efficiency of the water treatment system by using related technologies such as reverse osmosis, ultrafiltration and ion-exchange resins
- Regular analysis, detection and repair of possible leaks in the production process
- Increasing the proportion of water reuse in the original production process and other processes such as spraying water on coal stock yards to control dust, washing coal, washing truck tires, and watering plants in the mine area

Performance

In 2017, the Company's water in coal business amounted to 437 million m³, 95% of which was rainwater contained in the reservoirs in the mining areas. The water used in production process amounted to 5 million m³, and water reused amounted to 0.5 million m³, or 10.43% of total water usage. Water in power business amounted to 8.56 million m³, more than 70% is surface freshwater. The water used in production process amounted to 7.85 million m³, and water reused amounted to 0.6 million m³, or 7.67% of total water use.





Effluents



<p>Indicator</p> <p>Degree of compliance</p>	<p>Strategy</p> <p>Quality control of effluent by appropriate treatment system</p> 
<p>Annual Target</p> <p>Quality of effluent is 100% in compliance with the standards</p> 	<p>Performance</p> <p>Quality of effluent was 100% in compliance with the standards for coal business</p> <p>Quality of effluent was 100% in compliance with the standards for power business</p>

Significance and Reporting Boundary

Compliance to laws and regulations in each country is of utmost importance to the Company. In particular, the quality of effluent must comply with legal requirements of each country where the Company has business operations. The information about quality of effluent disclosed in this report covers coal business in Indonesia and Australia and 3 combined heat and power plants in China but excludes solar farms in China and Japan which do not use as main material in the production process.

Management Approach

The Company has designed a drainage system to separate rain water in the mine area from the water used in the production process. The drainage system is constantly maintained and effluent is properly treated before it is discharged into public water sources. In coal business, the Company has selected for appropriate treatment to characteristics of wastewater from production process. For instance, wastewater from coal washing is treated in settling ponds to adjust the quality of effluent to comply with a standards of Indonesia and the construction of wastewater treatment plants in Australia to comply effluent quality with its standard. Effluent quality is constantly measured with standard equipment as well as by certified third-party to ensure that the quality complies with the legal standards in each particular country and will not cause any adverse impacts on the hydro-ecology and water utility in the surrounding communities.

For the power business, water is mostly used for controlling the temperature of machines. Consequently, water temperature needs to be reduced within legal standards prior to discharge. The Company has developed the semi-closed loop cooling water system to reduce the amount of effluent and also designed a drainage system with longer distance so that water is exposed to air as long as possible. This helps control the water temperature within the standards prior to discharge.



Performance

In 2017, for coal business, the effluent discharged into surrounding surface water sources and to the sea amounted to 432 million m³. The effluent quality of all coal and power businesses met water quality standards required by law. The amount of effluent of power business was 0.71 million m³; all of which was discharged into public sewer system.

Water Source Cleaning in Mongolia



Hunnu Coal organized a water-source cleaning activity at Balgasiin Sairiin Bulag, which is close to the Tsant Uul mine. The activity included garbage collection from the water source to return it to a clean state. Most of the garbage were old tires, plastic cups and bottles. Furthermore, the Company conducted a reforestation project around the Altai Nuurs mine area by planting more than 450 tree seedlings in 3 villages of Govi-Altai Province to engage the community on taking care of the green spaces. Apart from that, the Company planted more than 600 tree seedlings in the vicinity of the Tsant Uul mine and the Bayan Ovoo Park.



Non-Hazardous Waste



<p>Indicator</p>  <p>Proportion of reused and recycled non-hazardous waste</p>	<p>Strategy</p> <p>Prevent and reduce the generation of waste at its sources Reuse and recycle the waste</p> 
<p>Annual Target</p> <p>A minimum of 50% of the non-hazardous waste is reused and recycled</p>	<p>Performance</p> <p>93% of non-hazardous waste was reused and recycled</p>

Significance and Reporting Boundary

The Company prioritizes the management of non-hazardous waste generated by the operations from offices and business units in both coal and power businesses since inefficient management not only increases the amount of waste but also adds the long-term costs for appropriate disposal. The data of non-hazardous waste covers all business entities in which the Company holds greater than 50% of shares and has management control. However, it excludes the power business in Japan, which is developing the standards and data collection system in accordance with the Company's and international standards. Non-hazardous waste excludes tailings, overburden and ash from power plants because of different classification of wastes between coal and power business in each country where the Company has business operations.

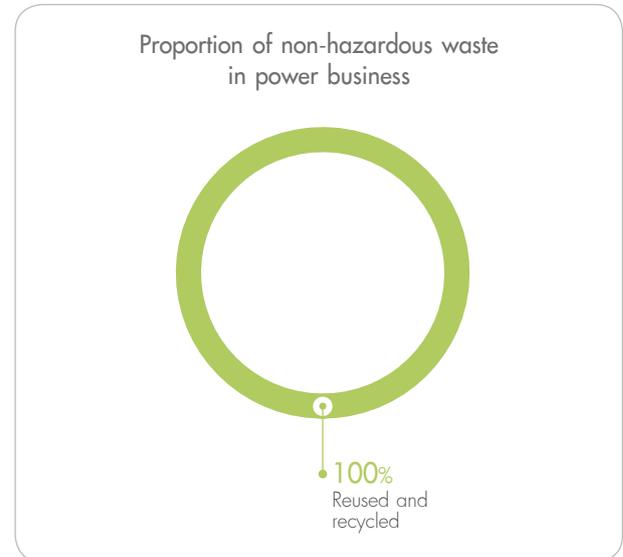
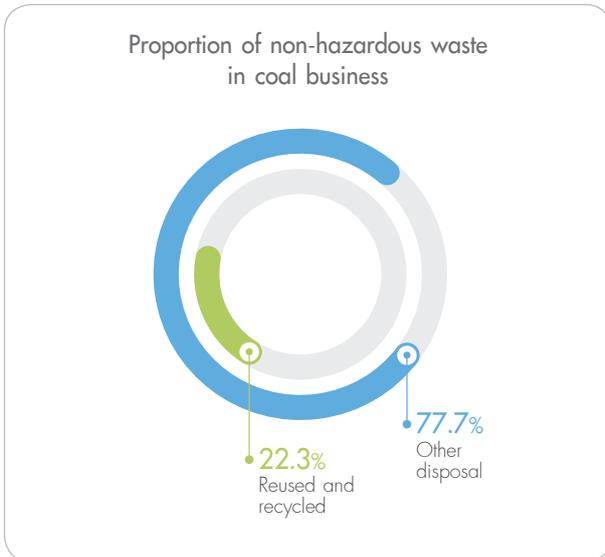
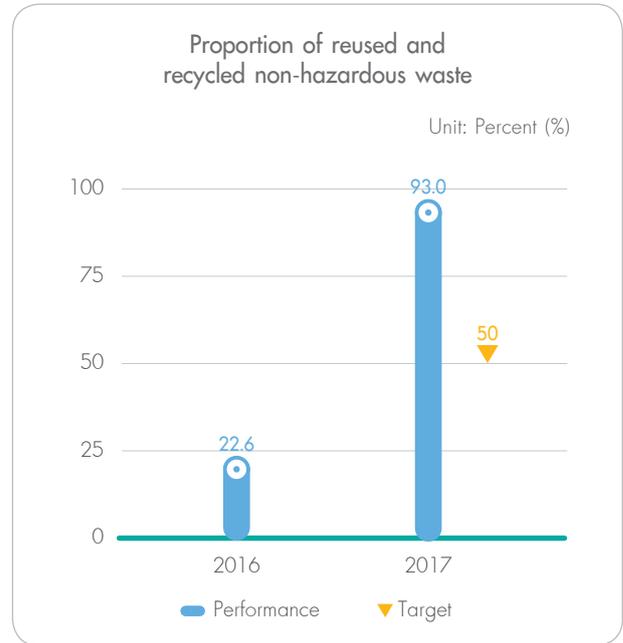
Management Approach

The Company focuses on prevention and reduction of waste at its sources including reuse and recycle to reduce the amount of waste to be disposed by incineration or landfill. The Company has established the standards for waste management and waste transfer and disposal to be practiced by all production units across Banpu Group. It has also set the target for the proportion of the non-hazardous waste being reused and recycled at the minimum of 50%.



Performance

In 2017, the Company's non-hazardous waste amounted to 58,687 tonnes, most of which was gypsum powder produced by the air quality control systems from the power business in China. Proportion of reused non-hazardous waste was 93% that met the annual target. Currently, the Company is developing and aligning the standards and data collection system across all other business entities.





Hazardous Waste



<p>Indicator</p>  <p>Proportion of reused and recycled hazardous waste</p>	<p>Strategy</p>  <p>Prevent and reduce the generation of waste at its sources Reuse and recycle of waste</p>
<p>Annual Target</p> <p>A minimum of 50% of the hazardous waste is reused and recycled</p>	<p>Performance</p> <p>20.6% of the hazardous waste was reused and recycled</p>

Significance and Reporting Boundary

The Company places great importance on the management of hazardous waste from business operations of offices and business units in both coal and power businesses since inefficient management not only increases the amount of waste but also adds the long-term costs for appropriate disposal. On top of that, the waste will pose harmful impact on employees, surrounding communities and the environment. In fact, hazardous waste has much greater impact than non-hazardous waste as it can contaminate soil and natural water sources when there are leaks. Most of the hazardous waste is generated by production processes such as used engine oil and batteries from mine machinery and vehicles, and used lubricants from power business. The data of hazardous waste covers all business entities in which the Company holds greater than 50% of shares and has management control. However, it excludes the power business in Japan, which is developing the standards and data collection system in accordance with the Company's and international standards. Hazardous waste excludes tailings, overburden and ash from power plants because of different classification of wastes between coal and power business in each country where the Company has business operations.

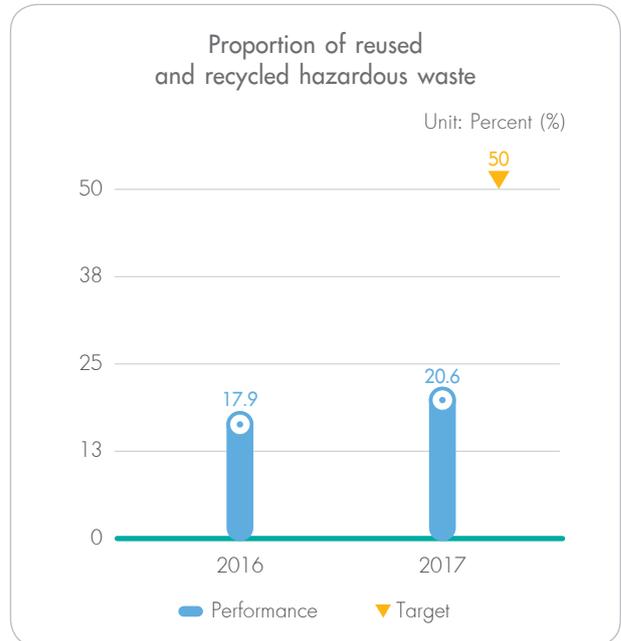
Management Approach

As the Company is fully aware of the importance of hazardous waste management and potential risks and impacts caused by the leaks hazardous waste, it emphasis on hazardous waste management by prevention or reduction of waste at its sources and reuse and recycling. It also closely monitors waste management system to ensure full compliance with waste management standard, waste transfer and disposal standard as well as other relevant laws. The Company has set the target to reuse and recycle the hazardous waste at a minimum of 50%.



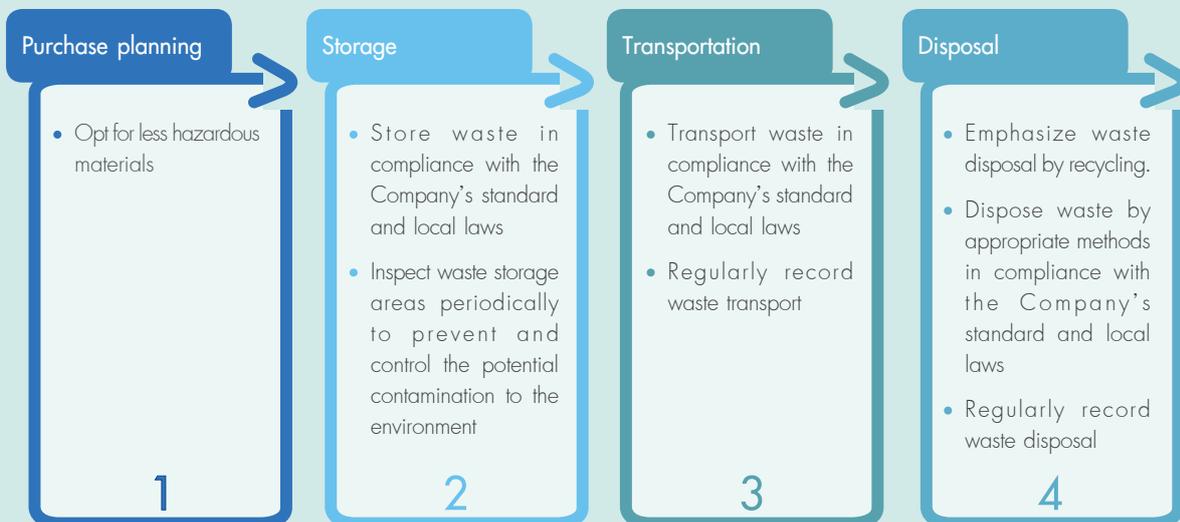
Performance

In 2017, hazardous waste generated by the Company's operations amounted to 5,893 tonnes. Proportion of reused and recycled hazardous waste was 20.6%; therefore, the Company did not achieve its annual target for hazardous waste management. Currently, the Company is developing and aligning the standards and data collection system across business entities.



Waste Management System

Waste from the Company's production processes will be segregated at sources to identify appropriate management approach in compliance with local laws and requirements of each business location. The waste management system consists of four steps, namely purchase planning, storage, transportation and disposal. Special emphasis is placed on purchase planning of hazardous waste, for instance, by opting for less hazardous materials. The Company also closely monitors waste management and some of them are sent for disposal by external authorized parties to ensure that there will be no impact on the environment or health on employees and surrounding communities.





Ash



<p>Indicator</p> <p>Proportion of recycled ash from power plants</p> 	<p>Strategy</p> <p>Emphasizing on recycling of ash as much as possible</p> 
<p>Annual Target</p> <p>100% of recycled ash from power plants for power business in China</p>	<p>Performance</p> <p>91.1% of recycled ash from power plants for power business in China</p>

Significance and Reporting Boundary

Power business is one of the Company’s main businesses aside from coal business. Ash, which is a major by-product from coal-fired power plants, can be divided into two subcategories: bottom ash and fly ash. Increase in the amount of ash means increase in waste from production processes and disposal costs by landfill. In addition, improper ash management can lead to contamination to the environment. Whether ash is considered as hazardous waste varies according to the local law of each country where the Company has operations. Therefore, the Company excludes ash from power plants from hazardous waste and non-hazardous waste. The data of ash covers all business entities in which the Company holds greater than 50% of shares and has management control. Currently, the Company owns three combined heat and power plants in China and a small power plant in the Indominco mine in Indonesia.

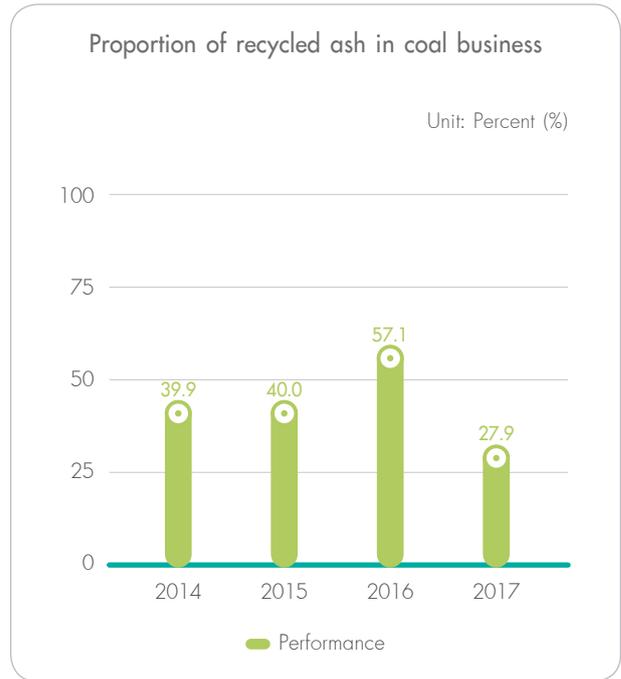
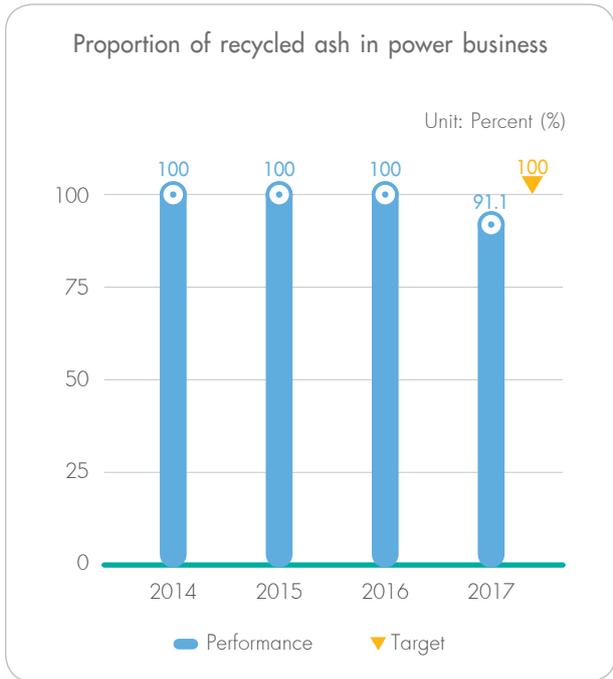
Management Approach

To manage ash, the Company adopted a similar approach to waste management by emphasizing on recycling of ash. Because ash has similar properties to cement, it can be sold for recycling to be used in other industries, for example, use of fly ash as a cement substitution to produce stronger concrete for construction and use of bottom ash as a raw material to produce bricks or as aggregate in road construction. The Company also separates ash into different sizes to cater to different market needs and to increase sales prices. The information on the amount of ash is collected according to size, business type, and disposal method to be used as baseline data for setting long-term targets. The annual target is 100% of ash from China power plants to be recycled.



Performance

In 2017, ash from the Company's power plants amounted to 634,114 tonnes, of which 91.1% from power business in China and 27.9% from coal business in Indonesia were recycled. In Indonesia, the ash was recycled as bricks to be used for road and footpath construction in the business unit areas.



Utilization of Ash in Indonesia

Ash from a small power plant at Indominco Mine, Indonesia, was recycled by producing bricks for paving, parking and storm drainage construction in the mine's area. In addition, the bricks are delivered to communities for building construction at local schools.





Tailings

<p>Indicator</p> <p>Number of significant tailings spills</p>	<p>Strategy</p>  <p>Efficient Management of tailings storage facility throughout the project</p>
<p>Annual Target</p> <p>Zero significant tailings spills</p> 	<p>Performance</p> <p>Zero significant tailings spills</p>

Significance and Reporting Boundary

To improve the quality of coal to meet the customers' needs in mining operations, coal must be passed through the steps of crushing and washing, respectively. Inefficient management of tailings from the coal processing may have negative impacts on communities and the environment in the surrounding areas caused by tailings spills from the storage facility to outer areas. The data of tailings covers all business entities in which the Company holds greater than 50% of shares and has management control. Currently, the Company has three tailings storage facilities in Australia.

Management Approach

The Company focuses on an efficient tailings storage facility management throughout the project to prevent tailings spills, which may have adverse impacts on communities and the environment. To prevent such incident, the Company has established the Tailings Management Standard to be implemented across the Group in compliance with the Environment Policy and applicable local laws of each host country. The Company also places great importance on the tailings management plan, including measures to mitigate impacts from tailings by applying the principles of risk assessment, from the location selection for tailings storage facility to the area preparation in mine closure stage. The tailings management plan will be periodically reviewed and revised to reflect significant changes in the mine plan.

Although the analysis indicated that these tailings are non-hazardous waste, the Company regularly checks for potential tailings spills from the storage facilities. The tailings are disposed by landfilling in a designated area as specified in the tailings management plan and strictly follows the mine closure plan. With regard to the annual target, there must be zero significant tailings spills.



Tailings Storage Facility Management

Pre-construction

- Integrate tailings management into mine planning.
- Tailings storage facilities must be designed by experts.
- Select construction materials that are appropriate and efficient.
- Conduct economic evaluation throughout the project.

Construction

- Construction must be under the supervision of experts throughout the construction phase.
- Construction must be operated by capable contractors.
- Details and technical information are recorded.
- Important details must be illustrated in the construction drawings.

Operation

- Identify responsible persons and actions in cases of improper operation.
- Establish the Standard Operation Procedure (SOP) of each tailings storage facility.
- Regularly monitor water quality in the areas surrounding tailings storage facilities
- Periodically conduct inspection of tailings storage facility to prevent spills.
- Develop an emergency response plan.

End of Operation

- End of operation must be considered together with the mine closure plan.
- Criteria for closure must be reviewed together with the community.
- Prepare budget for emergency management after closure.
- Prepare a monitoring plan after closure.

Performance

In 2017, the Company produced tailings amounting to 333,596 tonnes dry weight, and the continuous improvement of tailings storage facilities has resulted in zero tailing spills.





Overburden



<p>Indicator</p> <p>The proportion of overburden that is in-pit backfilled</p>	<p>Strategy</p>  <p>Emphasizing removing overburden as necessary and in-pit backfilling</p>
<p>Annual Target</p> <p>Increase the proportion of overburden that is in-pit backfilled</p> 	<p>Performance</p> <p>The overburden removed amounted to 236 million BCM</p> <p>The proportion of overburden that is in-pit backfilled was 40%</p>

Significance and Reporting Boundary

In coal business, although overburden was proved as non-hazardous waste, it is the nature of open-pit mining to have a substantial amount of overburden. Improper management may create potential acid forming (PAF) materials in the soil, and when they undergo a chemical reaction with water and air, they will cause acid drainage. This will also affect the Company’s long-term treatment costs. Hence, the Company realizes the importance of effective mine planning because it not only saves energy for overburden removal and transportation, but also reduces environmental impacts. The data of overburden covers all business entities in which the Company holds greater than 50% of shares and has management control.

Management Approach

The Company is well aware of the importance of an efficient mine planning; therefore, it emphasizes removal of overburden as little as necessary and in-pit backfilling as much as possible in order to reduce the void areas and save the energy used to transport overburden to other areas. The Company has developed measures for overburden management, starting from the geological survey and study of the soil property in the area prior to mining to create a geological model for the estimation and classification of soil, assessment of risks that may have environmental impacts, and economic evaluation. The annual target is to increase the proportion of overburden that is in-pit backfilled.

Performance

In 2017, the Company removed 236 million BCM of overburden, 40% of which was in-pit backfilled.



Acid Mine Drainage Management

<p>Indicator</p> <p>Number of acid mine drainage spills into neighboring waterways</p>	<p>Strategy</p> <p>Implement an efficient mining plan to prevent acid mine drainage.</p> <p>Conduct water treatment in the area of acid mine drainage to become safe before mine closure.</p> 
<p>Annual Target</p> <p>Zero acid mine drainage spills into neighboring waterways</p> 	<p>Performance</p> <p>Zero acid mine drainage spills into neighboring waterways</p>

Significance and Reporting Boundary

Naturally, acidity in water can be gradually produced from soil and rock erosion in nearby areas; however, inefficient mining management will increase the rates of acid generation from mining activities. High acidic water can dissolve heavy metals in soil layers, which pose harmful health effects on humans who drink or expose the contaminated water. On top of that, this can cause long-term heavy metals contamination in the environment. The data of acid mine drainage management covers all business entities in which the Company holds greater than 50% of shares and has management control.

Management Approach

The Company stresses the mitigation of the risks that may cause acid mine drainage throughout the mine life cycle, from the feasibility study phase to mine closure. It announced the Acid Mine Drainage Management Standard to be used as a framework for operations in compliance with applicable laws and regulations in each location. The Company has always strived to improve the water quality in the areas where there is acid mine drainage to become safe water prior to mine closure.

Performance

In 2017, none of mines is in mine closure stage. Nevertheless, some of the projects are undergoing treatment of acidic water, and these projects are closely monitored according to the water treatment and management plan. In the previous year, there was progress in the operations according to the water management plan. In addition, there was no report on acid water spill into surrounding communities or the environment.



Spill



<p>Indicator</p> <p>Number of significant spills </p>	<p>Strategy</p> <p> Efficient preventive and corrective measures on spills</p>
<p>Annual Target</p> <p>Zero significant spills</p>	<p>Performance</p> <p>1 Significant spill</p>

Significance and Reporting Boundary

The Company is fully aware of impacts on the environment and stakeholders caused by raw material or waste spills in storage areas or during transportation which may result from inappropriate management. Spill not only causes extra expenses in the treatment and restoration of the affected areas, but it is also a common health and safety concern of all stakeholders, including the communities, government agencies, press and civil society, because spill can cause short-term and long-term harmful effects to employees, the communities and the environment. The data of spill covers all business entities in which the Company holds greater than 50% of shares and has management control.

Management Approach

The Company focuses on effective prevention and a prompt response against spills. Strict preventive measures have been applied and a response procedure have been prepared in all production units. Furthermore, there is a continuous monitoring by internal and external parties to ensure that the Company's operations will cause no harmful impacts on employees, contractors, communities or the environment in and around operational areas. In fact, the Company requires that the quantity of significant spills to be reported externally, starting from oil spill greater than 10 gallons (40 liters) and other spills that contaminate into the environment, in the year that such spills occur. The Company has aimed to achieve its annual target of zero significant spills.



Preventive Measures	Response Procedure
<ul style="list-style-type: none"> • Ensure that storage and transportation of raw materials and waste comply with laws and regulations in every country • Periodically check for spills in storage areas of raw materials and waste • Communicate spill prevention and control measures to employees and contractors 	<ul style="list-style-type: none"> • Communicate the spill response plan to employees and contractors • Regularly exercise and improve incident response drills • Prepare equipment for spill response to be ready for use • Prepare persons who are responsible for coordination with local governing agencies and communication with communities in case of spills

Performance

In 2017, there was a significant oil spill of about 100 liters from a fuel tank of generator in Mongolia. Although the spill did not cause serious damage to the community and environment, the Company immediately responded and investigated its root cause. Additionally, the preventive measures have been reviewed and the operation plan has been improved in order to prevent recurrence.





Environmental Compliance



<p>Indicator</p> <p>Number of significant fines for environmental non-compliance</p>	<p>Strategy</p> <p>Regularly review compliance with environmental laws in all businesses</p> 
<p>Annual Target</p> <p>Zero significant environmental non-compliance</p> 	<p>Performance</p> <p>2 Significant fines for environmental non-compliance in Australia</p>

Significance and Reporting Boundary

The Company places top priority on compliance with environmental laws since it is not only a fundamental requirement that every business has to meet in order to obtain a business license, but it also demonstrates the Company's good governance. Environmental non-compliance may affect the renewal of licenses or expansion of projects, not to mention extra environmental expenses. The data of environmental compliance disclosed in this report covers all business entities in which the Company holds greater than 50% of shares and has management control.

Management Approach

To ensure that there will be no significant environmental non-compliance, the Global Internal Audit and Corporate Compliance department will regularly review the Company's compliance with environmental laws in all businesses. The Company has also established a system to record the incidents of non-compliance with relevant environmental laws and report the number of incidents and the amount of legal fines that are greater than or equal to USD 10,000 (significant fine) or approximate of AUD 13,000 in the year that such incidents occur.

Performance

In 2017, there were two significant fines for environmental non-compliance as detailed below:

Details	Fine
1. Spill of fine coal from conveyor belt during transportation at Springvale	AUD 15,000
2. Failure to identify a protected swamp on a land disturbance permit	AUD 15,000



Progress on Spillage at Clarence (Incident occurred in 2015)

In 2017, the Land and Environment Court of New South Wales ordered the Clarence Mine to pay AUD 1,050,000 fine for failure to comply with the laws plus AUD 103,000 for legal costs due to the accidental spill of coal fines slurry and reject material into the Blue Mountains National Park in 2015. Witnessing the Company's sincere operations, external stakeholders provided additional recommendations on clean-up operations of the affected area. The Company will periodically monitor the progress of environmental revival in the area.

Progress on Non-Compliance at Charbon (Incident occurred in 2016)

After a closed mine named as Charbon was ordered to pay significant penalty for non-compliance with the water management plan in 2016. In the past year, the Company has reviewed the existing measures to ensure that the rehabilitation of post-mining areas will be conducted properly as planned.



Society



Levels of Employee Engagement:

Thailand	64%
Indonesia	84%
China	95%



Zero Significant Complaints from Communities



LTIFR = 0.15
for Employees



1 Contractor Fatality in Indonesia



Strategy

“Community Development
in line with the Sustainable
Development Goals”





Employee Engagement

<p>Indicator</p> <p>Level of employee engagement</p>	<p>Strategy</p>  <p>Fostering a relationship between the Company and employees with the Say Stay Strive concept</p>
<p>2017 Target</p> <p>Level of employee engagement at all business entities is over 65%</p> <p>Long-term Target</p> <p>Level of employee engagement at all business entities is over 70% by 2020</p> 	<p>Performance</p> <p>Levels of employee engagement to the Company</p> <ul style="list-style-type: none"> 64% for head office in Thailand 84% for coal business in Indonesia 95% for power business in China

Significance and Reporting Boundary

The Company believes that human capital plays a key role in enhancing the Company’s competitive edge, and employee engagement is significantly associated with the work effectiveness and level of happiness. The employee engagement data disclosed in this report covers the employees of all business entities in which the Company holds more than 50% of shares and has management control. However, the employee engagement surveys were conducted only at the Bangkok head office, coal business in Indonesia and power business in China.

Management Approach

The Company has formulated an Employee Relation Policy as a guideline for strengthening a relationship with employees. Employee engagement is fostered with “Say Stay Strive” concept.





To put these three principles into practice, the Company developed three management approaches as follows:

- **Compliance with Laws and International Frameworks**

The Company fully complies with local laws of each country where it has business operations as well as international frameworks, for example, compliance with human rights principles, prevention of hiring child and compulsory labor, and freedom of establishment of labor unions.

- **Fair Recruitment, Performance Management and Remuneration**

In addition to equitability, performance-based and competency-based principles, the performance appraisal for fairness remuneration is based on 2 sets of KPIs, namely, work-related KPIs and behavior-based KPI.

- **Employees' Quality of Life**

The Company places top priority on improving employees' quality of life so that they have a happy life through and after retirement.

The Company annually conducts the Employee Engagement Survey by a third party. The first survey was conducted at the headquarters in Thailand in 2012 and has been expanded to cover coal business in Indonesia and power business in China. Especially, the survey was translated into local languages to ensure that the employees have a thorough understanding of the survey and be able to give true opinions. Moreover, all employees and executives are informed of the results which are also reported to the Board of Directors on an annual basis.

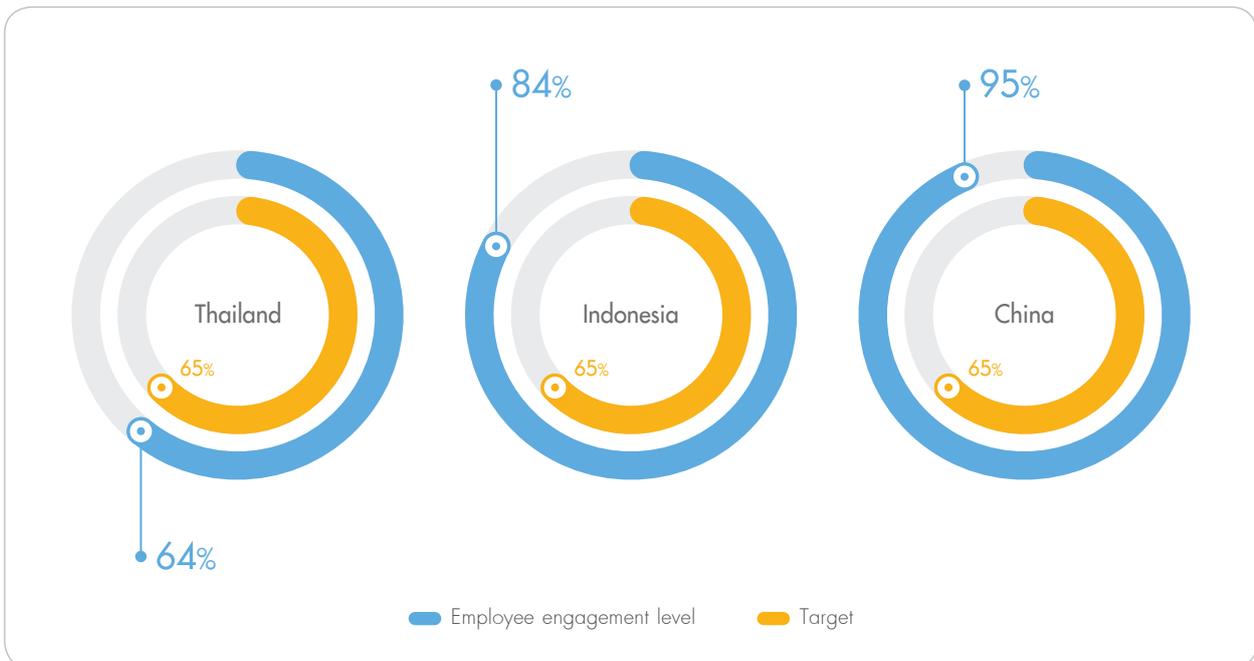
To enhance the level of employee engagement, the Company has devised a strategy through the management of each department. In so doing, each department needs to develop an annual employee engagement plan based on the prior year's survey results, and report the progress to senior executives through reporting system. Furthermore, the Company has developed a Banpu Engaging Leader training program for the management at the levels of division manager and upper, aiming to help them strengthen their relationships with subordinates.





Performance

Resulting from continuous efforts, the level of employee engagement in 2017 went beyond the 65% target. In fact, the employee engagement levels of coal business in Indonesia and power business in China were 84% and 95%, respectively. However, employee engagement level at the head office in Thailand was 64%, which was slightly below the target. Employee engagement level in Thailand and Indonesia rose significantly while it dropped slightly in China. The survey results show that workplace safety and learning and development are the two areas mainly contributing to the higher level of employee engagement whereas career opportunities and performance management are the two areas that the Company should pay more attention to. Apart from that, by 2019 the Company aims to expand the employee engagement survey to covers all business entities in which the Company holds more than 50% of shares and has management control, such as coal business in Australia and Mongolia, power business in Japan, and the sales office in Singapore.



Compensation Management System

The Company determines the compensation according to individual performance, taking into account the responsibilities of job position including individual competencies under the supervision of the Compensation Committee and Performance Assessment Committee. The compensation structure will be updated biennially to ensure consistency with labor market and to maintain the competitiveness of the Company. In addition, there is annual bonus payments associated with the company performance.



The Company gives the opportunity to employees to develop and determine their individual work plans and KPIs together with their team members to align their KPIs with the corporate KPIs. The performance management system consists of two sets of KPIs, namely 70% work-related KPIs and 30% behavior-based KPIs. The behavior-based KPIs are measured by the behaviors reflected through Banpu Spirit. To foster employee engagement via management approaches of each executive, the Company specifically added leadership KPIs for division managers and upper levels of management. The performance appraisal based on leadership KPIs is conducted through 360 degree feedback on the issues regarding team management and creation of a motivating work environment.

Performance Management System

Planning for Retirement and Working after Mine Closure

The Company is fully aware of the importance of long-term financial planning for employees as well as retirement planning. A provident fund was set up for employee's welfare together with external financial consultants to ensure employees' financial security after retirement.

The Company also realizes the nature of coal mining business where the amount of coal reserves will be diminishing after the start of mining operations, which affects the employees. The Company thus has devised plans for employees after mine closure comprising two approaches as follows:

1. After mine closure, the Company will transfer employees who are willing to move to work at other mining sites run by the Company so that they will stay employed and earned income from mining career.
2. The Company organizes trainings on entrepreneurship for the employees at the mines which are near the closing phase. The topics include financial management, business planning, change management, and household industry. The goal of these trainings is to enable employees to sustain their livelihood and families after mine closure.

The Company does not prohibit employees from forming a union or similar bodies as stipulated in the Employee Relation Policy and emphasizes the regular communication between the Company and employees to clearly inform about employees' welfare, career development and business directions in order to maintain a good relationship with employees before a labor union is formed. There are also informal meetings beyond what the law requires such as quarterly meetings with union leaders to create a good mutual relationship. Currently, there are two labor unions in Indonesia and Australia with 65% and 100% of the employees being members of the unions, respectively.

Labor Union and Collective Bargaining Agreement



Compliance with Human Rights Principles

The Company respects for labor laws and adheres to the Universal Human Rights Principle as a common practice, namely, the Universal Declaration of Human Rights (UDHR), the United Nations Global Compact (UNGC), the UN Guiding Principles on Business and Human Rights. Moreover, the Company respects the labor laws of the countries where it operates. To demonstrate its commitment to the above-mentioned universal principles, the Company proclaimed the Human Rights Policy in 2016 in full respect of rights, liberty, equality and human dignity regardless of gender, race, religion or color to reiterate the equitability of employees and stakeholders.

Prevention of Child and Compulsory labor

The Company will not tolerate the use of child or compulsory labor and thereby has set a clear minimum age of employee in accordance with the relevant labor laws to prevent the risk from child labor. Furthermore, it has also established a transparent recruitment process and indicated that an employment contract has to be signed for every case of employment.





Corporate Culture

Indicator

Level of **alignment** between employee behavior and the corporate culture

Strategy



Driving the corporate culture through **Banpu Spirit Change Leader (BCL)**

2017 Target

Level of **alignment** between employee behavior and the corporate culture is **higher** than **75%**

Performance

Level of **alignment** between employee behavior and the corporate culture

77% for head office in **Thailand**
82% for coal business in **Indonesia**
99% for power business in **China**
91% for coal business in **Mongolia**



Significance and Reporting Boundary



BANPU *spirit*

Since Banpu's operations are situated in different countries, the workforce is highly diverse in terms of gender, age, language, religion and culture. This poses a great challenge to facilitate smooth operations to achieve the shared corporate goal. The Company firmly believes that a strong corporate culture is the key tool to manage such diversities and also reinforce its long-term competitiveness. Therefore, the Company has been implanting the corporate culture "Banpu Spirit" in all businesses in which it holds greater than 50% of shares and has management control, namely, Banpu's offices in Thailand and Singapore, coal business in Indonesia, Mongolia and Australia, and power businesses in China and Japan. However, the survey on the level of alignment between employee behavior and the corporate culture (Banpu Spirit Survey) has not yet covered the office in Singapore, the power business in Japan and the coal business in Australia. The Company is planning to start the surveys in Singapore and Japan in 2018 and in Australia in 2019.

Management Approach

To put the corporate culture "Banpu Spirit" into practice concretely, the Company has a systematic implementation plan, starting from the recruitment process to performance evaluation process, driven by Banpu Spirit Change Leader (BCL) through a wide range of activities. The Company monitors the level of alignment between employee behavior and the corporate culture by conducting an annual survey by third party. In addition, the activity details and the survey forms were translated into local languages to ensure that all employees will truly understand the corporate culture "Banpu Spirit".



Process	Practice
Recruitment	The “Inner View Test” was designed to see how much the applicant’s personalities and behaviors comply with “Banpu Spirit”, and the results will be incorporated as part of the interview
Orientation	New recruits are required to attend the orientation on the corporate culture “Banpu Spirit” and “Banpu Spirit in Action” to learn about the rationale and significance of the corporate culture
Performance Evaluation	The corporate culture “Banpu Spirit” was set as one of the behavior-based KPIs

Performance

In 2017, the Company has expanded the corporate culture survey to cover the coal business in Mongolia, where the level of alignment between employee behavior and the corporate culture was at 91%. The survey results in Thailand, Indonesia, and China revealed that the levels of alignment between employee behavior and the corporate culture were at 77%, 82%, and 99%, respectively, which was significantly higher than the target at 75%. The Company has communicated the results to the employees at all levels and annually reports the results to the Board of Directors. In order to elevate the level of alignment between employee behavior and the corporate culture, the Company has a strategy to improve and modernize “Banpu Spirit” which will be starting in 2018.

Launching “Banpu Spirit” in Australia

In 2017, Banpu’s management introduced “Banpu Spirit” to its employees in Australia to strengthen the corporate culture and create a mutual understanding among all employees. 340 employees from all Banpu’s mines in Australia attended this event. The activities included the experience sharing by the Company’s executives, handing over the flag of “Banpu Spirit”, and games that exhibit the synergy of Banpu people.





“Synergy with Care” Activity in Thailand



“Banpu Spirit Outing” is the activity held annually to provide Banpu employees an opportunity to spend time doing creative activities together. Organized in 2017 under the “Synergy with Care” concept; the employees joined in doing voluntary work for disadvantaged schools in Ratchaburi Province where they helped repair the school and provided lunch to the students.

“Banpu Spirit” Activity in Mongolia

In order to foster synergy among the employees, Hunnu Coal Limited held “Banpu Spirit Expedition 2017”, which was attended by 107 employees. This activity includes site visit at Uul Mine in Mongolia, the Oyu Tolgi copper mine, and Demchong Monastery temple or known as “Energy Center”. Moreover, the activity provides the employees a great opportunity to get to know each other and share their knowledge, attitudes and work experience.





Competency Development

<p>Indicator</p> <p>Average Competency of employees at each level against required competencies</p>	<p>Strategy</p> <p>Develop the Individual Development Plan for each employee based on their competency profiles</p> 
<p>Long-term Target</p> <p>Average Competency of employees at each level is greater than 60% by 2020</p> 	<p>Performance</p> <p>Average Competency of the staff and section manager levels was 57%</p>

Significance and Reporting Boundary

The Company places a great importance on its employees' competency enhancement to increase its competitive advantage and prepare for business expansion. The information about the employee competency development and management disclosed in this report covers all business entities in which the Company holds greater than 50% of the shares and has management control. Nevertheless, the performance covers only that of the head office in Thailand since the Company is developing standards and system for data collection in accordance with its reporting standards.

Management Approach

The Company has evaluated the required competencies for all job positions based on functional competencies, which vary according to position, and leadership competencies which are the required skills for employees at each level. The Company annually evaluates employee potential based on their current competency profiles coupled with the policy and business expansion plan in order to assess competency gap. The individual development plan is then developed for each employee to improve their competencies through trainings, both within and outside the organization.

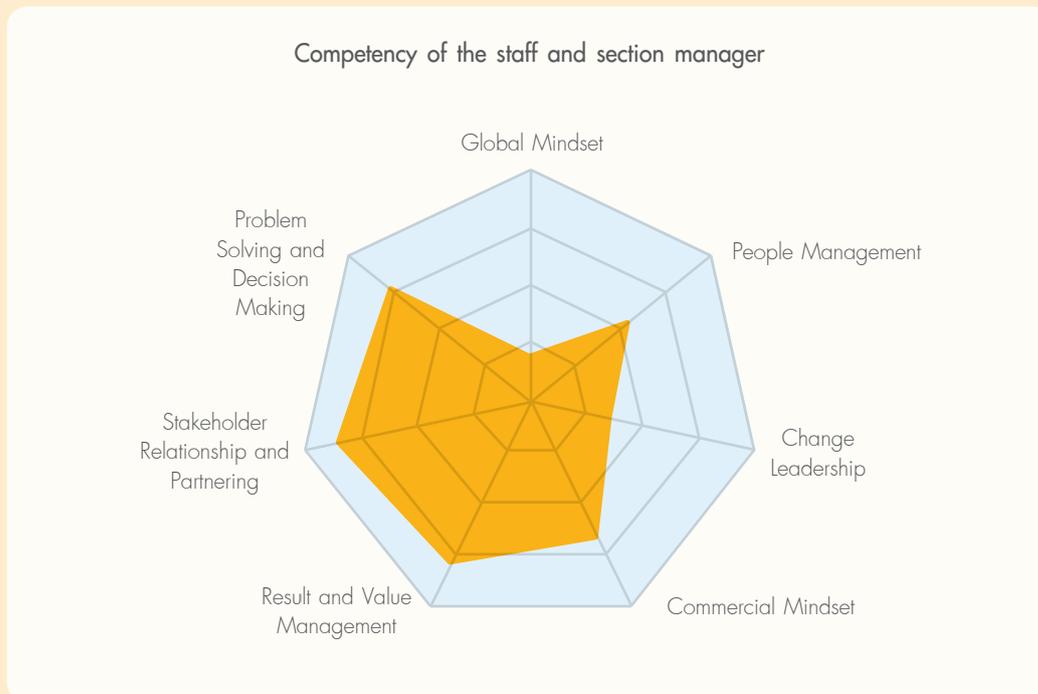


Performance

At its head office in Thailand, all Banpu employees attended the trainings according to their individual development plans, resulting in the average competency of the staff and section manager levels was 57% compared with the required competencies which was close to the target of greater than 60% compared with the required competencies by 2020.

Competency Development at the Head Office in Thailand

The competency profile of staff and section manager levels at the head office in Thailand compared with the required competencies shows that staff and section manager levels have outstanding skills of problem solving and decision making, result and value management, and stakeholder relationship and partnering. This results from the continuous training for the three major skills during 2016-2017. However, this group still lack of global mindset and change leadership, which will be emphasized in the trainings during 2018-2019 to enhance their skills.





Succession Planning

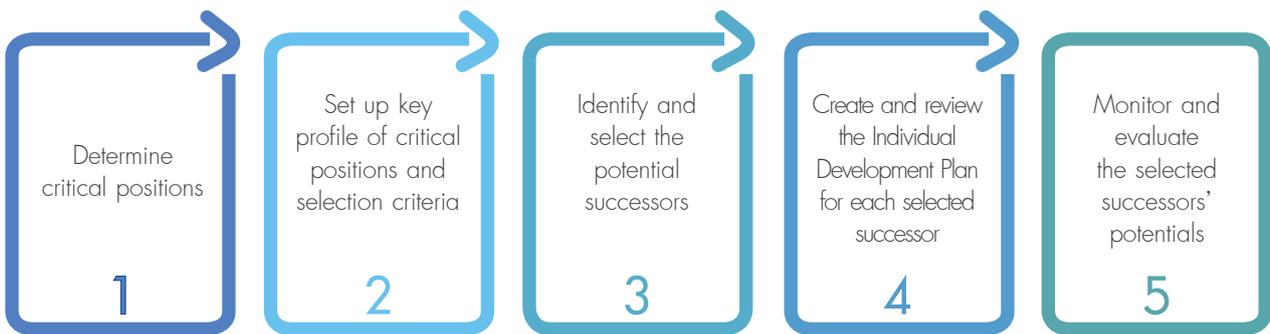
<p>Indicator</p>  <p>Ratio of critical positions having a succession plan</p>	<p>Strategy</p> <p>Identify critical positions Select potential successors</p> 
<p>Annual Target</p> <p>Every critical position has a succession plan</p>	<p>Performance</p> <p>Every critical position has a succession plan</p>

Significance and Reporting Boundary

Succession planning is one of the Company's great concerns as business continuity directly affects the competitive edge and supports business expansion. The succession planning information disclosed in this report covers all business entities in which the Company holds greater than 50% of the shares and has management control.

Management Approach

The Company set up the Succession Planning Committee to oversee succession planning management system for senior executives and other critical positions.



Performance

In 2017, the Succession Planning Committee has selected the successors for all critical positions who are best suited in respect of knowledge, experience, and being a role model for the corporate culture "Banpu Spirit". Furthermore, the high potential pool which is the list of junior executives from the levels of division manager and section manager together with their individual development plan gets prepared for identifying and selecting the potential successors.



Leadership Development

Indicator

Ratio of the **employees** trained according to **leadership development plan**



Ratio of **trainees** that are able to **apply knowledge**

Strategy

Training programs on **leadership development**

Performance

All selected **employees** attended the training programs according to **leadership development plan**

Ratio of **trainees** that are able to **apply knowledge**

Strategic Leader at **81%**

Business Leader at **80%**

First Line Leader at **81%**

2017 Target



Greater than 80% of the **employees** are trained according to leadership development plan

Greater than 80% of the **trainees** are able to apply knowledge

Significance and Reporting Boundary

Maintaining competitiveness is one of the strategies Banpu has always upheld to expand the growth opportunities in order to achieve its goal of becoming the Leading Asian Energy Provider. A key driver of such achievement is leadership competency as current business climate is complex and fast-changing. Executives who have high leadership competency are the Company's assets driving the Company to business success while reducing the risks. The Company hence identified leadership development as one of the material issues. The management information and performance of leadership development disclosed in this report covers all executives of all business entities in which the Company holds greater than 50% of the shares and has management control, namely the Bangkok head office, coal business in Indonesia, Mongolia, Australia, power businesses in China and Japan, and a sales office in Singapore.

Management Approach

Banpu has regularly reviewed and improved the details of leadership competencies of the executives. The latest updated version was issued in 2016 in alignment with the Strategic Plan 2016-2020. The leadership competencies cover seven significant components, namely, global mindset, people management, change leadership, commercial mindset, result and value management, stakeholder relationship and partnering and problem solving and decision making. These leadership competencies are information to design the appropriate training programs on leadership development for any employee levels.



Program	Expected outcome	Level of management
 BANPU Global Leadership Program for Strategic Leader	Competency on strategic development and management	Senior Vice President and higher
 BANPU Global Leadership Program for Business Leader	Competency on aligning management with the organizational goals	Vice President
 BANPU Global Leadership Program for First Line Leader	Competency on team management to achieve sustainable performance according to the organizational goals	Division Manager
 BANPU Leadership Program for Future Leader	Preparing for future leadership roles	Section Manager

Apart from that, to ensure that the leaders will be good role models and capable of team coaching, the Company has developed BANPU Engaging Leader Program for the leaders from the level of Division Manager and higher, targeting for the highest efficiency of the operations according to the corporate strategy.

Performance

In the past year, the Company organized training programs according to its leadership development program, including Global Leadership Program for Strategic Leader, Global Leadership Program for Business Leader and Global Leadership Program for First Line Leader which all selected employees were trained according to their plan. Moreover, the results of appraisal after training shows that the trainees are able to apply knowledge into their works at greater than 80% which meets the target.

Additionally, the Company has improved the “BANPU Leadership Program for Future Leader” to ensure that the section managers will be equipped for their new roles in the future. The improved leadership development program will be put into place from 2018 onward.



BANPU Global Leadership Program for First Line Leader



BANPU Global Leadership Program for Business Leader

BANPU Engaging Leader Training Program

Due to the significant decrease of employee engagement level at the head office in Thailand in 2014, the Company has created the training program “Banpu Engaging Leader” in 2015 and are conducted annually since then. The program is designed specifically for management from the division manager and upper levels with the aim of increasing employee engagement as it is believed that these management are the role model and work closely with employees at the lower levels. This program focuses on enhancement of coaching skill, motivation skill and being a good role model. In 2017, 39 management attended the program. The continuous training has significantly impact on the employee engagement level at the head office in Thailand as the engagement score increased from 57% in the prior year to 64% in 2017.





Safety



<p>Indicator</p> <p>Number of fatalities Lost Time Injury Frequency Rate (LTIFR)</p>	<p>Strategy</p> <p>Development and implementation of the safety culture roadmap</p> <p>Improvement of incident reporting in all business units to meet international standards</p> <p>Application of technology in safety management</p>
<p>Annual Target</p> <p> Zero Fatalities LTIFR for employee is lower than 0.38 LTIFR for contractor is lower than 0.13</p>	<p>Performance</p> <p> 1 Fatality of a contractor in Indonesia</p> <p>LTIFR for employee was 0.15</p> <p>LTIFR for contractor was 0.10</p>
<p>Long-term Target</p> <p> Zero LTIFR for employee by 2024</p> <p>Levels of safety culture in all business units are evaluated by 2021</p>	

Significance and Reporting Boundary

The Company places great importance on workplace safety because it is fully aware that during operations, its employees can be exposed to risks in occupational health and safety (OHS). Therefore, the Company is committed to prevent OHS risks by stressing full compliance with all applicable laws as well as cultivation of a safety culture in their workforce at all levels, including the top executives and all employees, via the OHS policy. The target for Lost Time Injury Frequency Rate (LTIFR) has been set at zero by 2024. The Company also aims to achieve Goal 8 (Target 8.8): protect labor rights and promote safe and secure working environments of all workers, including contractors and subcontractors.

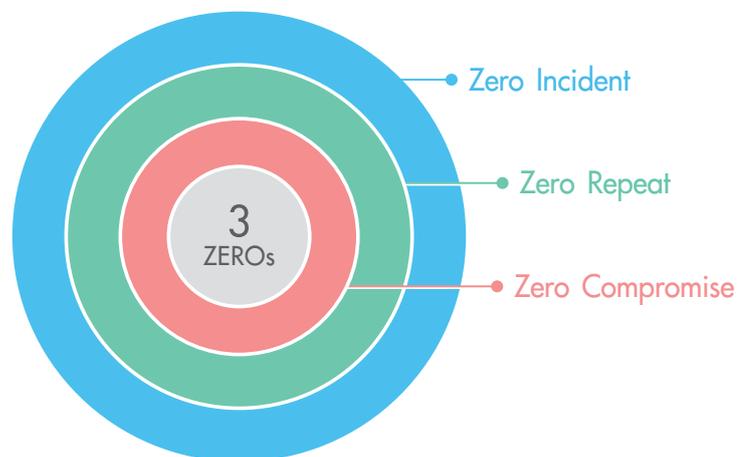
The OHS data disclosed in this report cover all business entities in which the Company holds greater than 50% of shares and has management control. The coal business in Australia was excluded from this report since it is during development of standards and database to meet the Company's reporting standards and international guidelines. The Company plans to include OHS performance of the coal business in Australia in the Sustainability Report 2021.



Management Approach

Occupational Health and Safety Division (OHS) was established to assist all business units in achieving their predefined targets on occupational health and safety by means of implementing policies, management standards, manuals, procedures as well as OHS laws and regulations. Besides, this division is responsible for assessing and analyzing the efficiency of OHS implementation. There is an annual review of OHS policies, strategies and management approaches in the meeting of the Sustainable Development Committee, the highest entity governing OHS management, chaired by the CEO.

The Company's safety targets under the OHS Policy consist of "3 ZEROs".



To achieve the above targets, the Company stresses safety management in the following areas:

Take full Responsibility and Accountability

The OHS performance is set as one of the KPIs for the CEO and high-ranking executive officers in every country. In 2017, all CEOs and high-ranking executives of every business unit jointly signed to achieve the targets of zero fatalities and less Total Recordable Injury Frequency Rate (TRIFR) than that in 2016. In case of fatality with employees or contractors, senior management will take leadership responsibility and accountability to participate in the incident investigation and show care to employee by visiting the injured person's family.

Comply with Laws and Regulations as well as Company Standards

The Company is committed to strict compliance with all OHS laws and entrusts the head of each business unit with the responsibility to monitor and quarterly review the legal compliance, targeting for full compliance of all business units.

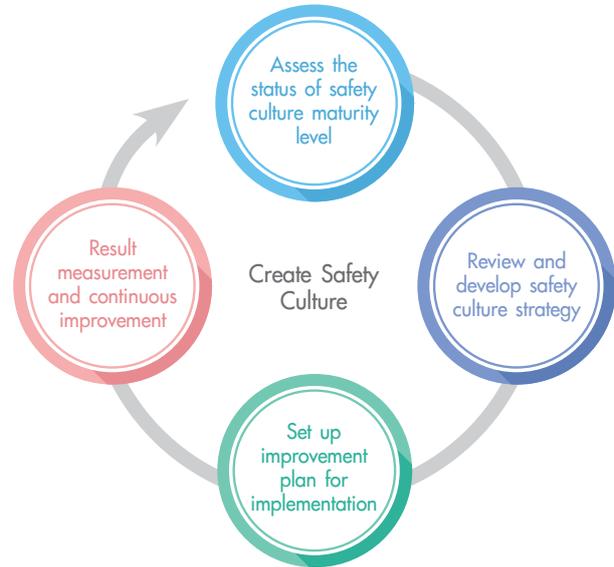




Create Safety Culture

A safety culture is built upon employees' awareness and firm belief in safety which lead to their continuing safety practices. Committed to a safety culture, all Banpu's employees aim to reduce incidents to zero. The Company has set 5 levels of safety culture and created a safety culture by integrating 3 key factors: OHS Management System, OHS Awareness and Behavior and OHS Competency under the 4-steps plan.

In 2017, the Company first started a Safety Perception Survey at Trubaindo and Bharinto mines in Indonesia. The survey will be extended to include all the mines in Indonesia and power plants in China in 2018 and the mining business in Australia as well other businesses in 2019. The Company plans to complete safety culture assessment in all business units in 2021.



Ensure Employees have sufficient OHS Knowledge and Skills

The Company annually holds a Health, Safety, Environment and Community Development (HSEC) Summit, where all heads of business units, both operating and supporting units, have opportunities to present and discuss OHS practices, challenges and opportunities for better improvement. Held in Thailand in November 2017, the latest HSEC Summit entitled "HSEC Excellence" reflected the Company's belief in the principle that OHS culture is a key driver of the Company's excellence, both in the attempt to reduce work injuries to zero and in production process improvement.





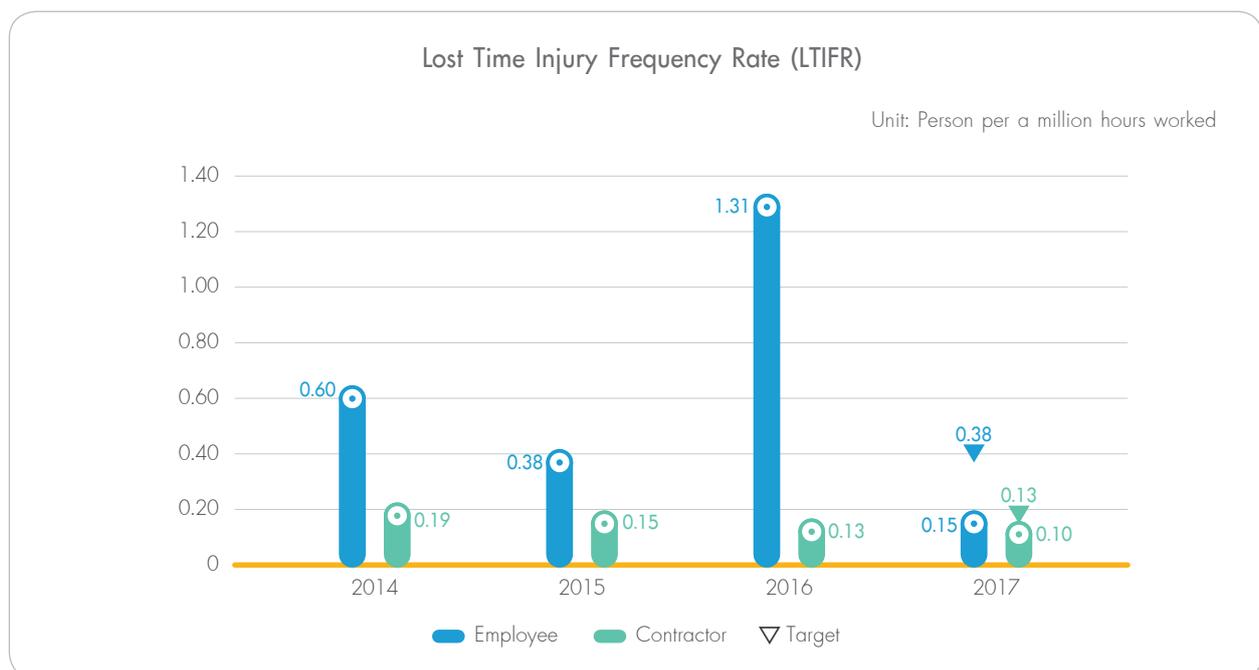
Incident Reporting System

The Company has developed an incident reporting system to monitor each business unit's performance on occupational health and safety, covering two major categories, as occupational injuries and severity of incident. The incident reporting system is used as a monitoring tool for evaluation of occupational health and safety performance and for supporting reporting from the operational units to the headquarters of all incidents ranging from near misses to fatal occupational injuries. Moreover, the system includes reporting on the result of root cause of incident in order to prevent reoccurrence.

Performance

Occupational Injuries

Committed to implementation of the safety culture development plan, the Company successfully reduced Lost Time Injury Frequency Rate (LTIFR) to 0.15 person per a million hours worked for employee and 0.10 person per a million hours worked for contractor with achieved the target that have set from the best record in the last three years at 0.38 for employee and 0.13 for contractor.



Moreover, the Company successfully achieved the target to reduce Total Recordable Injury Frequency Rate (TRIFR) from 0.60 to 0.30 person per a million hours worked for employee and for contractor from 0.25 to 0.18 person per a million hours worked.



However, a contractor in Indonesia suffered a fatal occupational injury while performing a coal transportation. To prevent reoccurrence of such incidents, the Company had the incident thoroughly investigated and preventive measures and working processes carefully reviewed. It was found that the unfortunate incident was caused by fatigue at work and should be prevented by establishing Coal Hauling Instruction which contains the critical procedure as following:

- Arrange the number of coal transportation trips appropriately to the working hours
- Check the readiness of all production units before operation
- Add the contractor's fatigue management as a key criteria for reviewing employment contracts which the fatigue management rules are set and agreed between the Company and contractors:
- Establish speed limit control rule, which shall not exceed 60 kilometers per hour and install speed monitoring device that will be alarmed when driving over speed limit

Fatigue Management Rules

- ✓ Supervisor shall conduct daily safety brief in every shift
- ✓ Supervisor shall ensure that staff's physical and mental fit for work
- ✓ Staff's working hours shall not exceed 12 hours per shift
- ✓ Staff shall conduct daily inspecting on equipment and tools
- ✓ The location to change shift shall be at workshop building only
- ✓ Coal transportation trips shall not exceed 7 trips per day and 4 trips per shift
- ✓ Project manager shall assign supervisor to manage task at coal loading and unloading areas
- ✓ Project manager shall ensure that fatigue management is implemented by conducting audit at least once a month
- ✓ Project manager shall ensure that speed monitoring device at each hauling truck is completely installed
- ✓ Project manager shall ensure that shift change is complied with the rule

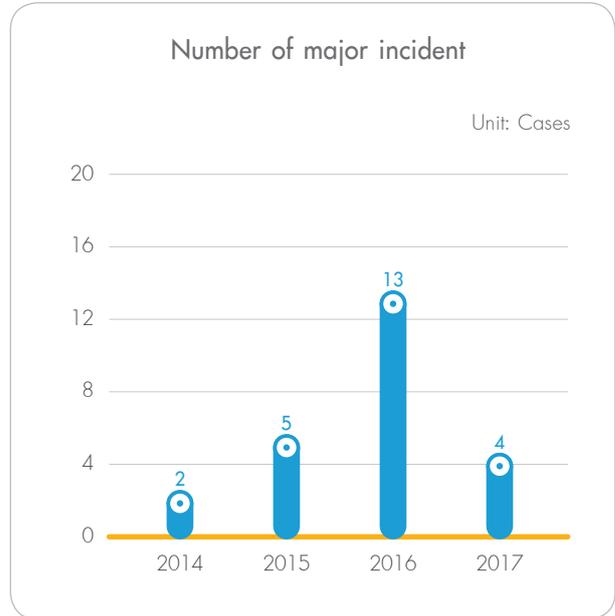
Additionally, senior management visited the incident site on 2-7 April 2017 to follow up the progress of corrective actions to prevent reoccurrence.



Severity of Incident

Apart of the OHS performance monitoring of Lost Time Injury Frequency Rate (LTIFR) and Total Recordable Injury Frequency Rate (TRIFR), the Company concerns the level of incident severity that happened in operation processes by separating the severity level depending on its impact both life and properties damaged into 4 levels: Major, Serious, Moderate and Minor. The major incident is disclosure in this report.

In 2017, 4 major incidents that affected or potentially affected life, property and the environment were reported equal to 69% which is reduced from 2016. The Company thoroughly investigated the root causes of the incidents and reviewed preventive measures, procedures and encouraged sharing of lessons learned to improve accident prevention.



GPS in Safety Management in Indonesia



Apart from capacity and skills building on safety for employees, the Company emphasizes the use of technology to manage safety in production processes. For instance, global positioning system (GPS) is used for monitoring vehicles in the mining areas, and speed controlling devices were installed on mine transportation trucks in Indonesia to reduce transportation accidents, which are quite frequent in the production processes.

Safety Management Golden Rule in China



Safety Management Golden Rule is the project to build up safety awareness under the concept "Safety is everyone's responsibility". In implementation, all employees signed the commitment to follow strictly safety rules and agree on disciplinary action to person who breaks the rule.



Occupational Health



<p>Indicator</p> <p>Total Recordable Occupational Illness Frequency Rate (TROIR)</p>	<p>Strategy</p>  <p>OHS risk assessment and mitigation in all production activities</p>
<p>Long-term Target</p> <p>Development of standards and database on occupational illnesses for all business units by 2021</p> 	<p>Performance</p> <p>Standards and database on employee's occupational illnesses were established in Indonesia</p>

Significance and Reporting Boundary

The Company well realizes that physical well-being of employees contributes greatly to workplace safety and satisfaction, and that the Company's operations may have negative effects on occupational health and safety of employees, contractors and subcontractors. Hence, the Company is committed to OHS risk management by ensuring full compliance with relevant laws and the OHS Policy. The OHS management is undertaken along with safety management to ensure the health and safety of the employees at work.





Management Approach

The Company has assessed occupational and safety risks and determine mitigation and control measures for those risks before the employees start working in any production activity to protect employees from the adverse health effects. The Company assures that there are OHS experts at all operation sites so that all potential risks are identified and responded with appropriate mitigation and control measures, for instance, prevention against the hazardous workplace environment and adequate and appropriate personal protective equipment for employees. Apart from that, the Company assesses and evaluates workplace environment according to such risk factors as air quality and light intensity in the workplace in order to ensure that all employees and contractors work in the appropriate and hazard-free environment.

Additionally, the Company arranges medical checkups for new recruits and annual medical checkups for employees according to their risk factors in order to continuously monitor their health and work-related effects.

The Company also provides a medical center with 24 hours in-house doctors for the employees working in such areas as coal mines in Indonesia so that they can consult the doctor about their health problems or illnesses. Moreover, the center offers medical care in case of emergency.

Performance

The Company is developing standards and database for occupational illnesses to facilitate future OHS management with a long-term target to reduce occupational illnesses to zero. In 2017, the data collection system in Indonesia was completed, and ready for data collection in 2018. The Company has set the target to have database created in all business units by 2021, and OHS data reported in the Sustainability Report 2021.





Community Engagement



<p>Indicator</p> <p>Proportion of the significant complaints from the community that are handled</p>	<p>Strategy</p>  <p>Establish the Community Consultative Committee</p> <p>Establish complaint communication channels</p>
<p>Annual Target</p>  <p>All Significant Complaints from the community are handled</p>	<p>Performance</p> <p>No significant complaint from the community</p>

Significance and Reporting Boundary

Striving to create sustainable value and to build stakeholder's trust in the Company's mission, the Company places great importance on the process of stakeholder engagement. The community is considered a key stakeholder in all business entities. Based on the materiality assessment, community engagement is of higher materiality for coal business than power business; therefore, the information about community engagement disclosed in this report covers only the coal business in Indonesia and Australia. However, the Company will include the community engagement performance of its power business in China in the Sustainability Report 2019.

Management Approach

The Company has developed a Management Framework for Stakeholder Engagement to integrate stakeholder analysis with the strategy formulation framework. Apart from that, there are Management Standards for Stakeholder Engagement that all business units must be aligned with. The practice consists of three stages, namely understanding basic characteristics, building engagement and handling complaints.





Procedure	Practice	Indicator
Understanding basic characteristics	<ul style="list-style-type: none"> Stakeholder Analysis Social Mapping Analysis of stakeholder's importance 	<ul style="list-style-type: none"> The coverage ratio of the analysis of stakeholder's importance in new projects
Engagement Enhancement	<ul style="list-style-type: none"> Environmental and Social Impact Assessment Significance analysis of the environmental and social impacts Development of preventive approaches to potential impacts Communication of management approach to stakeholders Setting up the Community Consultative Committee (CCC) that consists of the representatives from the government, the community and the Company 	<ul style="list-style-type: none"> The coverage ratio of the social and environmental impact assessments for new projects
Complaint Handling	<ul style="list-style-type: none"> Establish complaint communication channels Analyze the significance of complaints, find out how to handle them and prevent reoccurrence Communicate with stakeholders via appropriate channels 	<ul style="list-style-type: none"> Proportion of the significant complaints from the community that are handled

In implementing the practice, the Company has set up the Community Consultative Committee (CCC) comprising of representatives of the government, the local community, and the Company in order to maximize community engagement. However, the management of community engagement differs from country to country owing to differences in business characteristics and community identities. For instance, the Company has Community Development Officers (CDOs) in Indonesia working with communities to discern their real needs as well as to handle complaints. In Australia, on the other hand, the Company set up a sub-committee at the mine cluster level to communicate action plans and performance with the community.





Performance

In 2017, the Company received no significant complaints from the communities in both mining vicinities in Indonesia and Australia. Although none of the complaints were significant, the Company studied them thoroughly and responded to the involved stakeholders to build the community's trust and acceptance.

Community Engagement in Coal business in Indonesia						
Topic		Indominco Mine	Embalut Mine	Trubaindo Mine	Bharinto Mine	Jorong Mine
Basic characteristics	Number of communities	10 Communities	4 Communities	20 Communities	6 Communities	6 Communities
	Number of people in communities	29,472	23,155	13,631	5,240	22,126
Impact Assessment	Environment	✓	✓	✓	✓	✓
	Social	✓	✓	✓	✓	✓
	Example of impacts	Flood	Noise, Dust and Flood	Dust (Port)	Dust (Port)	-
	Resettlements	✗	✗	✗	✗	✗
Engagement	Have a community consultation standard	✓	✓	✓	✓	✓
	Set up Community Consultative Committee (CCC)	✓	✓	✓	✓	✓
	Projects under process of community consultation	24 projects	16 projects	27 projects	30 projects	12 projects
	Example of concerns	Water management	Water management	Dust management	Dust management	-
Communication	Community engagement plan	✓	✓	✓	✓	✓
	EIA and SIA Assessment results	✓	✓	✓	✓	✓
	EIA and SIA Implementation results	✓	✓	✓	✓	✓
Main Communicate Channel	CCC	✓	✓	✓	✓	✓
	Newsletter	✓	✓	✓	✓	✓
Complaint Channel	Email	✓	✓	✓	✓	✓
	Telephone	✓	✓	✓	✓	✓



Community Engagement in Coal business in Australia						
Topic		Airly Mine	Springvale Mine	Clarence Mine	Myuna Mine	Mandalong Mine
Basic characteristics	Number of communities	2 Communities	3 Communities	3 Communities	3 Communities	3 Communities
	Number of people in communities	260	15,934	15,934	4,311	5,282
Impact Assessment	Environment	✓	✓	✓	✓	✓
	Social	✓	✓	✓	✓	✓
	Example of impacts	-	Noise	-	-	-
	Resettlements	✗	✗	✗	✗	✗
Engagement	Have a community consultation standard	✓	✓	✓	✓	✓
	Set up Community Consultative Committee (CCC)	✓	✓	✓	✓	✓
	Projects under process of community consultation	1 Project	1 Project	1 Project	-	-
	Example of concerns	Environmental impact and social amenity	Water and swamps	Water Management	Issues related with Pullbah Island	Flood plain and land ownership
Communication	Community engagement plan	✓	✓	✓	✓	✓
	EIA and SIA Assessment results	✓	✓	✓	✓	✓
	EIA, and SIA Implementation results	✓	✓	✓	✓	✓
Main Communicate Channel	CCC	✓	✓	✓	✓	✓
	Newsletter	✓	✓	✓	✓	✓
Complaint Channel	Email	✓	✓	✓	✓	✓
	Telephone	✓	✓	✓	✓	✓

Complaint handling by the coal business in Australia

Complaints received by the coal business in Australia

Type	Received	Handled
Noise and Vibration	7	6
Traffic	2	2
Transportation of Machines and Equipments	1	1
Area management	1	1
Water Management	1	1

In 2017, the Company received 12 complaints from Australian communities. Although none were significant issues, the Company studied them in details and have already handled 11 complaints while another one is being handled.



Indigenous People's Engagement



<p>Indicator</p> <p>Number of violations of indigenous people's rights</p>	<p>Strategy</p> <p>Survey of basic cultural information of indigenous people</p> <p>Collaborate with indigenous people in particular areas to design a management plan for cultural heritage sites</p>
<p>Annual Target</p> <p>No violation of indigenous people's rights</p>	<p>Performance</p> <p>No violation of indigenous people's rights</p> 
<p>Long-term goal</p> <p>Preservation of the cultural heritage of the Dayak people in Indonesia and of the Aboriginal people in Australia</p> 	

Significance and Reporting Boundary

It is the nature of coal business to have operational areas adjacent to the local communities, which sometimes can be indigenous settlements. Therefore, protection of indigenous rights is a top concern for the Company. The Company conducted baseline surveys of the communities located in the vicinities of the business entities in which the Company holds greater than 50% of shares and has management control and found that there are two indigenous groups settling close to the Company's operational areas, namely the Dayak and the Aboriginal people. The information on indigenous people's engagement disclosed in this report thus covers only the Company's coal businesses in Indonesia and Australia.

Management Approach

To gain an insight about the indigenous people living in the surrounding areas of the mining sites, the Company has studied and collected basic information about the Dayak and Aboriginal people, including cultures, social characteristics and thoughts. The study includes the possibility of cultural change influenced by contact with outsiders. The results were then compared with the Company's working culture in the industrial sector in order to devise strategies to enhance indigenous people's engagement and to prevent infringement of their rights. The long-term goal is to preserve the indigenous people's cultural heritage and to nurture good relationships between the Company and the Dayak people in Indonesia and the Aboriginals in Australia.

Performance

In Indonesia, there are five Dayak groups who settle near Trubaindo and Bharinto mines, namely Tunjung, Benuaq, Bentain, Bekumpai and Malay. The Company enhances community engagement by including the Dayak representatives in the Community Consultative Committee and offer job opportunities for the Dayak people to help generate their income. The Company also organizes vocational trainings for those in working-age, such as truck driving, tools maintenance, and repairing small engines and motorcycles.

In Australia, the Company collaborate with the government and the Aborigines to formulate the Aboriginal Cultural Heritage Management Plan for the western and the northern mine clusters. There are subcommittees at the level of mine clusters with representatives from the Aboriginals. The collaboration started from the western mine cluster in 2015 and expanded into the northern cluster in 2016. Apart from that, the Company has a registration system for the Aboriginal people to maximize the effectiveness of their engagement.



In 2017, there was no violation of indigenous people's rights from the Company's operations in Indonesia and Australia.

Dayak People in Indonesia

The Dayak people are indigenous people living in the eastern region of Kalimantan Island. There are 5 tribes of the Dayak people who settle in the surrounding areas of Trubaindo and Bharinto mines. In order to gain more knowledge about the Dayak people, the Company engaged a local university to study their lives and cultures. The study result is as follows:

Issue	Information from the Study
Beliefs	<ul style="list-style-type: none"> The Dayak people believe in performing rituals to seek harmony between themselves and the nature. Most Dayaks are either Christians or Catholics.
Ruling	<ul style="list-style-type: none"> The Dayaks around the mining areas live according to the customary law called the Adat Law, which also prescribes how to treat outsiders who do business in their settlements. There is a rule regarding rights of land. There is an institution which administers the implementation of Adat Law at village, sub-district and district levels and oversees the livelihood and administration of the Dayaks.
Work culture	<ul style="list-style-type: none"> Most of the Dayaks subsist on swidden cultivation, rattan and rubber tree planting, fishing, hunting and other jobs reliant on natural resources. The Dayaks work according to the weather conditions, thus it is not able to set clear work target. Collective works are more preferable than individual works. The Dayaks are highly flexible in terms of working time and approaches.

Aboriginal Australians

Aboriginal people are indigenous people who have lived in Australia for over 4,000 years. The Company has collaborated with the government and the Aboriginals to design the Aboriginal Cultural Heritage Management Plan (ACHMP) for the western and the northern mine clusters. The formulation of the plan follows relevant legal principles and management standards such as Aboriginal Land Rights Act (1983), Heritage Act (1977) and Environmental Planning & Assessment Act 1979 (EP&A Act) with a goal to enhance Aboriginal people's engagement in the Company's planning as well as to set a standard for assessing impact from the Company's operations on the Aborigine's cultural heritage.

The Company set up subcommittees for the western and northern mine clusters with Aboriginal representatives; the subcommittees convene biannually. They have reached an agreement that there must be Aboriginal representatives in the Company's major activities such as the formulation and improvement of a mining plan and the review of a mining plan.

In case there are disagreements between the registered Aboriginal groups and the Company, the Company is required to find a third-party arbiter to help reconcile, facilitate understanding and find a fair common ground that optimally benefits both parties. To ensure maximum transparency in dispute resolution, such arbiter shall neither be the person who gain benefits from the Company nor the Aboriginals.



Additional Information

List of Business

Coal Business

Country	Project Name	Business Type	Coal Sales Volume (100% Basis) ^(a)	Current Status	Ownership
Australia	Airly	Underground Coal Mining	0.9 Million Tonnes	Operating	100%
	Clarence	Underground Coal Mining	2.6 Million Tonnes	Operating	85%
	Mandalong	Underground Coal Mining	5.5 Million Tonnes	Operating	100%
	Myuna	Underground Coal Mining	1.7 Million Tonnes	Operating	100%
	Springvale	Underground Coal Mining	4.0 Million Tonnes	Operating	50%
	Angus Place	Underground Coal Mining	-	Care & Maintenance	50%
	Inglenook	Underground Coal Mining	-	Project Development	100%
	Mannering	Underground Coal Mining	-	Operating ^(b)	100%
	Neubecks	Open-pit Coal Mining	-	Project Development	100%
	Newstan	Underground Coal Mining	-	Care & Maintenance	100%
China	Gaohe	Underground Coal Mining	9.0 Million Tonnes	Operating	45%
	Hebi	Underground Coal Mining	1.3 Million Tonnes	Operating	40%
Indonesia ^(c)	Bharinto	Open-pit Coal Mining	2.4 Million Tonnes	Operating	68.08%
	Indominco	Open-pit Coal Mining	13.0 Million Tonnes	Operating	68.09%
	Jorong	Open-pit Coal Mining	0.9 Million Tonnes	Operating	68.09%
	Kitadin-Embalut	Open-pit Coal Mining	0.9 Million Tonnes	Operating	68.09%
	Trubaindo	Open-pit Coal Mining	4.9 Million Tonnes	Operating	68.09%
Mongolia	Altai Nuurs	Coal Mine	-	Project Development	100%
	Unst Khudag	Coal Mine	-	Project Development	100%
	Tsant Uul	Coal Mine	-	Project Development	100%

Gas Business

Country	Project Name	Business Type	Production Capacity (Equity Base)	Current Status	Ownership
The U.S. ^(d)	Chaffee Corners	Shale Gas	21 MMcf/day	Operating	29%
	NEPA Corners I	Shale Gas	15 MMcf/day	Operating	12% [§]
	NEPA Corners II	Shale Gas	4 MMcf/day	Operating	12% [§]
	NEPA Corners III	Shale Gas	6 MMcf/day	Operating	12%
	NEPA Corners IV	Shale Gas	100 MMcf/day	Operating	80%
	NEPA Corners V	Shale Gas	52 MMcf/day	Operating	88%

Other Business

Country	Business Type	Production Capacity (Equity Base)	Current Status	Ownership
Singapore	Solar Rooftop ⁽ⁱ⁾	85.0 MW	Operating	25.7%
Thailand	Solar Rooftop ⁽ⁱ⁾	12.0 MW	Operating	100%



Power Business

Country	Project Name	Business Type	Production Capacity (100% Basis) ^(e)	Current Status	Ownership ^(f)
China	Zhengding	Combined Heat & Power Plant	139 MW	Operating	100%
	Luannan	Combined Heat & Power Plant	123 MW	Operating	100%
	Zouping	Combined Heat & Power Plant	247 MW	Operating	70%
	Shanxi Lu Guang	Coal-fired Power Plant	1,320 MW	Under Construction	30%
	Jinshan	Solar Power Plant	28.95 MW	Operating	100%
	Huineng	Solar Power Plant	21.51 MW	Operating	100%
	Haoyuan	Solar Power Plant	20 MW	Operating	100%
	Hui'en	Solar Power Plant	19.7 MW	Operating	100%
	Deyuan	Solar Power Plant	51.64 MW	Operating	100%
	Xingyu ^(g)	Solar Power Plant	10.3 MW	Operating	100%
Japan	Olympia	Solar Power Plant	10.0 MW	Operating	40%
	Hino	Solar Power Plant	3.5 MW	Operating	75%
	Awaji ^(h)	Solar Power Plant	8.0 MW	Operating	75%
	Nari Aizu	Solar Power Plant	20.0 MW	Under Construction	75%
	Mukawa	Solar Power Plant	17.0 MW	Under Construction	58%
	Yamagata	Solar Power Plant	20 MW	Under Construction	100%
	Kurokawa	Solar Power Plant	18.9 MW	Project Development	100%
	Shirakawa	Solar Power Plant	10 MW	Project Development	100%
	Yabuki	Solar Power Plant	7.0 MW	Project Development	75%
	Onami	Solar Power Plant	16.0 MW	Project Development	75%
	Kesenuma	Solar Power Plant	20.0 MW	Project Development	100%
	Hiroshima	Solar Power Plant	8.0 MW	Project Development	100%
	Yamagata lide ⁽ⁱ⁾	Solar Power Plant	200.0 MW	Project Development	51%
Lao PDR	Hongsa	Coal-fired Power Plant	1,878 MW	Operating	40%
Thailand	BLCP	Coal-fired Power Plant	1,434 MW	Operating	50%

§ Adjusted data from previous report

^(a) Coal sales volume in 2017

^(b) Under mining cooperation deed

^(c) Excluded an open-pit coal project invested in November 2017

^(d) NEPA Corners III-V invested during May-December 2017

^(e) MW_{DC} in China and MW_{AC} in Japan for Solar Power Plant

^(f) Banpu Power's ownership (78.64% share is held by Banpu)

^(g) Commercial Operation Date (COD) in June 2017

^(h) Commercial Operation Date (COD) in May 2017

⁽ⁱ⁾ Invested in November 2017

^(j) New business in 2017

Awards & Recognitions

Banpu

Awards & Recognitions	Host Institution
Member of Dow Jones Sustainability Indices (DJSI) in Emerging Market	RobecoSAM
RobecoSAM Sustainability Award Gold Class 2018 in Coal & Consumable Fuels	RobecoSAM
RobecoSAM Sustainability Award Industry Mover 2018 in Coal & Consumable Fuels	RobecoSAM
Sustainability Awards of Honor 2017	The Stock Exchange of Thailand
Member of Thailand Sustainability Investment	The Stock Exchange of Thailand

Subsidiaries

Business Unit	Awards & Recognitions	Host Institution
ITM	CG Award in the category of Best Non-Financial Listed	Indonesia Institute for Corporate Directorship (IICD) & SWA Magazine
	The 2 nd Winner of Annual Report Award (ARA) 2016 Private Non-Financial Listed Company*	Financial Services Authority (OJK) and Bank Indonesia (BI)
	Best Issuer in Mining Category in the event of 2017 Bisnis Indonesia Award	Bisnis Indonesia Magazine
	Best CEO 2017 Awards	SWA Magazine and Dunamis Intermaster
Embalut Mine	Bronze Award in Mining Safety Management (in 2015-2016)*	Ministry of Energy and Mineral Resources of the Republic of Indonesia
	Bronze Award in Environmental Management	Ministry of Energy and Mineral Resources of the Republic of Indonesia
	Blue Level - PROPER	Ministry of Environment and Forestry of the Republic of Indonesia
	Silver Award	Corporate Forum for Community Development (CFCD)
Bharinto Mine	Gold Certificate OHSMS	Ministry of Employment of the Republic of Indonesia
	Zero Accident Award	Ministry of Manpower of the Republic of Indonesia
	Bronze Award in Environmental Management	Ministry of Energy and Mineral Resources of the Republic of Indonesia
	Bronze Award in Mining Safety Management (in 2015-2016)*	Ministry of Energy and Mineral Resources of the Republic of Indonesia
	Zero Accident Award	Ministry of Employment of the Republic of Indonesia
	Certificate of Merit	Environment Department of West Kutai Regency
	Green Certificate - PROPER	East Kalimantan Governor
Silver Award	Corporate Forum for Community Development (CFCD)	
Trubaindo Mine	Blue Level - Proper Award	Ministry of Environment and Forestry of the Republic of Indonesia
	Bronze Award in Mining Safety Management (in 2015-2016)*	Ministry of Energy and Mineral Resources of the Republic of Indonesia
	Bronze Award in Environmental Management (2017)	Ministry of Energy and Mineral Resources of the Republic of Indonesia
	Green Certificate - PROPER	East Kalimantan Governor
	Gold Award	Corporate Forum for Community Development (CFCD)

Business Unit	Awards & Recognitions	Host Institution
Indominco Mine	Gold Category - Prevention and Control Program at Workplace (P2-HIV & AIDS) Award	East Kalimantan Governor
	Prevention and Control Program at Workplace (HIV & AIDS) Award	Ministry of Manpower of the Republic of Indonesia
	Silver Award in Mining Safety Management (in 2015-2016)*	Ministry of Energy and Mineral Resources of the Republic of Indonesia
	Silver Award in Environmental Management (in 2015-2016)*	Ministry of Energy and Mineral Resources of the Republic of Indonesia
	1 st Runner-up in Coal Mining Surface Mining Category	ASEAN Centre for Energy
	Green Certificate - PROPER	East Kalimantan Governor
	Zero Accident Award	Ministry of Manpower of the Republic of Indonesia
	Platinum Award - Indonesian Sustainable Development Goals Awards (ISDA)	Corporate Forum for Community Development (CFCD)
Jorong Mine	Blue Level - PROPER	Ministry of Environment and Forestry of the Republic of Indonesia
	Bronze Award in Mining Safety Management (in 2015-2016)*	Ministry of Energy and Mineral Resources of the Republic of Indonesia
	Bronze Award in Environmental Management (2017)	Ministry of Energy and Mineral Resources of the Republic of Indonesia
TRUST	Bronze Award in Mining Safety Management (in 2015-2016)*	Ministry of Energy and Mineral Resources of the Republic of Indonesia
	Bronze Award in Environmental Management (2017)	Ministry of Energy and Mineral Resources of the Republic of Indonesia
Centennial	Outstanding Contribution to Mining	New South Wales Minerals Council
Myuna Mine	Innovation Award for the Herringbone Mining System	Australian Mining Prospect Awards
	Finalist in Safety Excellence-Health, Safety, Environment and Community Conference Awards	New South Wales Minerals Council
Mandalong Mine	First Aid Competition	Coal Services Pty Limited
BIC	Ten Successful ASEAN Enterprise Entering China	China-ASEAN Business Council and ASEAN committee Beijing
Zhengding Power Plant	Water Saving Enterprise	Water Conservancy Bureau of Hebei Province
	Hebei Credit Enterprise for Year 2016*	Hebei Enterprise Credit Research Institute
Luannan Power Plant	Youth Civilization and Red Flag Branch Mission	Communist Youth League of Luannan County Committee
	Advanced Group on creating health county of state in Luannan County	Luannan County People's Government
	Outstanding Organization Award of Safety Production Emergency Rescue Skill Contest of Luannan County	Safe Production Supervision Administrative Bureau of Luannan County
Zouping Power Plant	Star Enterprise for Year 2016*	Handian Town People's Government
	Star Enterprise on Environmental Protection of Zouping County	Zouping County Environment Protection Bureau
	Star Enterprise on Safe Production for Year 2016*	Handian Town People Government

*Awarded in 2017

Participation and Membership

Banpu

Organization	Status	Role
Thai Listed Companies Association (TLCA)	Chairman of Center for Building Competitive Enterprise	Provide advises for building competitiveness to Thai enterprises
Thai Listed Companies Association (TLCA)	Advisor of the Chairman	Provide advices to the Chairman, raise issues of business sector to the government
The Securities and Exchange Commission	Chairman of the working group for Sustainable Development of Thai Listed Company	Prepare “Corporate Governance Code 2017” as practice principles to create a sustainable value for a listed company
The Securities and Exchange Commission	Expert Board members of The Securities and Exchange Commission	Set policy, promote the development of Thai capital market and establish rules and regulations according to Securities and Exchange Act B.E.2535 (1992) and Thailand’s capital market-related laws

Subsidiaries

Organization	Status	Country
American Chamber of Commerce in Mongolia	Committee Member	Mongolia
Asosiasi Pertambangan Batubara Indonesia	Member	Indonesia
Australian Coal Association Limited Project (ACARP)	Director	Australia
Australian Coal Association Limited Project (ACARP) - Committee re collision avoidance and Proximity detection for underground coal mining machines	Committee Member	Australia
Australian Coal Association Limited Project (ACARP) - Research Committee	Member	Australia
Australian Coal Association Limited Project (ACARP) - Underground Committee	Member	Australia
Australian Coal Association Limited Project (ACARP) - Underground Strata	Industry Advisor	Australia
Australian Coal Association Low Emissions Technology Pty Ltd (ACALET)	Chairman	Australia
Binzhou Overseas Chinese Entrepreneurs Association	Member	China
Chinese Thermal & Power Professional Management Association	Member	China
Coal Mining Abatement Technology Support Package (CMATSP) - Project Oversight Committee	Member	Australia
Coal Services - Airborne Contaminants and Diesel Particulate Sub Committee	Committee Member	Australia
Coal Services - NSW Mines Rescue Working Group	Group Member	Australia
Coal Services Pty Limited	Chairman	Australia
Coal Services Pty Limited - Audit and Risk Management Committee	Member	Australia
Coal Services Pty Limited - Finance and Investment Committee	Member	Australia
Coal Services Pty Limited - Mines Rescue Board	Chairman	Australia

Organization	Status	Country
Corporate Forum for Community Development (CFCD)	Member	Indonesia
Cover Mongolia	Committee Member	Mongolia
Dept. Trade and Investment - Mine Safety/Competency Unit	Convener of the Undermanager examination panel	Australia
Engineers Australia Organisation	Assessor	Australia
Executive Committee NSW Minerals Council	Committee Member	Australia
Hunter TAFE Foundation	Director	Australia
Indonesia Coal Mining Association (ICMA)	Member	Indonesia
Indonesia Corporate Secretary Association	Member	Indonesia
Indonesia Mining Association (IMA)	Member	Indonesia
Kamar Dagang & Industri Indonesia	Member	Indonesia
MCA Climate Change Committee	Committee Member	Australia
MCA Coal Forum	Chairman	Australia
MCA OHS Committee	Committee Member	Australia
Mine Managers Association of Australia	Vice-President	Australia
Mining Competence Board	Board Member	Australia
Mongolian National Chamber of Commerce and Industry	Committee Member	Mongolia
National Rescue Team Association	Member	Indonesia
NCIG Holdings Pty Limited	Director	Australia
Newcastle Coal Infrastructure Group (NCIG)	Director	Australia
Newcastle Institute of Energy and Resources (NIER)	Director - Governance Board	Australia
Newcastle Knights Pty Ltd	Director	Australia
NSW Freight Advisory Council	Advisory Council Member	Australia
NSW Minerals Council Board	Director	Australia
NSW Minerals Council Environment and Community Committee	Committee Member	Australia
NSW Minerals Council OHS Committee	Committee Member	Australia
NSW Underground Geotechnical Society (NUGS)	Executive Committee Member	Australia
Port Kembla Coal Terminal Limited	Director	Australia
Shandong Electric Power Enterprises Association	Member	China
Shandong Overseas Chinese Entrepreneurs Association	Member	China
University of Queensland Centre for Mined Land Rehabilitation Advisory Board	Member (advisory position only)	Australia
Westpac Rescue Helicopter Service	Director	Australia

Data Boundary

Sustainability Topic	Coal Business				Power Business				Gas Business	Office	
	Indonesia	Australia	Mongolia	China	China	Japan	Thailand	Lao PDR	The U.S.	Thailand	Singapore
Business Ethics*	●	●	●	×	●	●	×	×	×	●	●
Compliance*	●	●	●	×	●	●	×	×	×	●	●
Risk Management	●	●	●	×	●	●	×	×	×	●	●
Business Continuity Management	●	●	○	×	●	●	×	×	×	●	●
Process Improvement	●	●	○	×	●	○	×	×	×	NR	NR
Innovation	●	●	●	×	●	●	×	×	×	●	●
Supplier Management	●	●	●	×	●	○	×	×	×	●	●
Contractor Management*	●	●	●	×	●	●	×	×	×	NR	NR
Customer Management	●	●	●	×	●	●	×	×	×	●	●
Product Stewardship	●	●	●	×	●	●	×	×	×	●	●
Community Development*	●	○	○	×	○	○	×	×	×	NR	NR
GHG Emissions*	●	●	○	×	●	●	×	×	×	NR	NR
Energy*	●	●	○	×	●	●	×	×	×	NR	NR
Biodiversity	●	●	○	×	○	○	×	×	×	NR	NR
Mine Subsidence	NR	●	NR	×	NR	NR	×	×	×	NR	NR
Mine Rehabilitation	●	●	○	×	NR	NR	×	×	×	NR	NR
Mine Closure	●	●	○	×	NR	NR	×	×	×	NR	NR
Sulfur Dioxide	●	●	○	×	●	●	×	×	×	NR	NR
Oxide of Nitrogen	●	●	○	×	●	●	×	×	×	NR	NR
Particulate Matter	●	●	○	×	●	●	×	×	×	NR	NR
Water	●	●	○	×	●	○	×	×	×	NR	NR
Effluents	●	●	○	×	●	○	×	×	×	NR	NR
Non-Hazardous Waste	●	●	○	×	●	○	×	×	×	NR	NR
Hazardous Waste	●	●	○	×	●	○	×	×	×	NR	NR
Ash	●	○	○	×	●	○	×	×	×	NR	NR
Tailings	○	●	○	×	NR	NR	×	×	×	NR	NR
Overburden	●	●	○	×	NR	NR	×	×	×	NR	NR
Acid Mine Drainage Management	●	○	○	×	NR	NR	×	×	×	NR	NR
Spill	●	●	●	×	●	●	×	×	×	NR	NR
Environmental Compliance	●	●	●	×	●	●	×	×	×	NR	NR
Employee Engagement*	●	●	●	×	●	●	×	×	×	●	●
Corporate Culture	●	●	●	×	●	●	×	×	×	●	●
Competency Development	●	●	●	×	●	●	×	×	×	●	●
Succession Planning	●	●	●	×	●	●	×	×	×	●	●
Leadership Development*	●	●	●	×	●	●	×	×	×	●	●
Safety*	●	○	●	×	●	○	×	×	×	●	○
Occupational Health	●	○	○	×	○	○	×	×	×	○	○
Community Engagement*	●	●	○	×	○	○	×	×	×	NR	NR
Indigenous People's Engagement	●	●	○	×	○	○	×	×	×	NR	NR

*Material Topic in this report

● Management approach and performance data cover all parts of such business.

● Management approach and performance data cover some parts of such business.

○ Management approach and performance data do not cover such business.

NR No relevant to the business

× Management approach and performance data do not cover such business due to less than 50% of shares and no management control.

Performance Data

Economic Performance

Data	Unit	2014	2015	2016	2017
Revenues	USD million	3,145	2,477	2,259	2,877
Profit from Operation	USD million	296	160	178	412
Net Profit	USD million	83	(43)	47	234
Gross Profit Margin	%	32	32	33	39
Interest Coverage Ratio	Times	5.5	5.9	5.3	5.7
Net Debt to Equity Ratio	Times	1.18	1.40	0.99	0.99

Tax Payment – by Country

Data	Unit	2014	2015	2016	2017
Indonesia					
• Net Profit before Tax	USD thousand	263	139	192	362
• Tax Expense (from P&L) ^(a)	USD thousand	(62)	(76)	(61)	(109)
• Corporate Income Tax Rate	%	25	25	25	25
China					
• Net Profit before Tax	USD thousand	43	59	56	36
• Tax Expense (from P&L) ^(a)	USD thousand	(13)	(16)	(15)	(10)
• Corporate Income Tax Rate	%	25	25	41	25
Banpu^(b)					
• Net Profit before Tax	USD thousand	250	82	166	477
• Tax Expense (from P&L) ^(a)	USD thousand	(94)	(98)	(69)	(134)
• Corporate Income Tax Rate	%	20-25	20-25	20-25	20-25

^(a) Consisting of Corporate Income Tax, Withholding Tax and Deferred Tax

^(b) Consolidated

Economic Distributions

Stakeholder	Unit	2014	2015	2016	2017
Suppliers & Contractors ^(a)	USD thousand	1,563,105	1,137,075	1,033,909	1,176,534
Public Sector ^(b)	USD thousand	372,515	337,305	287,951	401,917
Shareholders ^(c)	USD thousand	96,120	91,810	71,823	82,810
Employee ^(d)	USD thousand	354,196	346,890	295,023	384,871
Financial Institutions ^(e)	USD thousand	131,541	130,197	130,080	139,967
Community, Society and Environment ^(f)	USD thousand	26,101	24,112	22,482	27,747
Contributions to External Organizations and Associations ^(g)	USD thousand	23.22	16.85	15.01	24.14

^(a) Estimated from Cost of Sales less Employee Expense, Depreciation and Amortization

^(b) Includes Royalty Fee, Corporate Income Tax, Local Maintenance Tax, Property Tax, Specific Business Tax and Other Taxes

^(c) Dividends Paid

^(d) Includes Salary, Wage, Welfare, Provident Fund Contribution and Employees Development Expense

^(e) Includes Interest Expense, Financial Expense

^(f) Includes Expense for Community Development, Environment and Land Compensation

^(g) Includes only Banpu and its subsidiaries in Thailand

Product[§]

Data	Unit	2014	2015	2016	2017
Coal Business					
Finished Coal ^(a)	Million Tonnes	47.06	43.05	40.07	36.31
Power Business					
Gross Energy Generation	GWh	5,215	5,728	6,208	6,812
Electricity	GWh	1,597	1,721	1,826	2,026
Steam	GWh	3,618 ^(b)	4,007 ^(c)	4,382 ^(c)	4,311
Heating	GWh	-	-	-	454
Cooling	GWh	-	-	-	21

§ Adjusted data from previous report

^(a) Saleable coal after processing

^(b) Combination of steam and heating generation

^(c) Combination of steam, heating and cooling generation

GHG Emissions^{§ (a)}

Data	Unit	2014	2015	2016	2017
Coal Business					
GHG Emissions Intensity	Tonnes CO ₂ e /Tonnes Finished Coal	0.09	0.09	0.10	0.13 ^(b)
GHG Emissions (Scope 1 and Scope 2)	Million Tonnes CO ₂ e	4.41	4.02	4.05	4.67 ^(b)
Direct GHG Emissions (Scope 1)	Million Tonnes CO ₂ e	4.13	3.76	3.82	4.42 ^(b)
Indirect GHG Emissions (Scope 2)	Million Tonnes CO ₂ e	0.28	0.26	0.24	0.25 ^(b)
Power Business					
GHG Emissions Intensity	Tonnes CO ₂ e /MWh	0.54	0.56	0.59	0.55
Electricity	Tonnes CO ₂ e /MWh	0.32	0.32	0.32	0.31
Steam	Tonnes CO ₂ e /MWh	0.64	0.66	0.71	0.58
GHG Emissions (Scope 1 and Scope 2)	Million Tonnes CO ₂ e	2.83	3.18	3.69	3.71
Direct GHG Emissions (Scope 1)	Million Tonnes CO ₂ e	2.83	3.18	3.68	3.68
Indirect GHG Emissions (Scope 2)	Million Tonnes CO ₂ e	0	0	0.01	0.04

§ Adjusted data from previous report

^(a) GHG emissions calculated by using Emissions Factors based on A Corporate Accounting and Reporting Standard, IPCC Fifth Assessment Report (AR5)'s Global Warming Potential (GWP) values, and specific emissions factors in the case where there are regional factors for GHG emissions, for instance, emissions factors for electricity generated within the operating country were used.

^(b) Due to a different reporting year between the Company (a calendar year) and Australian operation (a June fiscal year), data of Australia for July-December are not official and under the audit process by Australian Federal Government

Energy[§]

Data	Unit	2014	2015	2016	2017
Coal Business					
Energy Consumption Intensity	GJ/Tonnes Finished Coal	0.30	0.31	0.30	0.37 ^(b)
Total Energy Consumption within the Organization ^(a)	TJ	13,916	13,164	12,187	13,418 ^(b)
Non-renewable Fuel Consumed	TJ	13,916	13,164	12,187	13,418
Coal	TJ	1,096	1,190	987	898
Diesel	TJ	11,652	10,782	10,179	11,436 ^(b)
Gasoline	TJ	6.26	117.43	5.17	4.44
Electricity Purchased	TJ	1,161	1,075	1,015	1,079 ^(b)
Renewable Fuel Consumed	TJ	-	-	-	0
Solar	TJ	-	-	-	0
Electricity Purchased	TJ	-	-	-	0
Power Business					
Energy Consumption Intensity	GJ/MWh	5.28	5.21	5.12	4.80
Total Energy Consumption within the Organization ^(a)	TJ	27,558	28,862	31,755	32,709
Non-renewable Fuel Consumed	TJ	27,558	29,862	31,755	32,704
Coal	TJ	27,550	29,163	29,172	31,093
Diesel	TJ	7.93	7.85	6.36	10.46
Gasoline	TJ	0.004	0.01	0.01	0.01
Waste Gas	TJ	-	691	2,755	1,594
Electricity Purchased	TJ	0	0	0.99	6.92
Renewable Fuel Consumed	TJ	-	-	0.51	4.75
Solar	TJ	-	-	0.51	4.75
Electricity Purchased	TJ	-	-	-	0
Net Energy Generation	GWh	4,989	5,463	5,905	6,450
Electricity from Non-renewable Fuel	GWh	1,371	1,456	1,478	1,496
Electricity from Solar	GWh	-	-	45	197
Steam from Non-renewable Fuel	GWh	3,618 ^(c)	4,007 ^(d)	4,382 ^(d)	4,285
Heating from Non-renewable Fuel	GWh	-	-	-	452
Cooling from Non-renewable Fuel	GWh	-	-	-	21

[§] Adjusted data from previous report

^(a) Calculated based on GRI Standards [302-1, 2016]

^(b) Due to a different reporting year between the Company (a calendar year) and Australian operation (a June fiscal year), data of Australia for July-December are not official and under the audit process by Australian Federal Government

^(c) Combination of steam and heating

^(d) Combination of steam, heating and cooling

Biodiversity[§]

Data	Unit	2014	2015	2016	2017
Coal Business					
Number of Operations in Relation to Protected Area ^(a)	No. of Operation	2	2	7	7
Inside	No. of Operation	0	0	0	0
Adjacent to	No. of Operation	1	1	1	1
Contain Portion	No. of Operation	1	1	6	6
Number of Operations in Relation to High Biodiversity Area Outside Protected Area	No. of Operation	1	1	1	1
Number of Operations Implemented Biodiversity Management Plan (BMP)	No. of Operation	2	2	5	7

§ Adjusted data from previous report

^(a) Data from Coal Business in Indonesia (2014-2017) and Australia (2016-2017)

Land Use[§]

Data	Unit	2014	2015	2016	2017
Coal Business					
Land Own	Hectare	119,955	119,997	95,960	90,648
Disturbed Area					
During the Year	Hectare	1,163	1,551	950	910
Accumulate	Hectare	20,672	22,254	23,221	24,048
Rehabilitated Area					
During the Year	Hectare	803	693	811	596
Accumulate	Hectare	9,880	10,573	11,384	11,980
Ratio of Disturbed Area to Land Own	%	17.2	18.5	24.2	26.5
Ratio of Rehabilitated Area to Disturbed Area	%	47.8	47.5	49.0	49.8

§ Adjusted data from previous report

Air

Data	Unit	2014	2015	2016	2017
Coal Business					
Emissions Load ^(a)					
SO ₂	Tonnes	-	-	0.15	0.13
NO _x	Tonnes	-	-	230	190
Particulate Matter	Tonnes	-	-	340	349
Air Quality Compliance ^(b)					
Indonesia	% Compliance	100	100	100	100
Australia	% Compliance	100	100	100	100

Data	Unit	2014	2015	2016	2017
Power Business					
Emissions Load					
SO ₂	Tonnes	1,259	810	633	174
NO _x	Tonnes	2,654	908	639	455
Particulate Matter	Tonnes	142	144	91	35
Air Quality Compliance ^(b)					
China	% Compliance	100	100	100	100

[§] Adjusted data from previous report

^(a) Exclude data from Coal Business in Indonesia

^(b) In accordance with local laws and regulations

Water

Data	Unit	2014	2015	2016	2017
Coal Business					
Water Withdrawal [§]	Million m ³	338.19	358.54	350.35	437.39
Surface Fresh Water	Million m ³	20.22	15.40	6.48	3.06
Groundwater	Million m ³	21.78	24.24	23.27	17.65
Rain Water	Million m ³	295.27	317.91	319.19	414.43
Municipal Water	Million m ³	0.64	0.66	0.63	0.54
Sea Water	Million m ³	0.29	0.33	0.78	1.70
Water Recycled/Reused ^(a)	Million m ³	0.33	0.23	0.15	0.52
Water Discharged [§]	Million m ³	313.26	342.88	342.34	432.40
Surface Water	Million m ³	313.05	342.63	341.66	430.96
Ocean	Million m ³	0.21	0.25	0.68	1.44
Effluents Quality Compliance ^(b)					
Indonesia	% Compliance	100	100	100	100
Australia	% Compliance	100	100	100	100
Power Business					
Water Withdrawal [§]	Million m ³	7.78	7.87	8.12	8.56
Surface Fresh Water	Million m ³	4.34	4.58	5.33	6.06
Groundwater	Million m ³	3.44	3.30	2.79	2.51
Rain Water	Million m ³	0	0	0	0
Municipal Water	Million m ³	0	0	0	0
Sea Water	Million m ³	0	0	0	0
Water Recycled/Reused [§]	Million m ³	-	-	0.60	0.60
Water Discharged	Million m ³	0.40	0.46	0.74	0.71
Surface Water	Million m ³	0	0	0	0
Ocean	Million m ³	0	0	0	0
Sewer	Million m ³	0.40	0.46	0.74	0.71
Effluents Quality Compliance ^(b)					
China	% Compliance	100	100	100	100

[§] Adjusted data from previous report

^(a) Exclude data from Coal Business in Indonesia

^(b) In accordance with local laws and regulations

Waste

Data	Unit	2014	2015	2016	2017
Coal Business					
Hazardous Waste ^{§ (a)}	Tonnes	10,425	7,419	6,994	5,833
Reused/Recycled	Tonnes	8,374	1,409	1,249	1,207
On-site Storage	Tonnes	2,032	5,604	5,360	4,163
Transported to Off-site Disposal	Tonnes	0	396	369	438
Other Disposal	Tonnes	19	11	16	25
Non-hazardous Waste ^{§ (a)}	Tonnes	4,642 ^(b)	9,782	6,435	5,251
Reused/Recycled	Tonnes	1,733	2,414	1,161	1,170
On-site Storage	Tonnes	0	4,804	2,844	1,729
Transported to Off-site Disposal	Tonnes	0	55	36	158
Landfill	Tonnes	2,909	2,509	2,394	2,194
Ash from Power Plant	Tonnes	2,958	2,867	4,048	6,947
Recycled	Tonnes	1,180	1,147	2,313	1,945
Other Disposal	Tonnes	0	0	0	366
Transported to Off-site Disposal	Tonnes	1,778	1,719	1,735	4,636
Power Business					
Hazardous Waste ^(a)	Tonnes	-	-	2	60
Reused/Recycled	Tonnes	-	-	2	5
On-site Storage	Tonnes	-	-	0	0
Other Disposal	Tonnes	-	-	0	55
Non-hazardous Waste ^(a)	Tonnes	438	1,020	383	53,436
Reused/Recycled	Tonnes	438	1,020	383	53,436
Landfill	Tonnes	0	0	0	0
Ash from Power Plant	Tonnes	509,566	605,462	617,405	627,167
Recycled	Tonnes	509,566	605,462	617,405	571,402
Other Disposal	Tonnes	0	0	0	55,765

§ Adjusted data from previous report

(a) Exclude Ash, Tailings and Overburden

(b) Exclude data from Coal Business in Indonesia

Tailings and Overburden

Data	Unit	2014	2015	2016	2017
Coal Business					
Overburden [§]	Million BCM	288	246	201	236
Tailings ^(a)	Tonnes (Dry weight)	-	-	322,843	333,596

§ Adjusted data from previous report

(a) Exclude data from Coal Business in Indonesia

Environmental Incident

Data	Unit	2014	2015	2016	2017
Coal Business					
Significant Spill					
Oil Spill	Case	1	2	0	1
	Liter	158	302	0	100
Chemical Spill	Case	0	0	0	0
	Liter	0	0	0	0
Waste Spill	Case	0	0	0	0
	Liter	0	0	0	0
Tailings Spill	Case	0	1	1	0
	Liter	0	180,150	NA ^(b)	0
Environmental Non-compliance[§]					
Significant Fine ^(a)	Case	2	1	2	2
	USD	190,978	1,043,964	192,885	23,385
Non-monetary Sanction	Case	0	0	0	0
Power Business					
Significant Spill					
Oil Spill	Case	0	0	0	0
	Liter	0	0	0	0
Chemical Spill	Case	0	0	0	0
	Liter	0	0	0	0
Waste Spill	Case	0	0	0	0
	Liter	0	0	0	0
Environmental Non-compliance					
Significant Fine ^(a)	Case	0	0	0	0
	USD	0	0	0	0
Non-monetary Sanction	Case	-	-	0	0

[§] Adjusted data from previous report

^(a) Greater than or equal to USD 10,000 per case

^(b) Unknown exact volume of spill

Employee

Data	Unit	2014	2015	2016	2017
Employee – Total	Person	6,167	5,505	5,675	5,780
Employee – by Country					
• Thailand	%	6.7	5.5	5.5	6.0
• Indonesia	%	51.2	49.7	49.8	48.3
• China	%	14.7	16.1	16.0	16.1
• Australia	%	25.3	25.6	26.0	27.0
• Mongolia	%	2.2	2.5	2.2	2.1
• Singapore	%	-	-	0.3	0.3
• Japan	%	-	-	0.1	0.1
• Lao PDR	%	-	-	0.1	0.1
Employee – by Gender					
• Male	%	86.6	85.9	86.2	86.2
• Female	%	13.4	14.1	13.8	13.8
Employee – by Nationality					
• Thai	%	6.6	7.2	7.1	7.5
• Indonesian	%	51.1	48.6	48.7	47.3
• Chinese	%	14.7	16.0	15.9	16.0
• Australian	%	25.4	25.7	26.0	27.0
• Mongolia	%	2.1	2.3	2.0	1.9
• Singaporean	%	-	-	0.1	0.1
• Japanese	%	-	-	0.1	0.1
• Others	%	-	-	0.1	0.1
Employee – by Age					
• Under 30 years	%	-	20.0	17.9	17.0
• 30-39 years	%	-	38.7	39.5	39.3
• 40-49 years	%	-	27.5	28.1	30.4
• Over 50 years	%	-	13.8	14.5	15.2
Employee – by Type					
• Permanent	%	95.9	94.9	91.7	90.7
• Temporary	%	4.1	5.1	8.3	9.3
Employee – by Level					
• Senior Management	%	0.8	0.9	0.8	1.0
• Middle Management	%	5.1	5.6	5.3	7.3
• Junior Management	%	27.8	29.1	28.3	26.0
• Staff and Supervisor	%	66.3	64.4	65.6	65.7
Management – by Gender ^(a)					
• Male	%	-	-	-	75.0
• Female	%	-	-	-	25.0

^(a) Include Middle and Senior Managements

New Employee

Data	Unit	2014	2015	2016	2017
New Employee – Total	Person	-	-	136	400
New Employee – by Gender					
• Male	Person	-	-	103	342
• Female	Person	-	-	33	58
New Employee – by Country					
• Thailand	Person	-	-	25	25
• Indonesia	Person	-	-	5	138
• China	Person	-	-	51	80
• Australia	Person	-	-	46	146
• Mongolia	Person	-	-	8	8
• Singapore	Person	-	-	1	1
• Japan	Person	-	-	0	2
• Lao PDR	Person	-	-	0	0

Employee Engagement

Data	Unit	2014	2015	2016	2017
Level of Employee Engagement					
• Thailand	%	-	-	57	64
• Indonesia	%	-	-	78	84
• China	%	-	-	97	95
Level of Alignment between Employee Behavior and the Corporate Culture					
• Thailand	%	-	-	74	77
• Indonesia	%	-	-	80	82
• China	%	-	-	95	99
• Mongolia	%	-	-	-	91

Training

Data	Unit	2014	2015	2016	2017
Average Cost per Head of Training – by Country					
• Thailand ^(a)	USD/Employee	-	-	1,614	1,128
• Indonesia	USD/Employee	-	-	108	161
• China	USD/Employee	-	-	283	211
• Australia	USD/Employee	-	-	-	-
• Mongolia	USD/Employee	-	-	-	-
Average Cost of Training – by Level					
• Senior Management	USD/Employee	-	-	1,681	929
• Middle Management	USD/Employee	-	-	1,114	907
• Junior Management	USD/Employee	-	-	251	396
• Staff and Supervisor	USD/Employee	-	-	130	156

Data	Unit	2014	2015	2016	2017
Average Hours of Training – by Country					
• Thailand	Hrs/Employee	62.8	36.8	-(b)	37.0
• Indonesia	Hrs/Employee	33.4	37.9	-(b)	17.5
• China	Hrs/Employee	33.4	24.5	-(b)	20.6
• Australia	Hrs/Employee	-	-	-(b)	-(b)
• Mongolia	Hrs/Employee	-	-	-(b)	-(b)
Average Hours of Training – by Level					
• Senior Management	Hrs/Employee	54.4	35.6	-(b)	14.3
• Middle Management	Hrs/Employee	41.4	32.1	-(b)	25.1
• Junior Management	Hrs/Employee	53.6	52.1	-(b)	24.1
• Staff and Supervisor	Hrs/Employee	32.2	24.0	-(b)	18.8

(a) Include Singapore, Japan and Lao PDR

(b) Reporting system under standardization

Succession Planning & Leadership Development

Data	Unit	2014	2015	2016	2017
Critical Positions having a Succession Plan	%	-	-	100	100
Critical Positions having a Succession Plan – by Level					
• Senior Management	%	-	-	-	100
• Middle Management	%	-	-	-	100
Success of Leadership Development Programs – Total ^(c)	%	-	-	-	84
Success of Leadership Development Programs – by Course ^(c)					
• Strategic Leader	%	-	-	-	81
• Business Leader	%	-	-	-	80
• First Line Leader	%	-	-	-	81
• Future Leader ^(a)	%	-	-	-	NA ^(b)
• Engaging Leader	%	-	-	-	94

(a) Program designed for employee in Thailand only

(b) No development program conducted

(c) % Applied learning according to the program evaluation

Turnover Rate

Data	Unit	2014	2015	2016	2017
Turnover Rate – Total	%	-	5.5	3.8	5.3
Turnover Rate – Voluntary	%	-	1.7	2.2	2.8
Turnover Rate – by Country					
• Thailand	%	15.3	10.1	6.6	5.1
• Indonesia	%	6.7	1.5	2.8	4.7
• China	%	7.4	5.7	4.4	2.8
• Australia	%	16.7	12.5	3.4	4.2
• Mongolia	%	12.3	5.3	17.9	18.9
• Singapore	%	-	-	0	0
• Japan	%	-	-	0	0
• Lao PDR	%	-	-	0	0

Parental Leave

Data	Unit	2014	2015	2016	2017
Employees that take Parental Leave – by Country					
• Thailand	Person	-	-	4	6
• Indonesia	Person	-	-	21	30
• China	Person	-	-	11	42
• Australia	Person	-	-	4	19
• Mongolia	Person	-	-	2	2
• Singapore	Person	-	-	0	0
• Japan	Person	-	-	0	0
• Lao PDR	Person	-	-	0	0
Return to Work after Parental Leave – by Country					
• Thailand	%	75	100	100	100
• Indonesia	%	89	90	100	100
• China	%	92	100	100	93
• Australia	%	100	80	100	95
• Mongolia	%	100	33	100	100
• Singapore	%	-	-	-	NA
• Japan	%	-	-	-	NA
• Lao PDR	%	-	-	-	NA

Collective Bargaining Agreements

Data	Unit	2014	2015	2016	2017
Percentage of Employees covered by Collective Bargaining Agreements					
• Thailand	%	-	0	0	0
• Indonesia	%	88	92	48	65
• China	%	-	0	0	0
• Australia	%	-	76	76	100
• Mongolia	%	-	0	0	0
• Singapore	%	-	0	0	0
• Japan	%	-	0	0	0
• Lao PDR	%	-	0	0	0

Fatality

Data	Unit	2014	2015	2016	2017
Number of Fatal Injury	Person	1 ^(b)	1	1	1 ^(c)
Number of Fatal Injury - by Type					
• Employee	Person	0	0	0	0
• Contractor	Person	1 ^(b)	1	1	1 ^(c)
• 3 rd Party ^(a)	Person	0	0	0	1

^(a) Not include data of 3rd party in calculation of IFR and ISR

^(b) Non-operational accident

^(c) This fatality is classified as non-fatal case according to Indonesian Regulation since the death occurred over 24 hours after accident happened.

Injury Frequency Rate (IFR)^{(a) (b)}

Data	Unit	2014	2015	2016	2017
Injury Frequency Rate (IFR) – Total	Person/million man-hour	0.41	0.39	0.46	0.19
Injury Frequency Rate (IFR) – by Type					
• Employee	Person/million man-hour	0.60	0.75	1.90	0.30
• Contractor	Person/million man-hour	0.38	0.34	0.25	0.18
Injury Frequency Rate (IFR) – by Country					
• Thailand	Person/million man-hour	0	0	9.54	1.46
• Indonesia	Person/million man-hour	0.39	0.40	0.23	0.16
• China	Person/million man-hour	1.03	0	3.93	0
• Australia	Person/million man-hour	-	-	-	-
• Mongolia	Person/million man-hour	-	0.66	1.72	1.79

^(a) Include fatality, but exclude first aid

^(b) Exclude data of Australia due to reporting system under standardization. This data will be available in Sustainability Report 2021.

Exclude employee in Beijing Office and contractors in China due to reporting system under standardization. This data will be available in Sustainability Report 2020.

Exclude employee in Jakarta Office and marine contractors in Indonesia due to reporting system under standardization. This data will be available in Sustainability Report 2018.

Lost Time Injury Frequency Rate (LTIFR)^{(a) (b)}

Data	Unit	2014	2015	2016	2017
Lost Time Injury Frequency Rate (LTIFR) – Total	Person/million man-hour	0.25	0.18	0.28	0.10
Lost Time Injury Frequency Rate (LTIFR) – by Type					
• Employee	Person/million man-hour	0.60	0.38	1.31	0.15
• Contractor and Subcontractor	Person/million man-hour	0.19	0.15	0.13 [§]	0.10

Data	Unit	2014	2015	2016	2017
Lost Time Injury Frequency Rate (LTIFR) – by Country					
• Thailand	Person/million man-hour	0	0	5.72	1.46
• Indonesia	Person/million man-hour	0.22	0.19	0.12	0.09
• China	Person/million man-hour	1.03	0	3.36	0
• Australia	Person/million man-hour	-	-	-	-
• Mongolia	Person/million man-hour	-	0	0	0

§ Adjusted data from previous report

^(a) Include fatality and lost time injury

^(b) Exclude data of Australia due to reporting system under standardization. This data will be available in Sustainability Report 2021.

Exclude employee in Beijing Office and contractors in China due to reporting system under standardization. This data will be available in Sustainability Report 2020.

Exclude employee in Jakarta Office and marine contractors in Indonesia due to reporting system under standardization. This data will be available in Sustainability Report 2018.

Injury Severity Rate (ISR)^{(a) (b)}

Data	Unit	2014	2015	2016	2017
Injury Severity Rate (ISR)	Day/million man-hour	101.90	105.65	117.17	107.66
Injury Severity Rate (ISR) – by Type					
• Employee	Day/million man-hour	11.94	4.64	47.44	1.33
• Contractor	Day/million man-hour	116.02	120.77	127.23	121.67
Injury Severity Rate (ISR) – by Country					
• Thailand	Day/million man-hour	0	0	15.26	13.12
• Indonesia	Day/million man-hour	104.81	111.98	117.43	113.30
• China	Day/million man-hour	23.70	0	177.77	0
• Australia	Day/million man-hour	-	-	-	-
• Mongolia	Day/million man-hour	-	0	0	0

^(a) Include the number of actual lost day and calculated lost day which the lost day count begins the day after accident happened until worker can return to work. Calculated lost day refers to American National Standards Institute (ANSI) standard, for example 6,000 days for fatality.

^(b) Exclude data of Australia due to reporting system under standardization. This data will be available in Sustainability Report 2021.

Exclude employee in Beijing Office and contractors in China due to reporting system under standardization. This data will be available in Sustainability Report 2018.

Exclude employee in Jakarta Office and marine contractors in Indonesia due to reporting system under standardization. This data will be available in Sustainability Report 2018.

Major Incident^{(a) (b)}

Data	Unit	2014	2015	2016	2017
Major Incident	Case	2	5	13	4
Major Incident – by Country					
• Thailand	Case	0	0	0	0
• Indonesia	Case	2	5	12	4
• China	Case	0	0	1	0
• Australia	Case	-	-	-	-
• Mongolia	Case	-	0	0	0

^(a) Major Incident includes fatality and/or property damage with cost exceeding USD 100,000.

^(b) Exclude data of Australia due to reporting system under standardization. This data will be available in Sustainability Report 2021.

Exclude employee in Beijing Office and contractors in China due to reporting system under standardization. This data will be available in Sustainability Report 2020.

Exclude employee in Jakarta Office and marine contractors in Indonesia due to reporting system under standardization. This data will be available in Sustainability Report 2018.

Community Complaint

Data	Unit	2014	2015	2016	2017
Significant Community Complaint	Case	-	-	0	0
Significant Community Complaint Handled	%	-	-	NA ^(a)	NA ^(a)
Violation of Indigenous People's Rights	Case	-	-	0	0

^(a) No significant complaint

GRI Content Index

Disclosure	Description	Page		Detail/Omission	External Assurance
		Sustainability Report	Annual Report		
GRI 101: Foundation 2016					
GRI 102: General Disclosures 2016					
Organizational Profile					
102-1	Name of the organization	Front cover		-	-
102-2	Activities, brands, products, and services	6-7, 10-13		-	-
102-3	Location of headquarters	Back cover		-	-
102-4	Location of operations	8-9		-	-
102-5	Ownership and legal form	140-141	28-29	-	-
102-6	Markets served	8-13, 17-19		-	-
102-7	Scale of the organization	140-141, 147, 154		-	-
102-8	Information on employees and other workers	56, 154		-	-
102-9	Supply chain	54-59		-	-
102-10	Significant changes to the organization and its supply chain	140-141		-	-
102-11	Precautionary Principle or approach	42-45	54-68	-	-
102-12	External initiatives	30-31		-	-
102-13	Membership of associations	144-145		-	-
Strategy					
102-14	Statement from senior decision-maker	2-3		-	-
102-15	Key impacts, risks, and opportunities	17-19, 42-45		-	-
Ethics and Integrity					
102-16	Values, principles, standards, and norms of behavior	34-38		-	-
102-17	Mechanisms for advice and concerns about ethics	38		-	-
Governance					
102-18	Governance structure	14-16		-	-
102-19	Delegating authority	14-16		-	-
102-20	Executive-level responsibility for economic, environmental, and social topics	20-23		-	-
102-21	Consulting stakeholders on economic, environmental, and social topics	24-29		-	-
102-22	Composition of the highest governance body and its committees	14-15		-	-
102-23	Chair of the highest governance body	14	31	-	-
102-24	Nominating and selecting the highest governance body	15		-	-
102-25	Conflicts of interest	14, 37	31-35	-	-
102-26	Role of highest governance body in setting purpose, values, and strategy	14, 20-21		-	-
102-27	Collective knowledge of highest governance body	15-16		-	-
102-28	Evaluating the highest governance body's performance	16, 22		-	-
102-29	Identifying and managing economic, environmental, and social impacts	20-21,	24-26	-	-
102-30	Effectiveness of risk management processes	20, 42-43		-	-
102-31	Review of economic, environmental, and social topics	21		-	-
102-32	Highest governance body's role in sustainability reporting	21		-	-
102-33	Communicating critical concerns	20-21, 42-43		-	-
102-34	Nature and total number of critical concerns	24-29, 44-45		-	-
102-35	Remuneration policies	16, 22		-	-

Disclosure	Description	Page		Detail/Omission	External Assurance
		Sustainability Report	Annual Report		
102-36	Process for determining remuneration	16, 22			-
102-37	Stakeholders' involvement in remuneration	-			-
102-38	Annual total compensation ratio	-			-
102-39	Percentage increase in annual total compensation ratio	-			-
Stakeholder Engagement					
102-40	List of stakeholder groups	25-26			-
102-41	Collective bargaining agreements	115, 157			-
102-42	Identifying and selecting stakeholders	24			-
102-43	Approach to stakeholder engagement	25-26			-
102-44	Key topics and concerns raised	25-26			-
Reporting Practice					
102-45	Entities included in the consolidated financial statements	140-141	28-29		-
102-46	Defining report content and topic Boundaries	4, 27-29			-
102-47	List of material topics	29			-
102-48	Restatements of information	4			-
102-49	Changes in reporting	4, 27-29			-
102-50	Reporting period	4			-
102-51	Date of most recent report	4			-
102-52	Reporting cycle	4			-
102-53	Contact point for questions regarding the report	4			-
102-54	Claims of reporting in accordance with the GRI Standards	4			-
102-55	GRI content index	161-169			-
102-56	External assurance	4, 170-171			-

Economic					
GRI 201: Economic Performance 2016					
103-1	Explanation of the material topic and its Boundary	64			-
103-2	The management approach and its components	64-65			-
103-3	Evaluation of the management approach	66-69			-
201-1	Direct economic value generated and distributed	66, 147			-
201-2	Financial implications and other risks and opportunities due to climate change	45			-
201-3	Defined benefit plan obligations and other retirement plans	115			-
201-4	Financial assistance received from government	-			-
GRI 202: Market Presence 2016					
103-1	Explanation of the material topic and its Boundary	-		Not a material topic.	-
103-2	The management approach and its components	-			-
103-3	Evaluation of the management approach	-			-
202-1	Ratios of standard entry level wage by gender compared to local minimum wage	-		Entry level wage of Banpu is higher than local minimum wage at significant locations of operation with an equal opportunity employees regardless of gender.	-
202-2	Proportion of senior management hired from the local community	-			-

Disclosure	Description	Page		Detail/Omission	External Assurance
		Sustainability Report	Annual Report		
GRI 203: Indirect Economic Impacts 2016					
103-1	Explanation of the material topic and its Boundary	64		Not a material topic.	-
103-2	The management approach and its components	64-65			-
103-3	Evaluation of the management approach	66-69			-
203-1	Infrastructure investments and services supported	64-69			-
203-2	Significant indirect economic impacts	64-69			-
GRI 204: Procurement Practices 2016					
103-1	Explanation of the material topic and its Boundary	54		Not a material topic.	-
103-2	The management approach and its components	54			-
103-3	Evaluation of the management approach	55			-
204-1	Proportion of spending on local suppliers	-			-
GRI 205: Anti-corruption 2016					
103-1	Explanation of the material topic and its Boundary	34			-
103-2	The management approach and its components	34-35			-
103-3	Evaluation of the management approach	36-38			-
205-1	Operations assessed for risks related to corruption	36			-
205-2	Communication and training about anti-corruption policies and procedures	35			-
205-3	Confirmed incidents of corruption and actions taken	36			-
GRI 206: Anti-competitive Behavior 2016					
103-1	Explanation of the material topic and its Boundary	-		Not a material topic.	-
103-2	The management approach and its components	-			-
103-3	Evaluation of the management approach	-			-
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	-		The Company clearly stated about the policies and practices towards competitors in the Code of Conduct.	-
Environment					
GRI 301: Materials 2016					
103-1	Explanation of the material topic and its Boundary	-		Not a material topic.	-
103-2	The management approach and its components	-			-
103-3	Evaluation of the management approach	-			-
301-1	Materials used by weight or volume	-			-
301-2	Recycled input materials used	-			-
301-3	Reclaimed products and their packaging materials	-		Packaging material is not essential for our product.	-
GRI 302: Energy 2016					
103-1	Explanation of the material topic and its Boundary	78			-
103-2	The management approach and its components	79			-
103-3	Evaluation of the management approach	79			-
302-1	Energy consumption within the organization	149			Yes
302-2	Energy consumption outside of the organization	-		Data are collected for logistics but they are not publicly report.	-
302-3	Energy intensity	79, 149			Yes

Disclosure	Description	Page		Detail/Omission	External Assurance
		Sustainability Report	Annual Report		
302-4	Reduction of energy consumption	-			-
302-5	Reductions in energy requirements of products and services	-			-
GRI 303: Water 2016					
103-1	Explanation of the material topic and its Boundary	92		Not a material topic.	-
103-2	The management approach and its components	92-93			-
103-3	Evaluation of the management approach	93			-
303-1	Water withdrawal by source	93, 151			-
303-2	Water sources significantly affected by withdrawal of water	-		There is no water sources significantly affected by withdrawal of water.	-
303-3	Water recycled and reused	93, 151			-
GRI 304: Biodiversity 2016					
103-1	Explanation of the material topic and its Boundary	80, 83		Not a material topic.	-
103-2	The management approach and its components	80-81, 83			-
103-3	Evaluation of the management approach	81, 84			-
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	150			-
304-2	Significant impacts of activities, products, and services on biodiversity	80-81			-
304-3	Habitats protected or restored	81, 83-84			-
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	-			-
MM1 ^M	Amount of land (owned or leased, and managed for production activities or extractive use) disturbed or rehabilitated	84, 150			-
MM2 ^M	The number and percentage of total sites identified as requiring biodiversity management plans according to stated criteria, and the number (percentage) of those sites with plans in place	150			-
GRI 305: Emissions 2016					
103-1	Explanation of the material topic and its Boundary	72, 86, 88, 90			-
103-2	The management approach and its components	73-74, 86-88, 90-91			-
103-3	Evaluation of the management approach	74-77, 87, 89, 91			-
305-1	Direct (Scope 1) GHG emissions	148			Yes
305-2	Energy indirect (Scope 2) GHG emissions	148			Yes
305-3	Other indirect (Scope 3) GHG emissions	-			-
305-4	GHG emissions intensity	74-75, 148			Yes
305-5	Reduction of GHG emissions	-			-
305-6	Emissions of ozone-depleting substances (ODS)	-			-
305-7	Nitrogen oxides (NO _x), sulfur oxides (SO _x), and other significant air emissions	87, 89, 91, 150-151			-
GRI 306: Effluents and Waste 2016					
103-1	Explanation of the material topic and its Boundary	94, 96, 98, 100, 102, 104, 105, 106			-
103-2	The management approach and its components	94, 96, 98, 100, 102, 104, 105, 106			-

Disclosure	Description	Page		Detail/Omission	External Assurance
		Sustainability Report	Annual Report		
103-3	Evaluation of the management approach	95, 97, 99, 101, 103, 104, 105, 107			-
306-1	Water discharge by quality and destination	94, 151			-
306-2	Waste by type and disposal method	96-101, 152			-
306-3	Significant spills	106-107, 153			-
306-4	Transport of hazardous waste	152		There is no waste under the terms of the Basel convention 2 annex I, II, III.	-
306-5	Water bodies affected by water discharges and/or runoff	-		There is no water bodies significantly affected by water discharged and/or runoff.	-
MM3 ^M	Total amounts of overburden, rock, tailings, and sludges and their associated risks	103, 104, 152			-
GRI 307: Environmental Compliance 2016					
103-1	Explanation of the material topic and its Boundary	108		Not a material topic.	-
103-2	The management approach and its components	108			-
103-3	Evaluation of the management approach	108-109			-
307-1	Non-compliance with environmental laws and regulations	108, 153			-
GRI 308: Supplier Environmental Assessment 2016					
103-1	Explanation of the material topic and its Boundary	56			-
103-2	The management approach and its components	56-57			-
103-3	Evaluation of the management approach	58-59			-
308-1	New suppliers that were screened using environmental criteria	-		Information is unavailable because our data collection system is under standardization. This data will be available in SD Report 2019.	-
308-2	Negative environmental impacts in the supply chain and actions taken	-			-

Social

GRI 401: Employment 2016

103-1	Explanation of the material topic and its Boundary	-		Not a material topic.	-
103-2	The management approach and its components	113			-
103-3	Evaluation of the management approach	-			-
401-1	New employee hires and employee turnover	155-156			-
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	-			-
401-3	Parental leave	157			-

GRI 402: Labor/Management Relations 2016

103-1	Explanation of the material topic and its Boundary	-		Not a material topic.	-
103-2	The management approach and its components	-			-
103-3	Evaluation of the management approach	-			-
402-1	Minimum notice periods regarding operational changes	-		Comply with local laws and regulations.	-
MM4 ^M	Number of strikes and lock-outs exceeding one week's duration, by country	-			-

Disclosure	Description	Page		Detail/Omission	External Assurance
		Sustainability Report	Annual Report		
GRI 403: Occupational Health and Safety 2016					
103-1	Explanation of the material topic and its Boundary	126, 132			-
103-2	The management approach and its components	127-128, 133			-
103-3	Evaluation of the management approach	129-131, 133			-
403-1	Workers representation in formal joint management-worker health and safety committees	-			-
403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	129, 157-160		Absentee rate, occupational disease rate, and total recordable injury frequency breakdown by gender are unavailable because our data collection system is under standardization. This data will be available in SD Report 2019.	Yes
403-3	Workers with high incidence or high risk of diseases related to their occupation	-			-
403-4	Health and safety topics covered in formal agreements with trade unions	-			-
GRI 404: Training and Education 2016					
103-1	Explanation of the material topic and its Boundary	120, 122-123			-
103-2	The management approach and its components	120, 122-123			-
103-3	Evaluation of the management approach	121-122, 124-125			-
404-1	Average hours of training per year per employee	156			-
404-2	Programs for upgrading employee skills and transition assistance programs	120-125			-
404-3	Percentage of employees receiving regular performance and career development reviews	121, 156			-
GRI 405: Diversity and Equal Opportunity 2016					
103-1	Explanation of the material topic and its Boundary	-		Not a material topic.	-
103-2	The management approach and its components	15			-
103-3	Evaluation of the management approach	15			-
405-1	Diversity of governance bodies and employees	15, 154			-
405-2	Ratio of basic salary and remuneration of women to men	-			-
GRI 406: Non-discrimination 2016					
103-1	Explanation of the material topic and its Boundary	34		Not a material topic.	-
103-2	The management approach and its components	34-35			-
103-3	Evaluation of the management approach	36			-
406-1	Incidents of discrimination and corrective actions taken	34			-
GRI 407: Freedom of Association and Collective Bargaining 2016					
103-1	Explanation of the material topic and its Boundary	115			-
103-2	The management approach and its components	115			-
103-3	Evaluation of the management approach	115			-
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	-			-
GRI 408: Child Labor 2016					
103-1	Explanation of the material topic and its Boundary	116		Not a material topic.	-
103-2	The management approach and its components	116			-

Disclosure	Description	Page		Detail/Omission	External Assurance
		Sustainability Report	Annual Report		
103-3	Evaluation of the management approach	116			-
408-1	Operations and suppliers at significant risk for incidents of child labor	-			-
GRI 409: Forced or Compulsory Labor 2016					
103-1	Explanation of the material topic and its Boundary	116		Not a material topic.	-
103-2	The management approach and its components	116			-
103-3	Evaluation of the management approach	116			-
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	-			-
GRI 410: Security Practices 2016					
103-1	Explanation of the material topic and its Boundary	-		Not a material topic.	-
103-2	The management approach and its components	-			-
103-3	Evaluation of the management approach	-			-
410-1	Security personnel trained in human rights policies or procedures	-		All operational employees including security personnel are trained as part of company regulations.	-
GRI 411: Rights of Indigenous Peoples 2016					
103-1	Explanation of the material topic and its Boundary	138		Not a material topic.	-
103-2	The management approach and its components	138			-
103-3	Evaluation of the management approach	138-139			-
411-1	Incidents of violations involving rights of indigenous peoples	139			-
MM5 ^M	Total number of operations taking place in or adjacent to Indigenous Peoples' territories, and number and percentage of operations or sites where there are formal agreements with Indigenous Peoples' communities	138-139			-
GRI 412: Human Rights Assessment 2016					
103-1	Explanation of the material topic and its Boundary	45, 116		Not a material topic.	-
103-2	The management approach and its components	45, 116			-
103-3	Evaluation of the management approach	-			-
412-1	Operations that have been subject to human rights reviews or impact assessments	-			-
412-2	Employee training on human rights policies or procedures	-			-
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	-		All significant contractors are fully complied with local labour laws and code of conduct.	-
GRI 413: Local Communities 2016					
103-1	Explanation of the material topic and its Boundary	64, 134			-
103-2	The management approach and its components	64-65, 134-135			-
103-3	Evaluation of the management approach	66-69, 136-137			-
413-1	Operations with local community engagement, impact assessments, and development programs	66-69, 136-137		Information about broad based local community consultation is unavailable. This information will be available in SD Report 2019.	-
413-2	Operations with significant actual and potential negative impacts on local communities	136-137			-

Disclosure	Description	Page		Detail/Omission	External Assurance
		Sustainability Report	Annual Report		
MM6 ^M	Number and description of significant disputes relating to land use, customary rights of local communities and Indigenous People	136-137, 139		There is no significant disputes relating to land use, customary rights of local communities and Indigenous People.	-
MM7 ^M	The extent to which grievance mechanisms were used to resolve disputes relating to land use, customary rights of local communities and Indigenous Peoples, and the outcomes	135-139			-
GRI 414: Supplier Social Assessment 2016					
103-1	Explanation of the material topic and its Boundary	56			-
103-2	The management approach and its components	56-57			-
103-3	Evaluation of the management approach	58-59			-
414-1	New suppliers that were screened using social criteria	-		Information is unavailable because our data collection system is under standardization. This data will be available in SD Report 2019.	-
414-2	Negative social impacts in the supply chain and actions taken	-			-
GRI 415: Public Policy 2016					
103-1	Explanation of the material topic and its Boundary	-		Not a material topic.	-
103-2	The management approach and its components	-			-
103-3	Evaluation of the management approach	-			-
415-1	Political contributions	147			-
GRI 416: Customer Health and Safety 2016					
103-1	Explanation of the material topic and its Boundary	63		Not a material topic.	-
103-2	The management approach and its components	63			-
103-3	Evaluation of the management approach	63			-
416-1	Assessment of the health and safety impacts of product and service categories	63			-
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	63			-
GRI 417: Marketing and Labeling 2016					
103-1	Explanation of the material topic and its Boundary	63		Not a material topic.	-
103-2	The management approach and its components	63			-
103-3	Evaluation of the management approach	63			-
417-1	Requirements for product and service information and labeling	63			-
417-2	Incidents of non-compliance concerning product and service information and labeling	63			-
417-3	Incidents of non-compliance concerning marketing communications	63			-
GRI 418: Customer Privacy 2016					
103-1	Explanation of the material topic and its Boundary	60		Not a material topic.	-
103-2	The management approach and its components	60-62			-
103-3	Evaluation of the management approach	61-62			-
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	61-62			-

Disclosure	Description	Page		Detail/Omission	External Assurance
		Sustainability Report	Annual Report		
GRI 419: Socioeconomic Compliance 2016					
103-1	Explanation of the material topic and its Boundary	39		Not a material topic.	-
103-2	The management approach and its components	39-40			-
103-3	Evaluation of the management approach	41			-
419-1	Non-compliance with laws and regulations in the social and economic area	-			-
GRI-G4 Sector Disclosure: Artisanal and Small-scale Mining					
103-1	Explanation of the material topic and its Boundary	-		Not a material topic.	-
103-2	The management approach and its components	-			-
103-3	Evaluation of the management approach	-			-
MM8 ^M	Number (and percentage) or company operating sites where artisanal and small-scale mining (ASM) takes place on, or adjacent to, the site; the associated risks and the actions taken to manage and mitigate these risks	-		There is no sites where artisanal and small-scale mining (ASM) takes place on, or adjacent to.	-
GRI-G4 Sector Disclosure: Resettlement					
103-1	Explanation of the material topic and its Boundary	134		Not a material topic.	-
103-2	The management approach and its components	134-135			-
103-3	Evaluation of the management approach	136-137			-
MM9 ^M	Sites where resettlements took place, the number of households resettled in each, and how their livelihoods were affected in the process	136-137		There is no site where resettlements took place in this report period.	-
GRI-G4 Sector Disclosure: Closure Planning					
103-1	Explanation of the material topic and its Boundary	85		Not a material topic.	-
103-2	The management approach and its components	85			-
103-3	Evaluation of the management approach	85			-
MM10 ^M	Number and percentage of operations with closure plans	85			-
Topics not covered by GRI Standards					
Business Ethic					
103-1	Explanation of the material topic and its Boundary	34			-
103-2	The management approach and its components	34-35			-
103-3	Evaluation of the management approach	36-38			-
Compliance					
103-1	Explanation of the material topic and its Boundary	39			-
103-2	The management approach and its components	39-40			-
103-3	Evaluation of the management approach	41			-
Employee Engagement					
103-1	Explanation of the material topic and its Boundary	112			-
103-2	The management approach and its components	112-113			-
103-3	Evaluation of the management approach	114-116			-

^M GRI-G4 Mining & Metals Sector Disclosures 2010

LRQA Assurance Statement

Relating to Banpu Public Company Limited's Sustainability Report for the calendar year 2017

This Assurance Statement has been prepared for Banpu Public Company Limited in accordance with our contract but is intended for the readers of this Report.

Terms of Engagement

Lloyd's Register Quality Assurance Ltd. (LRQA) was commissioned by Banpu Public Company Limited (BANPU) to provide independent assurance on its Sustainability Report 2017 (the Report) against the assurance criteria below to a moderate level of assurance and at the materiality of the professional judgement of the verifier using Accountability's AA1000AS (2008) Type 2 approach.

Our assurance engagement covered BANPU's operations and activities in Australia, China, Indonesia, Japan and Thailand (as Head Office) and specifically the following requirements:

- Evaluating the nature and extent of BANPU's adherence to all three AA1000 AccountAbility Principles - inclusivity, materiality and responsiveness.
 - Confirming that the report is in accordance with:
 - GRI Standard and core option, and
 - GRI Mining and Metal Sector Disclosures.
 - Evaluating the reliability of data and information for the selected indicators listed below:
 - Environmental:*
 - GRI 302-1 Energy Consumption
 - GRI 302-3 Energy Intensity
 - GRI 305-1 GHG Emissions Scope 1
 - GRI 305-2 GHG Emissions Scope 2
 - GRI 305-4 GHG Emissions Intensity
 - Social:*
 - GRI 403-2 Type of injury and rates of injury occupational diseases, lost days and absenteeism and number of work related fatalities
- Note:** LRQA was asked to verify only Injury Frequency Rate and Lost Day Rate for the Indonesian operations

LRQA's responsibility is only to BANPU. LRQA disclaims any liability or responsibility to others as explained in the end footnote. BANPU's responsibility is for collecting, aggregating, analysing and presenting all the data and information within the Report and for maintaining effective internal controls over the systems from which the Report is derived. Ultimately, the Report has been approved by, and remains the responsibility of BANPU.

LRQA's Opinion

Based on LRQA's approach nothing has come to our attention that would cause us to believe that BANPU has not:

- Met the requirements above
- Disclosed reliable performance data and information for the selected environmental indicators as no errors or omissions were detected.
- Covered all the issues that are important to the stakeholders and readers of this Report.

The opinion expressed is formed on the basis of a moderate level of assurance and at the materiality of the professional judgement of the verifier.

Note: The extent of evidence-gathering for a moderate assurance engagement is less than for a high assurance engagement. Moderate assurance engagements focus on aggregated data rather than physically checking source data at sites.

LRQA's approach

LRQA's assurance engagements are carried out in accordance with Accountability's AA1000AS (2008) Type 2 approach. The following tasks though were undertaken as part of the evidence gathering process for this assurance engagement:

- Assessing BANPU's approach to stakeholder engagement to confirm that issues raised by stakeholders were captured correctly. We did this through reviewing associated records.
- Reviewing BANPU's process for identifying and determining material issues to confirm that the right issues were included in their Report. We did this by benchmarking reports written by BANPU and its peers to ensure that sector specific issues were included for comparability. We also tested the filters used in determining material issues to evaluate whether BANPU makes informed business decisions that may create opportunities that contribute towards sustainable development.

This document is subject to the provision on page 2.

- Auditing BANPU's data management systems to confirm that there were no significant errors, omissions or mis-statements in the Report. We did this by reviewing the effectiveness of data handling procedures, instructions and systems. We also spoke with those key peoples responsible for compiling the data and writing the Report.
- Sampling the consolidated data and information at BANPU's head office in Bangkok and visiting BANPU's Power Plants in China and Coal Mines in Indonesia.

Observations

Further observations and findings, made during the assurance engagement, are:

- **Stakeholder inclusivity:**
We are not aware of any key stakeholder groups that have been excluded from BANPU's stakeholder engagement process.
- **Materiality:**
We are not aware of any material issues concerning BANPU's sustainability performance that have been excluded from the Report. BANPU reviews regularly their material issues, against their established and extensive criteria for determining material issues, to reconfirm that their material issues are still relevant. The criteria for determining materiality are not biased to BANPU.
- **Responsiveness:**
BANPU has processes for responding to various stakeholder groups; for example, disclosure of GHG related information to its clients and investors. We understand that future reports will disclose more data and information related to occupational health and safety management programmes (specifically those associated with operations in Australia and China) and performance indicators, as applicable, under GRI Electric & Utilities Sector Disclosures.
- **Reliability:**
BANPU uses well designed spreadsheets and management information systems to collect and calculate the data and information associated with the selected environmental indicators. BANPU should apply periodically internal verification to enhance the data quality and promote awareness of data and information disclosure throughout operations in China and Indonesia.

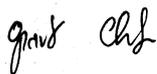
LRQA's competence and independence

LRQA ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

This verification is the only work undertaken by LRQA for BANPU and as such does not compromise our independence or impartiality.

Signed

Dated: 15 March 2018




AA1000
Licensed Assurance Provider
000-11

Opart Charuratana
LRQA Lead Verifier

On behalf of Lloyd's Register Quality Assurance Ltd.
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Feedback Form for Sustainability Report 2017

1. Please provide your basic information.

- Gender Female Male
 Age Below 30 years old 30 - 50 years old More than 50 years old

2. Please specify your relationship with Banpu.

- Employee Customer Investor/Shareholder Supplier
 Community Contractor NGOs Business Partner
 Creditor Government Other (Please specify.....)

3. How did you receive this report?

- Annual General Meeting Banpu's website Banpu's employee Seminar
 Other (Please specify.....)

4. What is your reason for your reading?

- To support investment decision
 To understand the Banpu's business
 For research and education purpose
 To prepare your own Sustainability Report
 Other (Please specify.....)

5. Please rate your satisfaction towards our Sustainability Report.

- | | | | | |
|----------------------|----------------------------|------------------------------|---------------------------|------------------------------------|
| Completeness | <input type="radio"/> High | <input type="radio"/> Medium | <input type="radio"/> Low | <input type="radio"/> Dissatisfied |
| Materiality | <input type="radio"/> High | <input type="radio"/> Medium | <input type="radio"/> Low | <input type="radio"/> Dissatisfied |
| Attractive content | <input type="radio"/> High | <input type="radio"/> Medium | <input type="radio"/> Low | <input type="radio"/> Dissatisfied |
| Ease to understand | <input type="radio"/> High | <input type="radio"/> Medium | <input type="radio"/> Low | <input type="radio"/> Dissatisfied |
| Report design | <input type="radio"/> High | <input type="radio"/> Medium | <input type="radio"/> Low | <input type="radio"/> Dissatisfied |
| Overall satisfaction | <input type="radio"/> High | <input type="radio"/> Medium | <input type="radio"/> Low | <input type="radio"/> Dissatisfied |

6. In your opinion, does the report cover all material topics?

- Yes No

If no, please specify topic(s) that should be included.

.....

7. In your opinion, what are significant topics for Banpu?

- Economy (Please specify.....)

- Environment (Please specify.....)

- Society (Please specify.....)

8. Please provide other comments or suggestions for further improvement.

.....



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