

**CLIMATE CHANGE**  
REPORT 2025



# PATHWAY TO NET ZERO



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# MESSAGE FROM ESG COMMITTEE & CEO



**Mr. Piriya Khempon**  
Chairman of the Environment,  
Social and Governance Committee

At Banpu, climate change is a strategic priority that requires strong governance, decisive action, and long-term commitment. The Board of Directors oversees the Company's climate-related direction, ensuring that climate considerations are embedded into strategy, risk management, investment decisions, and business operations. Through the ESG Committee, the Board closely monitors progress, performance, and emerging climate-related risks and opportunities to strengthen resilience and accountability across the organization.

Central to our approach is a firm commitment to achieving net zero emissions by 2050, supported by an interim target to reduce GHG emissions (Scope 1 and 2) by at least 20% by 2030 from our 2023 baseline. Equally important, we are committed to a Just Transition, ensuring that our pathway to a low-carbon future is inclusive, equitable, and considers the livelihoods and well-being of employees, communities, and all those affected by this transition.

Addressing climate change requires collaboration across the value chain and beyond. On behalf of the ESG Committee, I extend my sincere appreciation to our employees, investors, customers, partners, communities, and all stakeholders for your continued trust and partnership. Together, we will navigate this transition with determination, transparency, and shared purpose.

Climate change remains one of the defining challenges of our time. At Banpu, we believe it must be addressed with urgency, discipline, and long-term commitment. In 2025, I am proud that we achieved our climate targets in both the mining and power businesses. This keeps us firmly on track toward our interim goal of reducing Scope 1 and 2 GHG emissions by at least 20% by 2030 and toward our long-term ambition of achieving net zero by 2050.

Building on this progress, we announced our next annual climate targets for 2026–2030, setting ambitious goals aligned with global climate objectives and the Paris Agreement. To support delivery, we have embedded climate mitigation more deeply into our strategy through two practical tools: a Decarbonization Roadmap, which outlines strategic pathways through operational efficiency, renewable energy adoption, and technologies such as carbon capture and storage, and a Decarbonization Playbook that defines clear roles and responsibilities across business units to turn plans into action.

Transparency remains fundamental to our approach. We have adopted IFRS S2 and strengthened our GHG accounting to ensure accuracy and reliability across operations. For added confidence, we have engaged a third party to provide independent insights and suggestions to enhance our decarbonization pathway. In addition, we have developed emissions outlook projections under multiple scenarios to better anticipate climate-related risks and opportunities.

None of this progress happens alone. To our employees, partners, and stakeholders—thank you for your continued trust and support as we work to secure a sustainable climate for future generations.



**Mr. Sinon Vongkusolkrit**  
Chief Executive Officer

# FROM TCFD TO IFRS S2

## OVERVIEW: TCFD & IFRS S2

### TCFD

**STATUS:**  
No longer in use (since 1 Jan 2024)

**PURPOSE:**

- Encourage companies and financial institutions to disclose climate-related risks and opportunities in their financial filings
- Voluntary requirement

**AUTHORITY:**  
the Financial Stability Board (FSB)

\* IFRS S1 - General Requirements for Disclosure of Sustainability-related Financial Information.

### IFRS S2

**STATUS:**  
In use to replace TCFD

**PURPOSE:**

- Encourage companies to disclose climate-related risks and opportunities
- In effective from January 2024
- IFRS S2 is in used in accordance with IFRS S1\*
- Compulsory VS Voluntary depends on local jurisdiction

**AUTHORITY:**  
The International Sustainability Standards Board (ISSB)

**COUNTRY ADOPTION**  
Plan to adopted

- Australia - start 1 Jan 2025 (partially adopt)
- China - plan to adopt nationwide by 2027
- Japan - plan to adopt within 31 March 2025
- U.S. - other jurisdictions with related disclosure standards

Source: (S&P global, 2024)

Part	IFRS S2 Requirement	Available in Banpu 2024 Climate Change Report	Available in Banpu 2025 Climate Change Report
Governance	Related skills and training of Governance body	Yes	Yes
	Working & monitoring strategy, policy and process. Especially those relevant to climate-related risks & opportunities	Yes	Yes
	Whether and how related performance metrics are included in remuneration policies, for example climate-related KPI	Yes	Yes
Strategy	Identify industry-based physical and transitional risk	Yes	Yes
	Response/plan to respond to risk & opportunity	Yes	Yes
	New criteria for current financial effects	Yes	Yes
	New criteria for anticipated financial effects & financial planning	Yes	Yes
Risk & Opportunity Management	Scenario analysis	Yes	Yes
	How & when scenario analysis is carried out	Yes	Yes
	Inputs & assumptions made	No	Yes
	Use of climate scenario analysis to inform risk	Yes	Yes
Metrics & Targets	Risk prioritization and monitoring	Yes	Yes
	Identify, assess, prioritize opportunities	Yes	Yes
	Integrate opportunity into overall risk management	Yes	Yes
	Indicator link to SDGs	Yes	Yes
	Identify metric used to assess climate-related risks and opportunities	Yes	Yes
Metrics & Targets	Industry-based metrics	Yes	Yes
	Internal carbon price	No	Yes
	Target setting approach, review & monitor	No	Yes
	Data governance framework & assurance	No	Yes

Mui Dinh Wind Power Plant, Vietnam

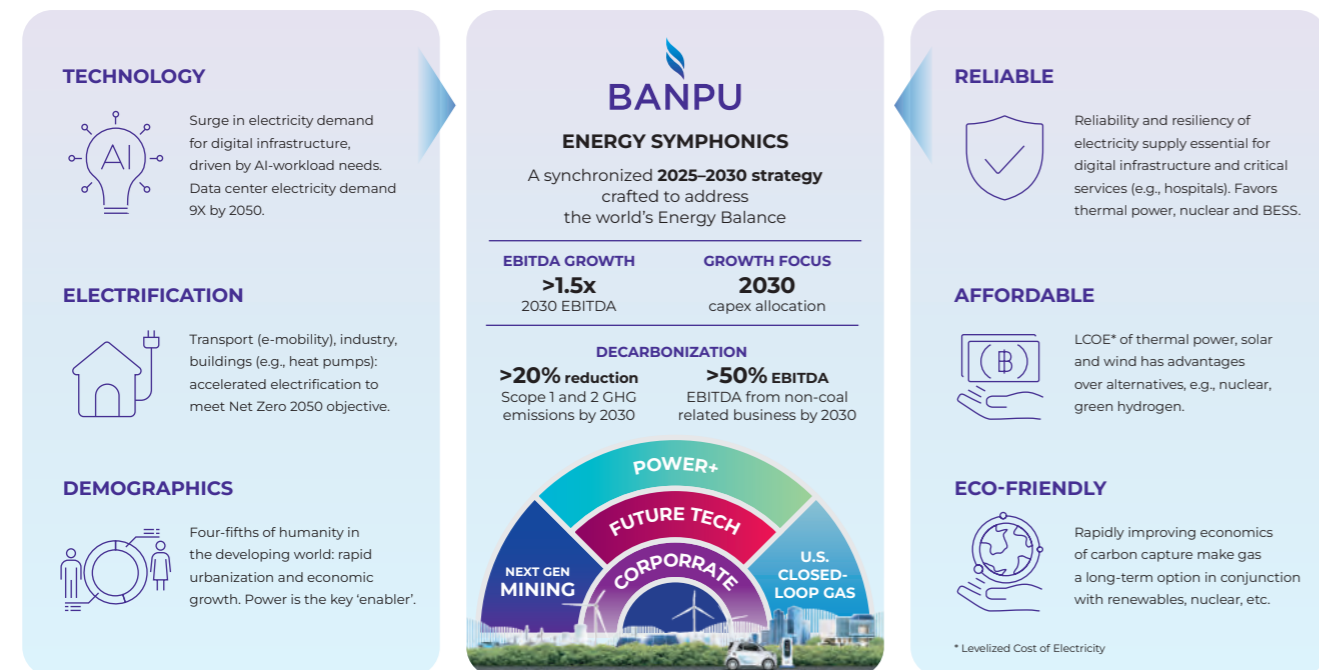
# INTRODUCTION

# ABOUT BANPU



Banpu Group is a leading versatile energy company operating across 9 countries in the Pan Asia-Pacific. Guided by a commitment to a “sustainable energy transition”, the Group maintains a diversified portfolio that spans the entire energy value chain. By balancing traditional energy reliability with high-growth technologies, Banpu is strategically positioned to navigate the global shift toward decarbonization while ensuring long-term value creation for all stakeholders.

## THE EVOLVING ENERGY BALANCE



## BANPU 2030: ENERGY SYMPHONICS STRATEGY

Banpu has unveiled its “Energy Symphonics” strategy, a synchronized roadmap designed to navigate the evolving global energy landscape. The strategy is shaped by 3 key external forces: the surge in AI-driven electricity demand, accelerated electrification toward Net Zero 2050, and rapid urbanization across developing economies.

This framework reflects a strategic pivot toward a lower-carbon future, while preserving a critical balance between energy reliability and affordability. To advance its Strategic Decarbonization and Energy Transition, Banpu has set clear and measurable targets:

- For Greenhouse Gas (GHG) Mitigation; by reducing Scope 1 and 2 emissions by more than 20% by 2030, underscoring a strong commitment to decarbonizing operational activities, and
- Portfolio Transformation; by increasing the contribution of non-coal businesses to over 50% of total EBITDA by 2030, signaling a decisive shift toward lower-carbon and cleaner energy value chains.

To deliver on these ambitions, Banpu focuses on three energy trilemmas:

### 1. RELIABILITY:

Ensuring the reliability and resilience of electricity supply essential for digital infrastructure and critical services.



### 2. AFFORDABILITY:

Maintaining a competitive levelized cost of electricity (LCOE) through a diversified energy mix, including solar, wind, and high-efficiency thermal power.

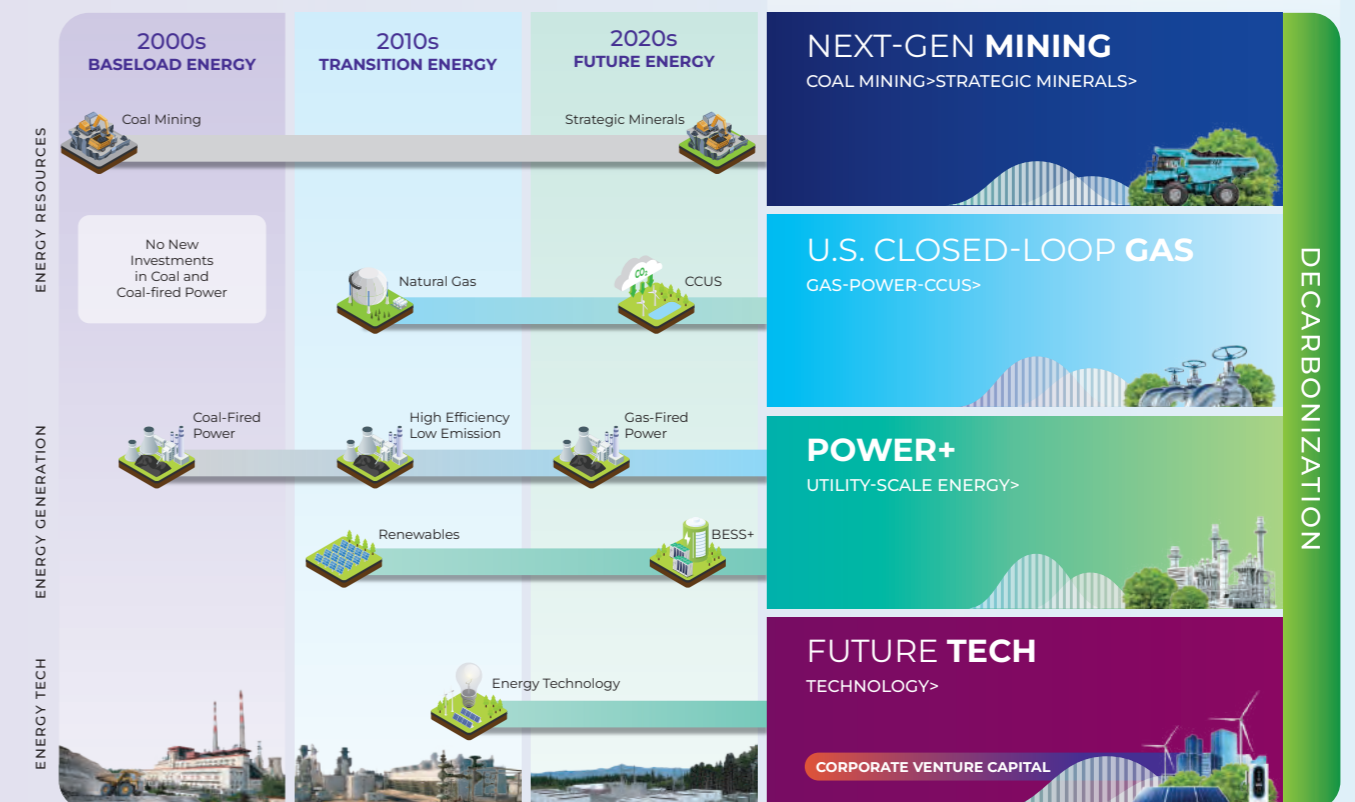


### 3. ECO-FRIENDLINESS:

Leveraging the rapidly improving economics of carbon capture, utilization, and storage (CCUS) to position gas as a long-term solution alongside renewables and nuclear power.



## ENERGY SYMPHONICS: STRATEGIC VISION



Note : \*Structure post-restructuring plan

## THE FOUR PILLARS OF THE “ENERGY SYMPHONICS” STRATEGIC PLATFORM

BANPU continues its strategic step-up to enhance business agility, unlock long-term value, and sharpen its focus on future growth platforms, including group restructuring plan and the establishment of Banpu NewCo, targeted for completion in 3Q2026. Guided by a clear commitment to expanding the world’s energy capacity to accelerate the future, the Company is orchestrating energy across the value chain to maximize resilience and long-term value for all stakeholders.

Under this new phase of its “Energy Symphonics” strategy, the Company commits to energy sustainability while capturing opportunities from the AI boom. By integrating our future-ready people and technology, Banpu is progressing through 4 key pillars, each delivering distinct strengths while collectively reinforcing one another to explore synergistic value and to drive integrated and sustainable growth.

### PILLAR 1



#### NEXT-GEN MINING

Committed to unearthing value responsibly, this pillar aligns with electrification-driven commodities while reinforcing operational excellence. Through diversified growth in strategic minerals and AI-enabled technologies, it advances more efficient, sustainable, and intelligent mining.

### PILLAR 3



#### POWER+

This pillar is an integrated power and infrastructure platform positioned across the energy spectrum and operating as a pure-play power platform to capture growing AI- and data center-driven demand and 24/7 energy needs. By expanding assets in key markets and unifying thermal power, utility-scale renewables, battery energy storage system (BESS), and energy trading capabilities, the integrated platform enhances agility and capability.

### PILLAR 2



#### U.S. CLOSED-LOOP GAS

Addressing the hyperscalers’ rising demand with a winning formula—integrating gas, power, and CCUS solutions through the operation of BKV Corporation (NYSE-listed). Guided by a closed-loop net zero strategy, the business expands quality upstream assets to strengthen its position, captures the AI-driven power boom in the U.S. market, and accelerates CCUS scale-up to meet targets.

### PILLAR 4



#### FUTURE TECH

Serving as a transformation catalyst by accelerating investment in emerging digital technologies and megatrends, while delivering retail energy solutions to support all customers’ decarbonization needs. This drives innovation, creates synergistic value, and unlocks new S-curve growth opportunities.

# PRODUCTS AND SERVICES

On January 29, 2026, the Extraordinary General Meeting of Shareholders No. 1/2026 approved the Group restructuring through an amalgamation between the Company and BPP to establish a new company (NewCo), which is expected to be listed on the Stock Exchange within the 3<sup>rd</sup> quarter of 2026. The restructuring supports the execution of the “Energy Symphonics” strategy, under which a new organizational structure comprising 4 core business pillars has been defined, namely: Pillar 1: Next-Gen Mining Business; Pillar 2: U.S. Closed-Loop Gas Business; Pillar 3: Power+ Business; and Pillar 4: Future Tech Business.

However, this report presents the operating results for FY2025 based on the existing operating structure prior to the completion of the restructuring, which remains in progress. The FY2025 results are presented under the new business pillar framework to align with the Group’s strategic direction going forward.



BKV, USA

2023

2030

2040

2050

Scope 1 and 2

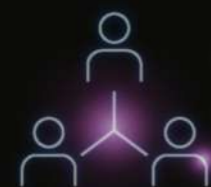
- Energy efficiency
- Energy from alternative source
- Electrification
- Methane utilization business
- CCUS
- Climate technology

- Energy efficiency
- Energy from alternative source
- Electrification
- Methane utilization
- Climate technology
- Balance any remaining emissions that cannot be eliminated with natural or technical solution

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**NET ZERO**  
SCOPE 1 AND 2  
EMISSIONS  
BY **2050**

Scope 3



**ENGAGE SUPPLIER**



**ESTIMATE EMISSION**



**DISCLOSURE**



**INFLUENCE TO MITIGATE EMISSION**

Continued Operational Efficiency

# GOVERNANCE

Banpu's oversight of climate-related risks and opportunities is embedded at the highest level of our company. We are continually evolving our corporate governance structure regarding the urgency of climate action and our increased understanding of climate change's impact on our businesses.

In brief, roles and responsibilities of the Board of Directors and Management related to climate change are as follows:

### Performance Evaluation of CEO and Senior Management

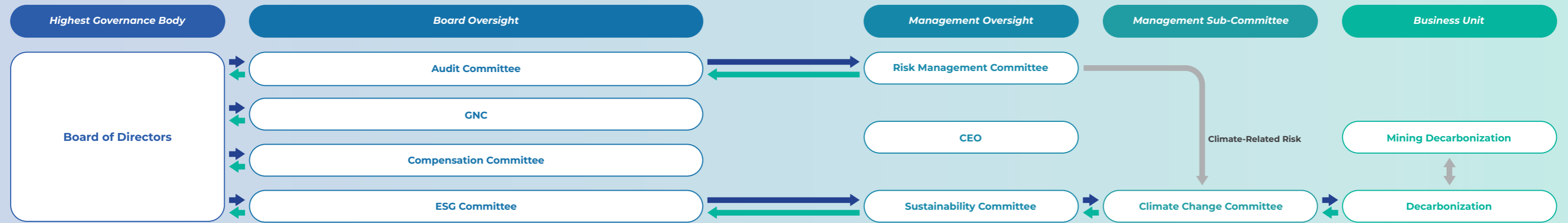
Establishing the CEO's Key Performance Indicators (KPIs) is a critical process overseen by the Board of Directors, with the Compensation Committee playing a vital role in the initial review. The focus is dedicated to the commitment to ESG, which accounts for 15% of the total KPIs. Within the ESG category, specific KPIs cover critical sustainability metrics, such as GHG emissions intensity reduction, occupational fatality and injury rate, and significant corporate governance complaints. The Compensation Committee evaluates the CEO's performance against these KPIs and proposes to the Board of Directors for final consideration. In parallel, the KPIs for senior executives are directly aligned with the CEO's KPIs, in which performance is evaluated by the CEO.

# GOVERNANCE



Jixin Solar Farm, China

## GOVERNANCE CHART



Directing, Recommending | Reporting, Supporting | Collaborating, Supporting

### Board of Directors

**Role and Responsibility**  
The Board of Directors monitors, manages, and resolves the climate-change risks through the ESG Committee and Audit Committee.

In practice, the Board of Directors and management held a joint discussion to review and approve the strategic plan and business direction, aligning with the sustainable development plan to determine business strategies, considering and approving a new strategy, which is "Energy Symphonics". The main focus is on Decarbonization, Gas-Power-CCUS, Renewable+, and Next-gen Mining.

**Meeting Frequency:** Monthly



### Audit Committee

**Role and Responsibility**  
Audit Committee consists of 3 independent members from the Board of Directors and one of them acts as the chairman of the committee. Some Climate-related tasks are handled by the Audit Committee, including setting up working standards for operation team to comply with, doing preliminary auditing before handing it over to an external third-party auditor and oversight of climate-related risks, including climate-related regulation change, strategic risk, as well as risk mitigation plan for each business unit. Moreover, the committee is also responsible for the nomination of external auditors according to Banpu's assessment criteria.

**Meeting Frequency:** Quarterly

### ESG Committee

**Role and Responsibility**  
Climate Change tasks are included under the direct responsibility of the ESG Committee, which is appointed by the board of directors. ESG Committee consists of 3 independent members from the Board of Directors, and one of them acts as a chairman of the committee. Climate-related tasks handled by this committee include reviewing, monitoring and evaluating ESG-related policies, targets, operations, performance, risks and opportunities. This includes oversight of other climate-related topics such as GHG emission, mitigation, adaptation, and low-carbon investment. Furthermore, the committee also has to monitor stakeholder engagement, materiality assessment, and cooperation with other management teams.

**Meeting Frequency:** Quarterly



**Mr. Piriya Khempon**

- Chairman of the Environment, Social and Governance (ESG) Committee
- Member of the Corporate Governance and Nomination Committee
- Education/Training**
  - Master of Science (International Relations), London School of Economics University of London, United Kingdom
  - Top Executive Program in Energy (TEA) #7, Thailand Energy Academy
  - Financial Statement for Directors (FSD) #45/2022, Thai Institute of Directors Association (IOD)
  - The Board's Roles in Climate Governance (BCG), Thai Institute of Directors Association (IOD)



**Mr. Pichai Dusdeekulchai**

- Member of the Environment, Social and Governance (ESG) Committee
- Member of the Audit Committee
- Education/Training**
  - Master of Business Administration (MBA), Ashland University, Ohio, U.S.A.
  - TLCA Leadership Development Program (LDP) #1, Thai Listed Companies Association
  - Advanced Audit Committee Program (ACCP)
  - The Board's Roles in Climate Governance (BCG), Thai Institute of Directors Association (IOD)



**Mr. Teerapat Sanguankotchakorn**

- Member of the Environment, Social and Governance (ESG) Committee
- Member of the Compensation Committee
- Education/Training**
  - Doctor of Philosophy Program in Information Processing, Tokyo Institute of Technology
  - Director Certification Program (DCP) #148/2011, Thai Institute of Directors Association (IOD)
  - Advanced Audit Committee Program (AACCP) #14/2014, Thai Institute of Directors Association (IOD)
  - The Board's Roles in Climate Governance (BCG), Thai Institute of Directors Association (IOD)

### Risk Management Committee (RMC)

**Role and Responsibility**  
The RMC role is to review, manage and monitor the Company's risk management and report to Audit Committee. Climate-related risk is one of the risks that is integrated into our Enterprise Risk Management.

**Meeting Frequency:** Quarterly

### SD Committee

**Role and Responsibility**  
Climate-related issues have been taken into consideration by SD Committee, including target setting, performance monitoring, and roadmap to achieve target.

**Meeting Frequency:** Quarterly

### Chief Executive Officer (CEO)

**Role and Responsibility**  
The CEO is responsible for monitoring GHG emission reduction performance and other climate-related issues for both corporate-wide and country level where we have operations. It includes performance review meetings, including GHG emissions. The CEO is also responsible for ensuring and closely monitoring that the GHG emission performance will be achieved against our target. He is also responsible for considering and making decisions to announce internal carbon pricing for a new business investment to align with our New Strategy, Energy Symphonics.

**Meeting Frequency:** Monthly



### Climate Change Committee

**Role and Responsibility**  
The Climate Change Committee handled overall climate-related issues such as ensuring decarbonization target achievement, identifying resources needed to achieve decarbonization target, assessing climate-related risks and opportunities, managing working team to guarantee effective result and mitigation plan, and reporting climate-related performance to upper management team.

**Meeting Frequency:** Quarterly



### Decarbonization

**Role and Responsibility**  
The primary responsibilities of the decarbonization team include collecting, calculating, and preparing data on greenhouse gas emissions and energy usage for management. They also research and communicate appropriate mitigation plans, solutions, and projects to business units and management. Additionally, monitoring the achievement of targets is crucial to ensure optimal performance.

**Meeting Frequency:** Monthly

### Mining Decarbonization

**Role and Responsibility**  
This team works more closely and deeply with the mining units globally. The team is also focusing more on the implementation of initiatives to reduce greenhouse gas and energy usage in the mining operation.

**Meeting Frequency:** Monthly



# STRATEGY

## REPORTING BOUNDARY

The Group uses the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004) (the 'GHG Protocol') to measure its GHG emissions unless otherwise stated by IFRS S2. The Group uses the GHG Protocol Corporate Value Chain Standard (Scope 3 Standard) to define the fifteen Scope 3 categories as part of the requirement to disclose Scope 3 GHG emissions. The Group's reporting boundary for GHG emissions includes its organizational boundary and operational boundary:

### a. Organizational boundary

Under IFRS S2, an entity measures its GHG emissions in accordance with the GHG Protocol. The GHG Protocol outlines two approaches for establishing organizational boundaries: the equity share approach and the control approach (with control determined based on either financial or operational control). These two approaches are referenced in IFRS S2 as examples of approaches that an entity uses under the GHG Protocol. Following the GHG Protocol, Banpu has consolidated the emissions under the operational control approach, which includes 100% of the GHG emissions from operations over which it has operational control.

### b. Operational boundary

- Scope 1 emissions: Direct emissions from sources owned or controlled by the Group.
- Scope 2 emissions: Indirect emissions from the generation of purchased electricity consumed by Group operations.
- Scope 3 emissions: Other indirect emissions arising from the Group's value chain, defined across the fifteen Scope 3 categories in accordance with the GHG Protocol Scope 3 Standard.

## TIMEFRAME

Climate-related risks and opportunities are assessed across the following time horizons, which are applied consistently in strategy, risk management, and scenario analysis. These time horizons are aligned with the Group's governance structure, whereby short-term risks are assessed in line with the annual budgeting cycle, medium-term risks are evaluated against the Group's five-year strategic plan, and long-term risks reflect structural transition and physical climate considerations consistent with the Group's Net Zero ambition and IFRS S2 requirements.



## MATERIAL FINANCIAL IMPACT

A climate-related financial impact is considered significant when the potential loss or gain exceeds 15% of net profit. However, financial magnitude is assessed together with the likelihood of occurrence. Consequently, risks or opportunities with lower financial impact but a high probability may still be prioritized as high-risk or high-opportunity items.

This threshold is applied in long-term financial planning and capital allocation assessments to ensure material climate-related impacts are incorporated into strategic decision-making. Materiality assessment considers potential impacts on revenue, operating costs, asset valuation, capital expenditure, and cost of capital over the relevant time horizons.

# STRATEGY



## SCENARIO APPLIED FOR ASSESSMENT

The Group applies internationally recognized climate scenarios to assess the resilience of its strategy under different transition and physical risk pathways. In accordance with IFRS S2, scenario analysis is used to evaluate the resilience of the Group's business model and portfolio under both orderly and accelerated transition pathways, including the IEA NZE scenario as a reference pathway broadly aligned with limiting global warming to 1.5°C. Key assumptions, including demand outlook and carbon price trajectories, are periodically reviewed to reflect evolving market and policy developments.



## TRANSITION RISK

Scenario	IEA Stated Policies Scenario (STEP)	IEA NZE by 2050 Scenario
Description	The STEPS reflects currently implemented and announced government policies, without assuming full achievement of long-term pledges. It is an exploratory, policy-based scenario, not a forecast. Emissions peak but decline slowly, resulting in global warming well above Paris Agreement goals by 2100.	The NZE scenario outlines a normative pathway consistent with limiting global warming to ~1.5°C (with limited overshoot), requiring rapid and deep decarbonization of the energy system. It assumes strong policy enforcement, accelerated clean energy investment, and widespread deployment of low-carbon technologies.
Climate outcome	<ul style="list-style-type: none"> <li>Warming trajectory broadly consistent with ~2.5–2.6°C by 2100.</li> <li>Continued reliance on fossil fuels, especially coal and gas, albeit with efficiency gains.</li> </ul>	<ul style="list-style-type: none"> <li>energy-related related CO<sub>2</sub> emissions fall by ~55% by 2035 and reach net zero by 2050.</li> <li>Heavy reliance on renewables, electrification, energy efficiency, hydrogen, CCUS, and carbon removals.</li> <li>Temperature peaks around 1.6–1.7°C mid-century, then declines below 1.5°C by 2100.</li> </ul>
Implication	<ul style="list-style-type: none"> <li>Coal and gas demand remains but faces gradual policy tightening and carbon-pricing pressure.</li> <li>Transition risks are manageable but increasing, particularly for coal-heavy assets.</li> <li>Banpu's diversified portfolio (coal, gas, power, renewables) is expected to remain operationally and financially sustainable in the medium term, but long-term competitiveness requires a continued portfolio shift.</li> </ul>	<ul style="list-style-type: none"> <li>Rapid decline in unabated coal and strong constraints on fossil-fuel expansion.</li> <li>Gas with CCUS, renewables, battery storage, energy technology, and strategic minerals become core growth engines.</li> <li>Capital allocation must accelerate toward low-carbon and transition-enabling assets.</li> <li>Banpu's "Energy Symphonics" strategy, targeting Net Zero by 2050, expanding renewables, gas-power-CCUS, and reducing coal-related earnings to &lt;50% of EBITDA by 2030, is broadly aligned with this pathway.</li> </ul>

## PHYSICAL RISK

Scenario	IPCC RCP 8.5	IPCC RCP 2.6
Description	RCP 8.5 represents a high emissions, limited mitigation pathway, with continued growth in greenhouse gas concentrations throughout the century. It is often used as a physical risk stress scenario, not a policy target.	RCP 2.6 is a stringent mitigation pathway, broadly aligned with the 1.5–2°C goal, requiring early emission peaks and large-scale deployment of negative emissions technologies later in the century.
Climate Outcome	<ul style="list-style-type: none"> <li>Radiative forcing reaches 8.5 W/m<sup>2</sup> by 2100.</li> <li>Global warming exceeds 4°C by 2100, with severe increases in extreme heat, flooding, drought, and sea level rise.</li> </ul>	<ul style="list-style-type: none"> <li>Radiative forcing peaks at ~2.6 W/m<sup>2</sup>.</li> <li>Global warming is likely kept below ~2°C, with substantial mitigation starting this decade.</li> </ul>
Implication	<ul style="list-style-type: none"> <li>Severe physical risks: heat stress, flooding, water scarcity, and supply-chain disruption affecting mining, power generation, and logistics.</li> <li>Higher operating costs, asset downtime, and insurance/financing challenges.</li> </ul>	<ul style="list-style-type: none"> <li>Moderate physical risks with manageable increases in temperature, precipitation variability, and localized extreme weather events.</li> <li>Limited disruption to long-term asset integrity compared with high-emission pathways.</li> <li>Continued need for infrastructure resilience planning and water management strategies.</li> </ul>

## STRATEGIC RESILIENCE ASSESSMENT

Based on the transition and physical climate scenario analysis above, the Group recognizes that its portfolio is exposed to both long-term transition pressures and increasing physical climate risks.

While certain high-emission assets face elevated transition sensitivity under a 1.5°C, aligned pathway, overall portfolio resilience is supported by diversification under the Energy Symphonics strategy, disciplined capital allocation, infrastructure adaptation measures, and integration of climate risk into strategic planning across short, medium, and long-term horizons.

Under high-emission physical risk scenarios (e.g., RCP 8.5), the Group recognizes increased exposure to extreme weather events that may affect operational continuity and asset performance. Site-level adaptation measures, infrastructure reinforcement, and integration of climate considerations into asset planning are implemented to enhance operational resilience.



## CLIMATE-RELATED RISKS AND OPPORTUNITIES

The Group has identified and prioritized climate-related risks and opportunities across its key business segments, including Mining, Power, Gas, and Energy Technology. These risks and opportunities are assessed across short-, medium-, and long-term horizons under both transition and physical risk scenarios.

Business	Risks Opportunities identified	Summary of impact	timeframe		
			ST	MT	LT
NEXT GEN MINING	Carbon pricing mechanisms (including carbon tax)	Under the NZE scenario, accelerated decarbonization and higher carbon prices significantly increase operating costs and reduce margins, potentially affecting asset viability.	L	L-M	L
		Under the STEP scenario, impacts emerge more gradually as policies tighten over time.	L	L-M	L-M
	Mandates on and regulation of existing products and services - Stricter Regulation related limitation coal sales	In the NZE scenario, rapid phase-down of coal demand and stricter regulatory mandates substantially reduce market access and shorten asset life.	L	M-H	M-H
		Under STEP, regulatory impacts materialize more slowly but still constrain long-term coal sales.	L-M	M-H	M-H
	Changing customer behavior	Under NZE, customers rapidly shift toward low-emission energy, resulting in a pronounced long term-decline in coal demand.	L	L	H
		Under STEP, demand erosion is slower but remains structurally negative over the long term.	L	L	M-H
	Stigmatization of sector	Coal sector stigmatization increases over time.	L-M	M-H	H
		Coal sector stigmatization increases over time, with NZE leading to faster deterioration in access to capital and insurance, higher cost of capital, and potential asset devaluation.	L-M	M-H	M-H
	Heavy precipitation	Under RCP 2.6, impacts on operations are moderate and manageable.	L	L-M	L-M
		Under RCP 8.5, increased intensity and frequency of heavy precipitation heighten risks of flooding, infrastructure damage, and operational disruption, increasing costs and affecting asset resilience.	L	L-M	L-M
U.S. CLOSED-LOOP GAS	Market transition risk and opportunity for lower-carbon gas	Under NZE, long-term demand for conventional gas declines, however, gas retains a transitional role where emissions are reduced through efficiency and lower carbon solutions.	L	L-M	M-H
		Under STEP, gas demand remains more resilient in the medium term, with transition risk materializing later.	L	L-M	M-H
	Growth in lower-carbon gas as a transition fuel (Opportunity)	Under NZE, lower-carbon gas supports short-term switching and flexibility, then declines post 2030, with only niche, highly abated long-term opportunities.	H	M-H	L
		Under STEPS, lower-carbon gas benefits from policy support and strong Asian demand, moderating long term but remaining higher than under NZE.	H	H	M-H

ST = short-term, MT = medium-term, LT = long-term

Business	Risks Opportunities identified	Summary of impact	timeframe			
			ST	MT	LT	
POWER+	Carbon pricing mechanisms (including carbon tax)	Under NZE, higher carbon prices and stricter climate policies significantly increase generation costs for high-emission power assets, accelerating asset optimization or retirement.	L	L	M-H	
		Under STEP, cost pressures increase more gradually as policies evolve.	L	L	L	
	Substitution of existing products and services with lower emissions options	In the NZE scenario, rapid deployment of renewables and low-emission technologies reduces utilization of higher-emission power assets.	L	L	H	
		Under STEP, substitution occurs at a slower pace but still affects long-term revenues and asset strategy.	L	L	L-M	
	Stigmatization of sector	Under NZE, increased scrutiny of high-emission power generation accelerates shifts in customer demand and financing conditions.	L	L	M-H	
		Under STEP, reputational impacts intensify more gradually but still influence long-term investment decisions.	L	L	L-M	
	Participation in carbon market (opportunity)	Under NZE, stronger carbon pricing and expanded carbon markets increase demand for low-carbon projects. The Group may benefit through renewable energy, energy efficiency initiatives, and selective participation in compliance and voluntary carbon markets, supporting additional revenue and transition alignment.	L-M	L-M	M-H	
		Under STEP, carbon market development progresses gradually, with moderate price signals. The Group may selectively participate where regulatory and economic conditions are supportive, enhancing flexibility and transition positioning.	L-M	L-M	L-M	
	FUTURE TECH	Growth in low-carbon technologies (e.g. batteries, energy solutions)	Under NZE, demand for energy storage and clean energy technologies increases, with NZE driving stronger and faster growth. This supports revenue diversification and strategic alignment with the low-carbon transition.	L	M-H	H
			Under STEP demand for energy storage and clean energy technologies increases.	L	L-M	M-H
Expansion of renewable energy, battery storage, and energy technology solutions (Opportunity)		Under NZE, rapid, sustained expansion of renewables, storage, and enabling technologies underpins system reliability and long-term energy transformation.	M-H	H	H	
		Under STEPS, renewables, storage, and energy technologies expand steadily, supported by policy, cost competitiveness, electrification, and energy security, despite ongoing fossil fuel use.	H	H	H	
Revenue diversification through low-carbon and transition-enabling businesses (Opportunity)	Under NZE, revenues progressively shift toward low-carbon and transition-enabling businesses, becoming essential for long-term value creation as energy systems decarbonize.	M-H	H	H		
	Under STEPS, revenues diversify gradually into low-carbon solutions alongside fossil cash flows, enhancing resilience as clean technologies scale over time.	M-H	H	H		

Risk: High (Red), Medium to High (Orange), Low to medium (Yellow), Low (Green)  
 Opportunity: High (Purple), Medium to High (Blue), Low to medium (Cyan), Low (Pink)

## MITIGATION ACTIONS AND OPPORTUNITIES IMPLEMENTATION

### CLIMATE GOVERNANCE AND POLICY

A climate change policy has been in place since 2010 and was updated in 2025 to reflect evolving regulatory, market expectations, and alignment with the climate change goal.



### TARGETS AND ROADMAP

The Group has announced a Net Zero target by 2050 and an interim target to reduce emissions by at least 20% from 2023 levels by 2030. Progress is monitored annually and reviewed on a quarterly basis. In addition, the Group aims to progressively reduce coal-related earnings contribution to below 50% of EBITDA by 2030 as part of its portfolio transition strategy.



### RISK AND OPPORTUNITY MANAGEMENT

Climate-related risks and opportunities are identified, assessed, and integrated into the Corporate Enterprise Risk Management framework. They are evaluated across short-, medium-, and long-term horizons, linked to strategic planning and capital allocation processes, and reviewed on a quarterly basis.



### INTERNAL CARBON PRICING

The Group applies internal carbon pricing in the assessment of new business investments to support the identification and evaluation of climate-related risks and opportunities. Carbon price assumptions are differentiated by geographic location of operations, with internal prices ranging from USD 1-23/tCO<sub>2</sub>e. These prices are used as reference inputs for sensitivity analysis and investment screening, are periodically reviewed against external carbon market developments and climate-related scenario assumptions and are intended to support decision-making under uncertainty. The internal carbon prices do not represent a forecast of future regulatory carbon price levels.



### GREEN GROWTH INVESTMENTS

Capital allocation prioritizes energy trading platforms, energy storage, solar solutions, smart city and energy management systems, vertically integrated battery businesses, and e-mobility projects. Stricter screening criteria are applied to high-emission investments, and new coal projects are evaluated against long-term demand outlook, carbon pricing sensitivity, and portfolio diversification objectives. Capital allocation trends are monitored to progressively increase exposure to lower-carbon and transition-enabling businesses over time.



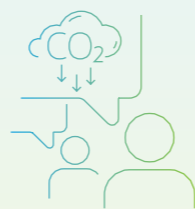
### TECHNOLOGY AND INNOVATION

Ongoing research, evaluation, and selective deployment of emerging technologies, including energy storage, low-carbon gas solutions, and carbon management technologies, to reduce GHG emissions and strengthen long-term portfolio resilience.



### SCOPE 3 MANAGEMENT

Recognizing that Scope 3 emissions represent a material portion of the Group's value chain exposure, particularly in coal-related businesses, the Group engages with customers and stakeholders to promote efficiency improvements, fuel switching, and lower-emission energy solutions. Scope 3 trends and disclosures are monitored and periodically reviewed by management as part of long-term transition risk assessment and alignment with evolving regulatory and investor expectations.



### MONITORING AND STRATEGIC ADJUSTMENT MECHANISM

The Group continuously monitors key transition indicators, including carbon price trajectories, regulatory developments, coal and gas demand outlook in Asia, renewable cost competitiveness, and technology deployment rates.

Where material deviations from assumptions occur, management may adjust portfolio mix, optimize assets, reallocate capital, or re-sequence investments to preserve long-term competitiveness and maintain alignment with transition pathways.

Climate-related assumptions are reviewed at least annually and integrated into the Enterprise Risk Management process to ensure consistency between strategy, risk management, and financial planning.



Zhengding Power Plant, China

## ADAPTATION AND RESILIENCE STRATEGY

To enhance resilience with physical climate risks, the Group has implemented both mitigation and adaptation measures:

### MITIGATION MEASURES



#### ENGINEERING CONTROLS:

Reinforcing structures, building flood barriers, or implementing seismic retrofitting. For example, at site, we have evaluated and installed equipment to control flooding at catchment area and maintain pump performance allocation. This includes reinforcement of mine drainage systems, slope stabilization in open-pit operations, and flood protection for power generation facilities to reduce operational downtime under extreme precipitation scenarios.



#### EMERGENCY PREPAREDNESS:

Developing and practicing emergency response plans for various scenarios. We have implemented Business Continuity Management System based on ISO 22301:2019. Having a management process and a plan to prevent and recover critical business functions and operations in case of cyberattacks, manmade disasters, or natural disasters.



#### NATURAL RESOURCE MANAGEMENT:

Reforestation, wetland restoration, or erosion control to mitigate the impact of natural hazards.



#### LAND USE PLANNING:

Zoning regulations to restrict development in high-risk areas. For example, we have developed and implemented digital applications to identify and monitor high-risk areas across operational sites.



#### INSURANCE IN PLACE:

Insurance coverage is maintained for relevant assets, and periodically reviewed to reflect evolving climate-related risk exposure and market conditions.



#### ECOSYSTEM-BASED ADAPTATION:

Protecting and restoring natural ecosystems to provide natural buffers against physical risks, such as wetlands for flood control or green infrastructure for heat mitigation.



#### INTEGRATION INTO CAPITAL PLANNING:

Physical climate risk considerations are incorporated into new project design, asset maintenance planning, and capital expenditure approval processes to enhance long-term asset resilience.



#### COMMUNITY ENGAGEMENT AND CAPACITY BUILDING:

Empowering local communities to understand and respond to changing physical risks through education, training, and community-based adaptation initiatives. We have worked closely with the community and developed projects together through Community Development Program. Meanwhile, we have developed forest education area and is open to community to study about species and ecosystem.

### ADAPTATION STRATEGIES



#### INFRASTRUCTURE UPGRADES:

Enhancing resilience to withstand extreme weather events or sea-level rise. We have conducted workshops to identify precipitation patterns and develop production planning. Infrastructure planning considers high-emission physical risk scenarios (e.g., RCP 8.5) to stress-test design standards and capital expenditure priorities.



#### DIVERSIFICATION OF WATER SOURCES:

Investing in alternative water supplies or water conservation measures to address changes in precipitation patterns. At power plant operation, we have planned to reuse water within the plant and aim to zero-discharge to outside. Water stress assessments are conducted for relevant sites to evaluate cooling system resilience and long-term water availability under projected climate variability.

# RISK MANAGEMENT

Banpu takes a comprehensive view of reducing our carbon footprint. Our GHG reduction strategy covers our existing assets, assets that Banpu will develop in the future, new acquisitions to the business, and our supply chain. Banpu has implemented a comprehensive and structured risk management framework which aligns with the international standard of The Committee Sponsoring Organizations of the Treadway Commission (COSO) and the International Organization for Standardization's ISO 31000. The framework is used to set climate-related objectives and to identify, assess, prioritize, respond to, and monitor climate-related risks and

opportunities across the organization, in alignment with Banpu's Climate Risk & Opportunity Management Process, to prevent any possible adverse impacts on the business while capturing emerging opportunities that support long-term competitiveness and value creation.

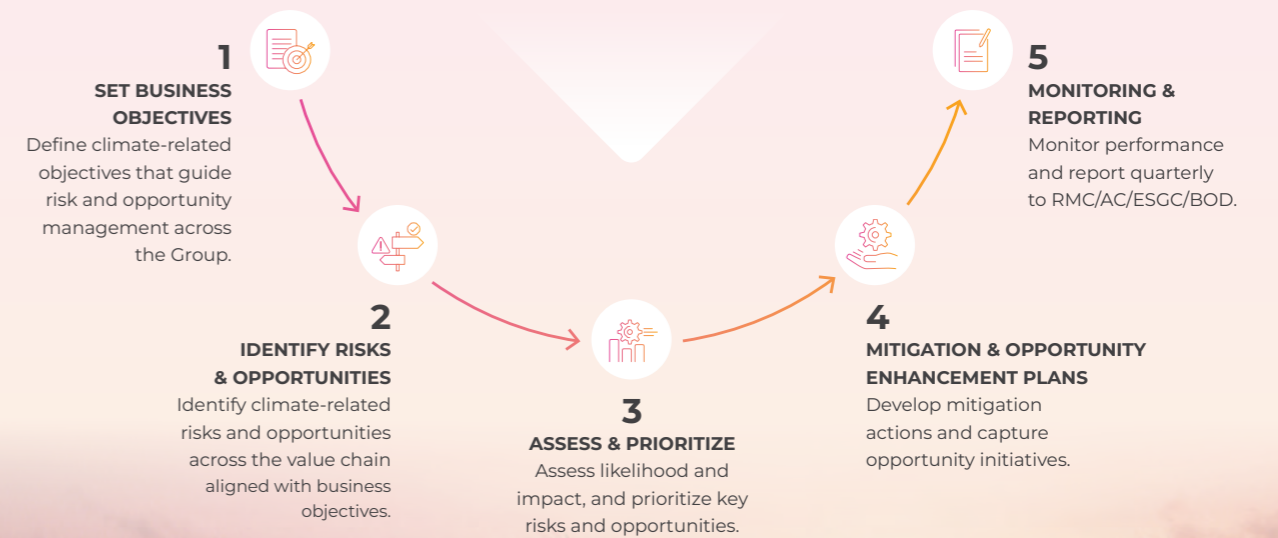
Banpu also integrates climate-related risks and opportunities into strategic planning, capital allocation, and operational decision-making to support long-term resilience and a balanced and sustainable energy mix in line with our "Energy Symphonics" direction.

# RISK MANAGEMENT

## RISKS AND OPPORTUNITIES MANAGEMENT PROCESS

### AWARENESS & CAPABILITY BUILDING

Support all steps by enhancing climate literacy, readiness, and internal capabilities.



Port Operation, Indonesia

1

### Set Business Objectives

Banpu establishes clear climate-related business objectives to guide the identification, assessment, prioritization, response, and monitoring of climate risks and opportunities across the group. These objectives are aligned with Banpu's Energy Symphonics direction, long-term transition pathway, and decarbonization ambition, ensuring that climate considerations are embedded in strategic planning and operational decision-making.

Banpu sets climate-related objectives across three key time horizons to ensure that risk and opportunity management remains consistent with the evolving landscape of the energy transition:

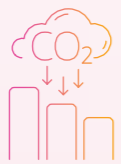
**SHORT TERM (TO 2025):**

This aligns with Banpu's short-term business and financial planning, ensuring that immediate goals incorporate climate-related considerations.



**MEDIUM TERM (TO 2030):**

Aligned with Banpu's group business strategy, this timeframe allows for mid-term target setting and adjustments to support "The Banpu Symphonics" strategy, meeting Banpu's sustainability and emissions reduction goals.



**LONG TERM (TO 2050):**

Using scenario analysis, Banpu explores a range of uncertainties surrounding the energy transition, assessing the resilience of its strategy over the next 25 years.



Across all time horizons, Banpu assesses climate-related impacts using consistent criteria, including operational continuity, regulatory and market changes, and potential long-term financial implications to ensure energy reliability and business resilience.

Banpu also evaluates climate-related opportunities across all time horizons, including technology improvements, efficiency gains, emerging low-carbon markets, and potential regulatory or financial incentives.

Banpu prioritizes risks and opportunities based on likelihood, magnitude of impact, and strategic relevance to Banpu's transition direction and long-term value creation.

2

### Risk and Opportunity Identification

For risk/opportunity identification, each business unit and supporting unit is responsible for the ongoing identification of climate-related risks and opportunities. Climate-related risks and opportunities are identified across various categories, including physical risks, transition risks, and opportunities. This process utilizes multiple methodologies, including workshops with relevant stakeholders, consultations with subject matter experts, analytical tools, and external monitoring of policy changes, such as global climate agreements (e.g., COP30) and local regulatory shifts.

The company's climate risk management process integrates the identification and evaluation of climate-related opportunities alongside risks to ensure balanced decision-making and value creation under uncertainty. This includes opportunities arising from supplier collaboration, technology innovation, efficiency improvements, and the development of new low-carbon or energy-efficient offerings across its portfolio, while also assessing value-chain exposures across suppliers, logistics providers, and customers to capture upstream and downstream vulnerabilities. In parallel, Banpu monitors regulatory and market "trigger conditions," such as potential policy tightening or shifts in customer fuel demand, to identify emerging transition risks in a timely manner.

**RISK AND OPPORTUNITY CATEGORIES**

Climate-related risks and opportunities are categorized into two categories:

- **Transition Risks and Opportunities:** These include policy and legal risks, market shifts, reputational impacts, and technological advancements. Banpu's risk management process systematically assesses each of these categories to anticipate regulatory changes, align with market demand for low-carbon solutions, safeguard Banpu's reputation, and identify technological investments essential for the energy transition, including evolving carbon-pricing exposure and changing customer requirements that influence long-term competitiveness. Transition-related opportunities include competitive advantages from early compliance, new revenue streams in low-carbon markets, energy-technology innovation, and access to sustainability-linked financing.
- **Physical Risks and Opportunities:** Climate-related physical risks are classified into acute risks (e.g., extreme weather events) and chronic risks (e.g., long-term shifts in climate patterns). These risks are evaluated to understand their potential impact on Banpu's operations, supported by long-term hazard projections and asset-level vulnerability assessments.

Physical-related opportunities include improved resource efficiency, resilient infrastructure design, and innovations that enhance long-term operational performance under changing climate conditions.

3

### Risk and Opportunity Assessment & Prioritization



Coal Loading, Indonesia

Climate-related risks and opportunities are assessed within Banpu's enterprise risk management (ERM) framework. This assessment includes evaluating both the likelihood and impact of each risk and opportunity, considering criteria such as quantitative (financial impact) and qualitative aspects (strategic, health and safety, environmental, regulatory, reputational, human resources, relationship and service delivery impacts).

Banpu uses a 1-5 rating scale to assess the impact and likelihood of each climate-related risk and opportunity, supporting a standardized and comparable evaluation across the organization.

Banpu assesses climate-related opportunities alongside risks, including potential cost reductions, productivity improvements, access to incentives, new revenue opportunities, and enhanced financing options associated with strong climate performance.

The scoring of impact criteria is defined as follows:

- 1 **Negligible impact**, unlikely to disrupt operations or financial performance.
- 2 **Low impact** on operations or financial performance, manageable within existing resources.
- 3 **Significant impact** that may require adjustments to operational processes or financial planning.
- 4 **Severe impact** with potential to disrupt operations, requiring dedicated resources and strategic adjustments.
- 5 **Catastrophic impact** that could substantially affect Banpu's financial performance or operational stability, requiring urgent and substantial response.

Banpu evaluates both adverse impacts and opportunity outcomes to ensure a balanced assessment of how climate-related factors may influence the company's financial and operational performance over time.

For financial impact thresholds, Banpu defines significant financial impact as any risk or opportunity that could affect more than 15% of net profit. Risks and opportunities with a financial impact above this threshold are classified as high impact and prioritized for immediate attention and mitigation planning, including the consideration of potential long-term financial implications under different climate scenarios.

For likelihood assessment, likelihood is rated based on the probability of the risk occurring within a defined timeframe. The likelihood scoring is as follows:

- 1 **(Rare): 0%–20%** probability; not likely to occur.
- 2 **(Unlikely): 21%–40%** probability; may occur but has not happened in the past.
- 3 **(Possible): 41%–60%** probability; likely to occur and has happened in the past.
- 4 **(Likely): 61%–80%** probability; expected to occur in most circumstances.
- 5 **(Almost Certain): 81%–100%** probability; a common occurrence or recurring risk.

Banpu prioritizes climate-related risks and opportunities based on their likelihood, magnitude of impact, and strategic relevance.

4

**Risk Mitigation and Opportunity Enhancement**

For each identified risk, Banpu assigns a risk management plan, which is regularly monitored and adjusted as necessary. High-priority risks receive focused attention, with specific action plans and resources allocated to manage their potential likelihood and impact. Risk mitigation plans may include both operational improvement and strategic shifts.

Climate-related criteria and Internal Carbon Price (ICP) are applied during investment decision-making to support Banpu's transition direction and balanced energy mix. Adaptation measures are aligned with hazard projections to strengthen long-term operational resilience. Additional resilience planning strengthens supply chain and logistics continuity to address climate-related disruptions.

For climate-related opportunities, Banpu develops enhancement plans that include scaling renewable and energy-technology businesses, pursuing efficiency and digital innovation projects, leveraging financial or regulatory incentives, and expanding customer-aligned low-carbon offerings across key markets.

Mitigation and opportunity-enhancement measures are integrated into Banpu's annual budgeting, financial planning, and long-term strategy development to ensure alignment with transition pathways and sustained value creation.



Coal loader, Australia

5

**Monitoring & Reporting**



Luannan Power Plant, China

Banpu regularly monitors climate-related risks and opportunities to ensure that the company remains responsive to evolving climate conditions, regulatory developments, and stakeholder expectations. Monitoring activities cover:

- Tracking performance of risk mitigation and opportunity-enhancement measures, including progress against internal KPIs, climate targets, and operational improvement programs.
- Reviewing climate-related indicators and early-warning signals, such as policy tightening, carbon pricing developments, commodity-market shifts, and physical climate hazards across Banpu's operating countries.
- Reassessing changes in exposure across the value chain, including suppliers, logistics routes, customers, and joint ventures, to capture emerging risks and strategic opportunity openings.
- Quarterly reporting to governance committees—including the Risk Management Committee (RMC), Audit Committee (AC), Environmental, Social & Governance Committee (ESGC), and the Board of Directors (BOD) - ensuring robust oversight, cross-functional coordination, and continuous alignment with Banpu's transition pathway and strategic objectives.
- Integration of monitoring outcomes into the Enterprise Risk Management process, annual strategic planning, budget allocation, and capital-investment processes, enabling timely adjustment of risk responses and opportunity initiatives.

This monitoring process strengthens Banpu's climate resilience and supports effective navigation of the evolving energy transition landscape.

**AWARENESS & CAPABILITY BUILDING**

Banpu promotes climate-related awareness and strengthens internal capabilities to support effective management of risks and opportunities across the organization. Key initiatives include:



Training and capacity-building programs for management and employees, including ERM teams, business units, and project owners, focusing on climate-risk identification, scenario analysis, carbon management, and opportunity development.



Sharing internal communication campaigns to promote understanding of Banpu's Energy Symphonics strategy, transition direction, and the role of climate performance in long-term competitiveness.



Strengthening analytical and technical capabilities, including sharing on climate-related scenario to Business units and operating countries and the use of Internal Carbon Price (ICP) in investment decisions.



Workshops and cross-functional knowledge sharing across operating countries to enhance understanding of regulatory changes, physical climate impacts, and emerging low-carbon market trends.



Embedding climate awareness in corporate culture, encouraging employees to contribute to decarbonization, operational efficiency, and opportunity innovation across Banpu's value chain.

These efforts ensure that Banpu builds a consistent foundation of climate literacy, operational readiness, and organizational alignment to strengthen climate resilience and opportunity realization across the Group.

# METRICS AND TARGETS

Banpu uses a structured set of climate-related metrics and targets to monitor performance, assess progress, and support decision-making in managing climate-related risks and opportunities across its diversified portfolio, which spans **Next Gen Mining, Power+, U.S. Close Loop Gas, and Future Tech** businesses. These metrics and targets are designed to reflect factors that could reasonably be expected to affect the Group's cashflows, asset values, access to finance, and cost of capital over the short, medium, and long term.

In this report, 5 gases are discussed due to their relationship with normal operational activities including carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), and sulfur hexafluoride (SF<sub>6</sub>). To determine the GHG emissions, the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5) was used on Global Warming Potential (GWP). The emission factors were derived from the revised edition of the Corporate Accounting and Reporting Standards and if applicable, the specific emission factors taken from the regional guidelines were used.

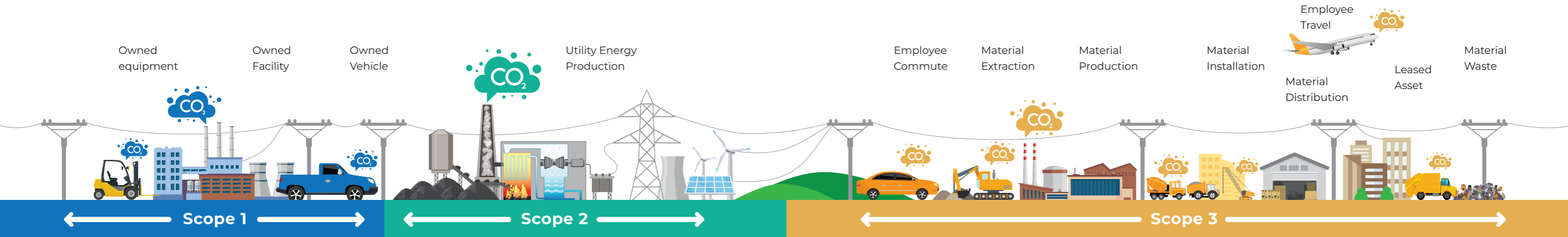
The disclosures in this section focus on Banpu's performance in managing climate-related transition and physical risks, as well as capturing opportunities arising from the energy transition. In selecting the metrics disclosed, Banpu has prioritized relevance to enterprise value and consistency with internationally recognized standards.

# METRICS AND TARGETS



ITM, Indonesia

## UNDERSTANDING SCOPE 1, 2 AND 3 EMISSION



**Direct (Owned) Emissions**  
**ONSITE facility emissions**  
*direct combustion*  
**OWNED equipment emissions**  
*company owned vehicles/equipment*

**Indirect (Purchased) Emissions**  
**PURCHASED facility energy**  
*for electricity, heating/cooling, steam*

**Other Indirect (Purchased) Emissions**  
**EMPLOYEE emissions**  
*travel, commuting*  
**LEASED ASSETS emissions**  
*operations of leased assets*  
**SUPPLY CHAIN emissions**  
*material extraction/production, purchased goods/services, sold goods/services, material waste*

### SCOPE 1 EMISSIONS

Banpu discloses absolute Scope 1 greenhouse gas (GHG) emissions from its controlled operations, including mining activities, fugitive emissions where measured, and power generation facilities. These emissions represent direct operational exposure to transition risks, such as carbon pricing, regulatory tightening, and evolving stakeholder expectations, particularly for emissions-intensive assets.

Scope 1 emissions performance is influenced by production volumes, operational efficiency, asset configuration, and fuel mix. Accordingly, the Group monitors these emissions alongside its asset management and transition planning processes to ensure that decarbonization considerations are integrated into operational and strategic decisions.

### SCOPE 2 EMISSIONS

Scope 2 GHG emissions are disclosed using the location-based method, reflecting emissions associated with electricity consumed by Banpu's operations. Where applicable, the Group also considers market-based emissions to reflect the impact of renewable electricity procurement and contractual instruments.

Electricity-related emissions are a key indicator of energy efficiency and cost exposure, particularly for mining operations and corporate facilities. The Group continues to assess opportunities to reduce Scope 2 emissions through efficiency improvements and increased use of low-carbon electricity sources where feasible.

### SCOPE 3 EMISSIONS

The Company has improved the category of concern for other indirect GHG emissions (Scope 3) at 4 businesses according to the technical guidance for calculating Scope 3 emissions guideline (version 1.0). The business activities relating to GHG emissions (Scope 3) were identified as follows;

Category	Next Gen Mining	U.S. Close Loop Gas	Power+	Future Tech
1. Purchased goods and services	Significant	Significant	Relevance	Significant
2. Capital goods	Relevance	Significant	Significant	Significant
3. Fuel- and energy-related activities beyond scope 1 and 2	Relevance	Significant	Significant	Significant
4. Upstream transportation and distribution	Relevance	Relevance	Relevance	Relevance
5. Waste generated in operations	Relevance	Relevance	Relevance	Relevance
6. Business travel	Relevance	Relevance	Relevance	Relevance
7. Employee commuting	Relevance	Relevance	Relevance	Relevance
8. Upstream leased assets	Relevance	Relevance	Relevance	Relevance
9. Downstream transportation and distribution	Relevance	Relevance	Relevance	Relevance
10. Processing of sold products	Relevance	Relevance	Relevance	Relevance
11. Use of sold products	Significant	Significant	Relevance	Relevance
12. End-of-life treatment of sold products	Relevance	Relevance	Relevance	Significant
13. Downstream leased assets	Not relevance	Not relevance	Not relevance	Not relevance
14. Franchises	Not relevance	Not relevance	Not relevance	Not relevance
15. Investments	Relevance	Relevance	Relevance	Relevance

The Company has disclosed GHG emissions (Scope 3) since 2019, with scope covering only the use of sold products from mining business. Currently, the relevance is under full review as well as the data collection system being developed to ensure coverage across all businesses and will be fully disclosed by 2026.

## CLIMATE-RELATED TARGETS

Banpu has established climate-related targets to support its long-term transition strategy and to manage exposure to climate-related risks. These indicators are essential for understanding our performance, monitoring progress, and identifying areas that need improvement. By providing clear direction, they help us stay focused on our objectives and serve as benchmarks for measuring success.

List of indicators and their details are as follows;

Indicator	Target By 2030	2025 target	Progress to target year
Coverage of sites with climate-related risk assessment	100%	-	83%
Coverage of climate-related training provided to the Board and senior executives	≥80%	-	30%
Unforeseen expenses resulting from physical climate-related disruptions	USD 0	-	USD 0
Coverage of new investment proposals evaluated with internal carbon price	100%	-	100%
Proportion of capital expenditure directed towards low-carbon business	≥15%	-	-
Coverage of senior executives with decarbonization metrics in compensation scorecards	100%	-	100%
Reduction of GHG emissions (Scope 1 & 2)	Net Zero emission	-	8%
	20% compared with 2023 emission	-	42%
		<ul style="list-style-type: none"> <li>· Mining: -7% from BAU</li> <li>· Power Business: -20% from BAU</li> </ul>	Achieved
Proportion of EBITDA from non-coal businesses	≥50%	-	-
Reduction of total non-renewable energy consumption	5% compared with 2024	-	0%

## LIST OF REDUCTION OF GHG AND ENERGY CONSUMPTION INITIATIVE

To support our Net Zero journey, Banpu has implemented several GHG emissions reduction initiatives across our business operations. For each initiative, emissions reductions are quantified by comparing actual performance against a baseline scenario, reflecting conditions prior to the implementation of these initiatives.

No.	Country	Initiative	Starting Year	GHG Emissions Reduction	Progress to target year
1	Indonesia	Solar PV Installation at Trubaindo Mine for internal electricity use	2023	1,496	-
2	Australia	Implementing a gas power plant that uses methane (CH4) captured from underground mining operations as fuel	2023	108,853	-
3	China	Waste heat recovery from flue gas of boiler at combined heat and power plants to reduce fuel consumption	2024	3,034	29,315
4	China	Installing high-efficiency fans at combined heat and power plants to reduce electricity use and operational emissions	2024	349	1,559
5	China	Biomass co-firing in CHP powerplant	2025	28,157	-

## PERFORMANCE

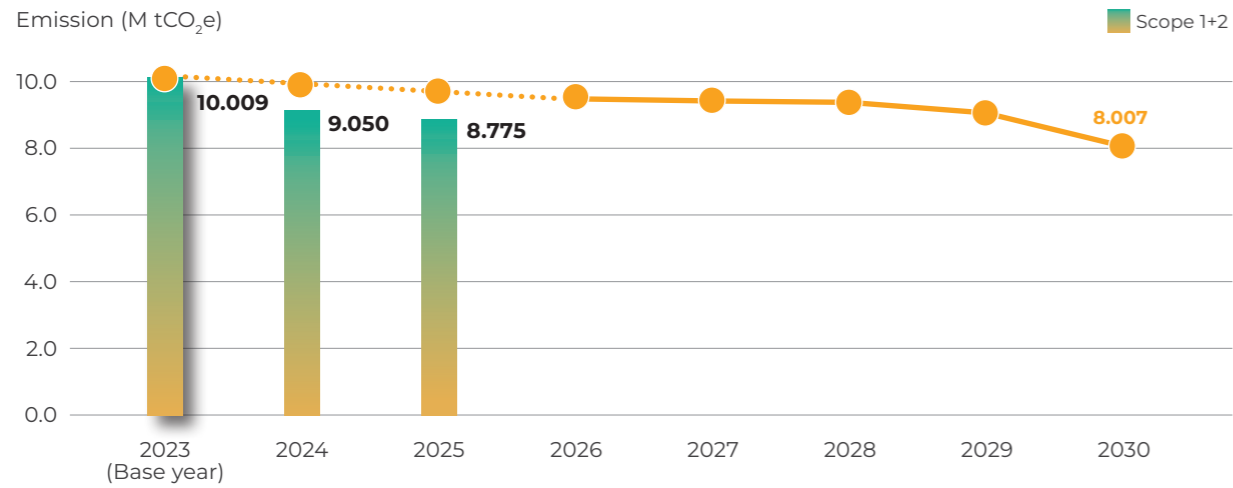
To enhance transparency and accuracy in reporting our environmental impact, this year we have thoroughly reviewed our greenhouse gas (GHG) emissions inventory. During this review, we recognized the need to restate our GHG emissions by excluding emissions from contractors not under our direct control from Scope 1 and 2 emissions. Previously, our GHG inventory included emissions from both our operations and those of our contractors. To provide a clearer and more accurate representation, we have decided to reclassify contractor emissions from Scope 1 and 2 to Scope 3. This adjustment aligns with the Greenhouse Gas Protocol's guidance on organizational boundaries.

Parameter	2023*	2024	2025
Scope 1 (MtCO <sub>2</sub> e)	9.74	8.80	8.511
Scope 1 – emission breakdown			
· CO <sub>2</sub> (tCO <sub>2</sub> e)	-	-	6,278,473
· CH <sub>4</sub> (tCO <sub>2</sub> e)	-	-	2,152,494
· N <sub>2</sub> O (tCO <sub>2</sub> e)	-	-	79,797
· SF <sub>6</sub> (tCO <sub>2</sub> e)	-	-	99
· HFCs (tCO <sub>2</sub> e)	-	-	517
Scope 1 – biogenic (MtCO <sub>2</sub> e)	0.051	0.062	0.078
Scope 2 - location based (MtCO <sub>2</sub> e)	0.268	0.251	0.264
Scope 2 – market based (MtCO <sub>2</sub> e)	0.268	0.253	0.264
Scope 3 (MtCO <sub>2</sub> e)	48.855	48.592	51.141
- Cat 1: Purchased goods and services	0.850	0.925	0.902
- Cat 2:	No data	0.256	0.219
- Cat 3:	No data	1.093	0.966
- Cat 6: business travel	0.001	0.0006	0.0008
- Cat 8:	0.00002	0.00005	0.0006
- Cat 11: use of sold product	48.003	36.315	37.824
- Cat 15:	No data	10.003	11.229
Energy consumption (TJ)	55,107	65,759	73,394
Energy consumption – non-renew fuel (TJ)	85,380	100,726	108,528
Energy consumption – renew fuel (TJ)	811	944	923

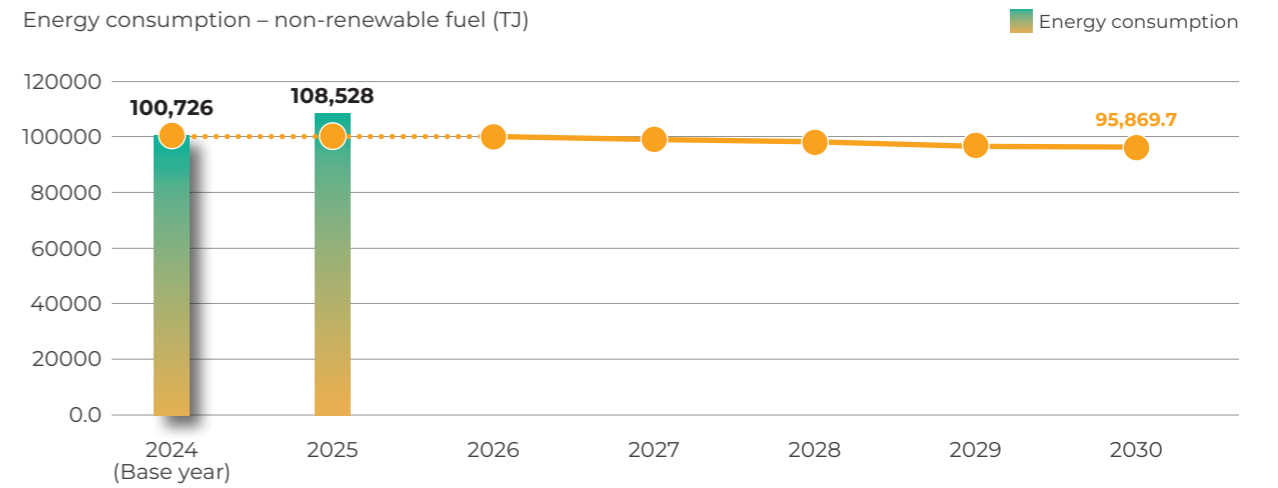
Note: \* The 2023 GHG emissions were recalculated and audited in 2025.

### PERFORMANCE AGAINST TARGET

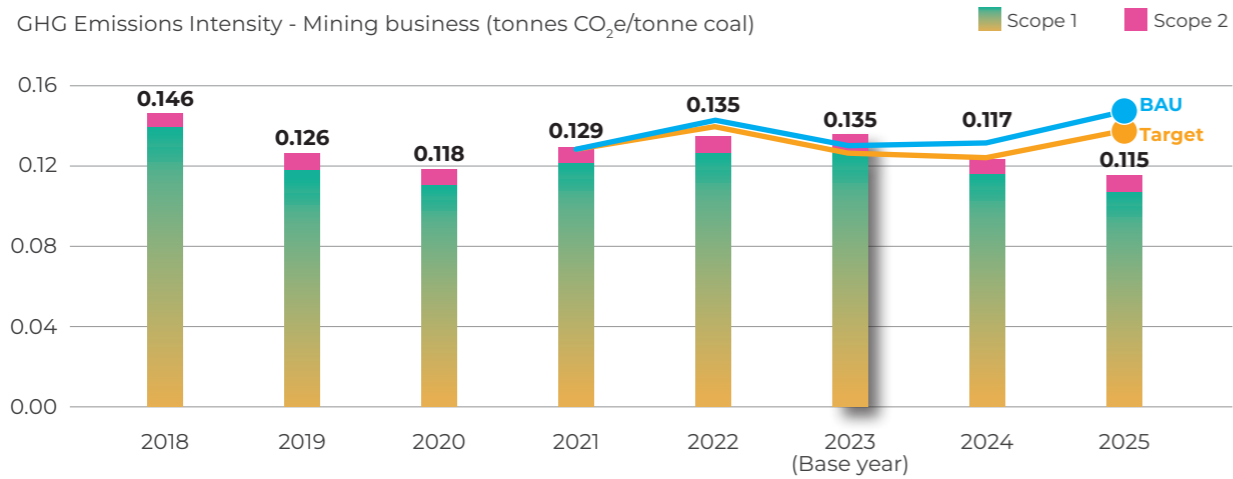
#### GHG emission



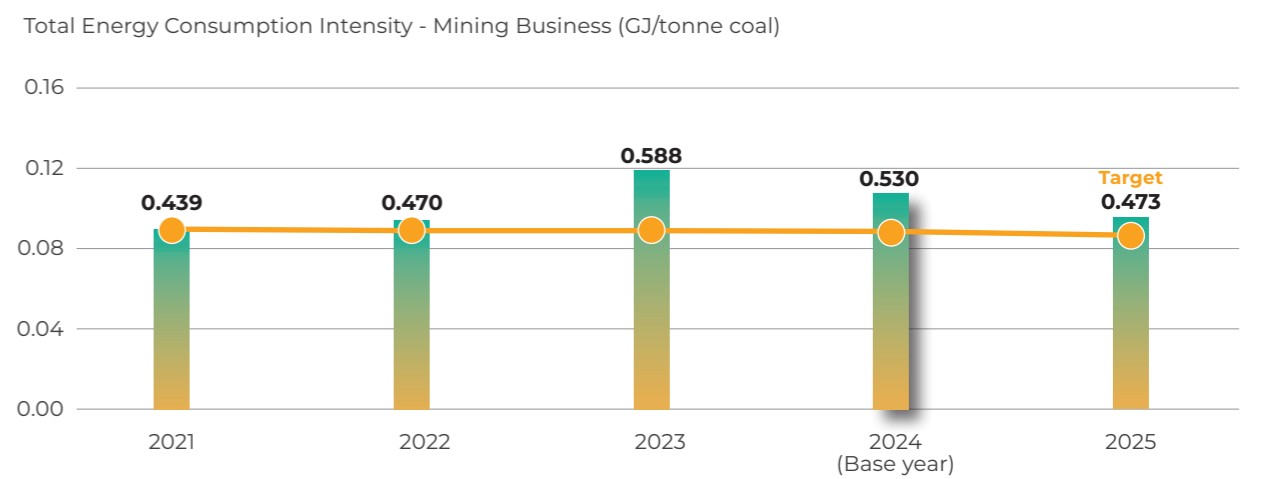
#### Energy consumption



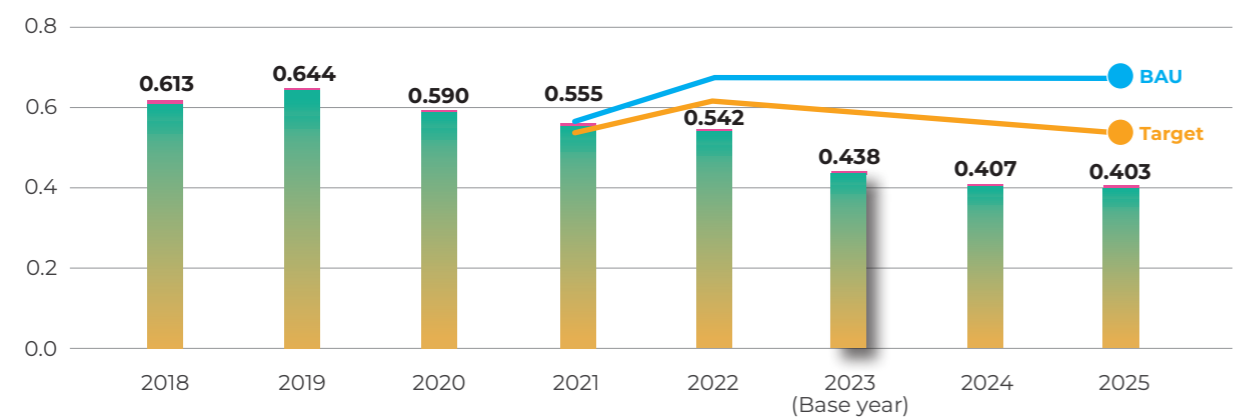
#### GHG emissions intensity



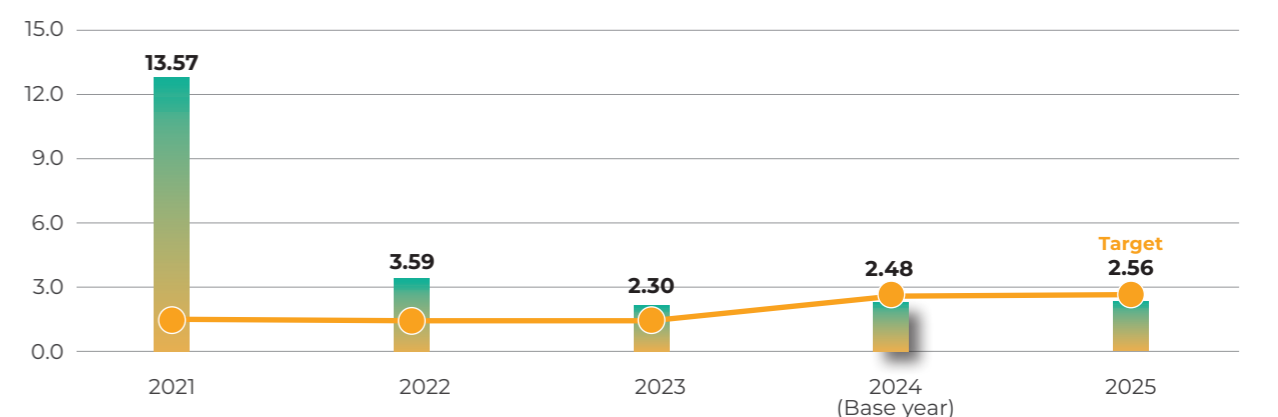
#### Energy consumption intensity



#### GHG emissions intensity



#### Energy consumption intensity



# DATA GOVERNANCE FRAMEWORK & ASSURANCE

Banpu has established a climate-related data governance framework to support reliable and decision-useful disclosures in line with IFRS S2. The framework is integrated with the Company's governance structure and aligned with its Energy Symphonics strategy, with clear roles and responsibilities across business units.

Climate-related data, including greenhouse gas (GHG) emissions, are collected at the operational level across Banpu's diversified energy portfolio and consolidated through standardized reporting processes. Emissions are calculated based on methodologies aligned with the GHG Protocol, applying consistent assumptions and emission factors. Where primary data is unavailable, reasonable estimates are used and regularly reviewed.

To ensure data quality and integrity, the Company has implemented internal controls including validation checks, reconciliation procedures, and management review. Any data gaps or inconsistencies are addressed through defined review processes.

Banpu enhances the credibility of its climate-related disclosures through internal review and independent third-party assurance of key metrics. GHG emissions and energy consumption data are reviewed and verified by Bureau Veritas, an independent external assurance provider. Further details on the scope, methodology, and the assurance approach are disclosed in Banpu's Sustainability Report, prepared in accordance with the Global Reporting Initiative (GRI) Standards.

# LOOKING AHEAD

This report includes forward-looking statements that reflect our current expectations and assumptions regarding future developments, plans, and various influencing factors. These statements are not historical facts and should not be regarded as guarantees of future performance. They are based on management's best assessment of information available at the time of issuance and are subject to uncertainties and external factors that may cause actual results to differ materially. Readers are therefore cautioned not to place improper reliance on such statements, except as required by law.

Looking ahead, the Company remains committed to enhancing the quality and transparency of its climate-related disclosures in line with the TCFD recommendations and IFRS S2 standards. As reporting frameworks and regulatory requirements continue to evolve, Banpu will continue to enhance transparency by updating its disclosures in line with new information, changing business operations, and emerging government policies.

In response to the ongoing transition toward a low-carbon economy, we have identified key climate-related risks and opportunities across the short-, medium-, and long-term horizons. Building upon these assessments, the Company is developing an Energy Transition and Decarbonization Roadmap to guide its pathway toward achieving Net Zero emissions by 2050. This roadmap integrates company's "Greener & Smarter" strategy that focus on expanding low-carbon and renewable energy businesses, improving operational efficiency, and enhancing supply chain sustainability.

Moving forward, the Company will continue to monitor global climate trends and integrate climate-related considerations into its strategic planning, capital allocation, and enterprise risk management frameworks. These efforts will enable us to adapt effectively to the evolving climate landscape while creating long-term value for our shareholders and stakeholders.

The Company remains dedicated to its role as a responsible energy provider in balancing energy security, sustainability, and economic performance. As we move toward a cleaner and more resilient energy future.

We welcome and encourage our stakeholders to provide any feedback you may have on this report by contacting us via

[climatechange@banpu.co.th](mailto:climatechange@banpu.co.th)



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