

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Bukit Asam is leading public listed company and State Owned Enterprise with a history of more than 100 years' experience in coal mining operations in Tanjung Enim, South Sumatera - Indonesia. The history of Bukit Asam coal mining began in 1876 located in Ombilin, Sawahlunto – West Sumatera and in 1919 mining activities began at Airlaya Mine, Tanjung Enim. Now, Bukit Asam is leading company in coal mining sector with coal resources of 8,58 billion tons with mineable reserves of 3,18 billion tons.

In carrying out mining operations, Bukit Asam uses various cutting-edge mining methods, namely the continuous mining system, conventional shovel & truck, and electrified shovel & truck methods. This mining operation is supported by electrified Coal Handling Facility which uses a Train Loading Station for loading coal to railroad cars that will transport coal from Tanjung Enim to Tarahan Port in Lampung and Kertapati Port in Palembang.

To improve the optimization of coal transportation, Bukit Asam is developing for coal transportation with a capacity of 72 million tons per year by 2025. The new railways are follows:

· Tanjung Enim – Northward:

The line is set to have a carrying capacity of 20 million tons per year. The new facility of Kramasan Port is expected to operate in 2024. In addition, a railway with a capacity of 5 million tons per year has successfully been operated at the Kertapati Port since the first quarter of 2020 and the capacity will be increased to 7 million tons per year by the third quarter of 2021.

· Tanjung Enim – Southward:

For Tarahan first line, the existing railway is developed to have a capacity of 25 million tons per year. Meanwhile, Tarahan second line will have a capacity of 20 million tons per year and is set to operate in July 2025.

In accordance with the company's commitment to continue with innovation, Bukit Asam has transformed from the coal mining sector to an energy company. Bukit Asam has several business segments, including investment, CFPP, and is currently developing the downstream coal business sector. This transformation was carried out to realize the vision of Becoming a World Class Energy Company that Cares for the Environment and placing Bukit Asam as a pioneer in the large scale downstream coal industry.

Bukit Asam is realizing its tagline, "Beyond Coal", as downstream projects to increase coal's added value and efforts to expand its business to new and renewable energy sector have started taking place.

The Sumsel 8 coal-fired power plant (PLTU), which is set to be the biggest and the most efficient mine-mouth power plant in Indonesia, saw construction progress of 70% as of January 2021. The plant's first unit is expected to commence commercial operations in December this year and the second unit is slated for March 2022.

Bukit Asam has also made efforts to increase the added value of coal through the coal downstream industry. Through downstream, low calorie coal will be converted into other products of high value using gassification technology. This downstream is in accordance with the Company's tagline "Beyond Coal" in which Bukit Asam has begun its transformation to provide added value to coal.

Going to the next level, in line with our commitment "Beyond Coal", Bukit Asam is creating value added from coal by developing Coal to Chemical Plant, a downstream industry. Currently Bukit Asam has two strategic initiatives of coal downstream industry to produce Coal to DME and other coal downstream development by using coal as a feed stock.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	January 1 2020	December 31 2020	Yes	1 year

C0.3

(C0.3) Select the countries/areas for which you will be supplying data.

Indonesia

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

IDR

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Operational control

C-CO0.7

(C-CO0.7) Which part of the coal value chain and other areas does your organization operate in?

Row 1

Coal value chain

- Surface coal mining
- Grid electricity generation from coal

Other divisions

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Board Chair	Supervision is carried out by the Board of Commissioners through the Business Risk Committee ("BRC") to ensure that the Company's operational activities are carried out in accordance with applicable regulations and mitigate risks that have an impact on environmental damage. The coordination mechanism between BRC and Risk Management related to risks and opportunities is carried out every 2 months
Director on board	The follow-up to the BRC recommendation is carried out by the BOD and its internal parties, an evaluation of the system in this case ISO 14001: 2015 Environmental Management System is carried out by means of a Management Review Meeting ("MRM") mechanism in front of Top Management once a year. In addition, audit (internal and external) of ISO 14001: 2015 Environmental Management System in Bukit Asam is carried out and also we have audit of compliance with the Balanced Scorecard/Key Performance Indicators related to the Environment targets and performances. This is in order to ensure the Company's sustainability is supported by improved environmental performance. One example of Executive decision was made is the Director's Decree number 050/0500/2021 regarding Establishment of Environmental Committee 2021 which its responsibilities are: environmental policy realigning, environmental initiative work programmes, environmental management and monitoring, climate-related monitoring and evaluation, and environmental reporting.

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – some meetings	Reviewing and guiding major plans of action Reviewing and guiding risk management policies Monitoring and overseeing progress against goals and targets for addressing climate-related issues	<Not Applicable>	In the supervisory function, Business Risk Committee coordinates with Risk Management Dept. every 2 months

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues
Chief Operating Officer (COO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities <i>The responsibilities of COO related to environmental management are stated in the Environmental Committee Decree in the areas of: • Reduction of air pollution (greenhouse gases) • Efficient use of energy • Land damage control</i>	<Not Applicable>	Annually
Chief Operating Officer (COO)	<Not Applicable>	Managing climate-related risks and opportunities <i>Environmental Management Report, Environmental Monitoring Report</i>	<Not Applicable>	Quarterly

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

In the Company, operationally responsible for handling climate problems, which includes saving energy and natural resources, is carried out by the Environmental Committee under the COO. This committee covers the areas of Community Development, Energy Efficiency, Biodiversity Protection, 3R Non Toxic and Hazardous Solid Waste, Environmental Management Systems, Reduction & Utilization of Toxic and Hazardous Waste, Reduction of Air Pollutants, Water Efficiency and Land Damage Control, all of which are assessed through the Recycling Assessment system (Life Cycle Assessment) based on the Company's Long Term Plan. Environmental Committee Implementation Report in the form of Environmental Management Performance Summary Document is reported annually.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	Included in the Company and Departmental Key Performance Indicators related to environmental achievements

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Board/Executive board	Monetary reward	Efficiency target	Management Contract must be achieved at minimum of 80%
Board/Executive board	Non-monetary reward	Supply chain engagement	Supply chain efficiency among entities in the Holding

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	0	1	Short term for 1 year, suit with company's Annual Programs and Budgeting duration. Where, it contains working plans, whereas its actually risk control mitigation of climate contamination
Medium-term	2	3	Middle term 3 years in Company Strategic Initiatives Monitoring and Evaluation
Long-term	4	5	Long term 5 years in Company Business Plan

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

'Substantive change' would be anything that could materially affect our ability to meet business objectives and, or, is of material importance to stakeholders. Materiality is defined as a matter that, in the view of the Board, senior management and key stakeholder groups, is of such importance that it could in the short, medium or long term:

- have a significant influence on, or is of material interest to our stakeholders
- substantively influence the company's ability to meet its strategic objectives
- has a high degree of inter-connectivity with other material issues.

Substantial changes are defined as changes which have catastrophic impact due to the company business process, whether to financial, environment, human, reputation and legal. Those fifth criteria of impact are included in the Risk Management Guideline. It has also covered maximum tolerance of stakeholder concern of 5 categories of those impacts. Based on the organization's Risk Management System Guideline, there are corporate risk impact criteria, it consists of 5 matrices which have already been agreed by our Board Director. PTBA has used risk assessment methodology and especially for the level of finance consequent in measuring and identifying financial impact or substantial impact to our business. Financially, PTBA defines substantive change as a loss in revenue or increase in operating costs of 3% - more than 10% annual EBITDA.

Based on financial perspectives and climate changes, the substantive changes potentially become company operational business disruptions, mainly on supply chain activity. For example, the significant increase of rain will give direct effect to coal production decrease and increase the mining cost, also long dryness can cause lack of water risk for the operational needs and potentially self-combustion. The climate changes which extremely can cause others impact besides financial such as social impact of local people who live around the mining area. (heavy rain seasons can cause the mud settling pond overflow and flood the local people's homes. In fact, long dryness can affect the air pollution and dust overflow in the mining area and nearest environment). In addition, there is also an impact to employees or the whole man where located in the mining area (heavy rain can cause an avalanche, where it becomes a source of accident). If those events really happen therefore the company will have a fine, like temporary operation suspension or even worse, permanently operation permission repealed.

Due to climate change risks control, PTBA has done many improvement as follows:

1. Optimization of hauling for coal and soil
2. Increasing carbon backup with land revegetation ex. Mining area
3. Renewable energy (solar cell) usage – such as mining tower lamp
4. Renewable energy (solar cell) usage – such as mining tower dispatcher
5. Eco-mechanized mining (e-MM)
6. Zero emission CHF Surveillance
7. Coal steam power plant fine coal basis
8. Bank capacitor usage
9. BWE for coal handling
10. E-mining reporting system
11. Replacing tube lamp and halogen lamp with save energy lamp
12. Micro hydro power plant"
13. Reduction emission with agricultural plant in the "Pagar Dewa" village
14. Replacing of BPO-CFCs on refrigerant of Air Conditioner at the offices and residences
15. Replacing of BPO – Halon 1211 on fire extinguisher

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations
Upstream
Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

Risk management enhancement refers to ISO 31000:2018. The document of the system which was built consists of Guidelines and working procedures. The Maturity level of risk management enhancement is in the 4 scale of 5. The scope of risk management enhancement has been done in whole working units. Including in the project and sub-holding and affiliations. Risk management concerns short term goals and long term goals. Risk management process has been done periodically including setting of scopes, contexts and criteria; risk identification; risk analysis; risk evaluation; risk handling. Each of these processes are controlled with monitoring, review, communication and adequate with notes and reports. In addition, the followings are, detail explanations: 1. The first output process is by setting the risk matrices, which become parameters of risk assessment, risk appetite and risk tolerance. Furthermore, The existing impact of criteria which are financial impact, reputation, human, environment and legal. 2. Second step, risk identification starts with internal and external factor identification, target setting, risk identification, cause and impact. The outcome of these steps is called a "risk register". 3. Third process, risk analysis. Every risk which is already identified, will be measured by the impact and likelihood values and its risks. 4. Fourth process, evaluation and appropriate mitigation should be done. The output of these processes are risk mapping. 5. Risk handling processes is an activity of risk treatment. 6. Monitoring and review is being done in order to update the guidance, risk register and business process model. 7. Communication and consultation are running in order to grow the risk culture through sharing knowledge and FGD. 8. Periodic reports gradually start from unit or division through an "Enterprise Risk Management" application and corporate. For the corporate risk report, it is sent directly to the Management and will get feedback as well from it, furthermore, the report will also be distributed to all heads of unit or div. as risk owners. In the growing risk awareness culture, assessment processes were taken through a risk culture survey. where It came up with a score 3.96 scale of 5 in 2020. In addition, continue efforts for growing risk culture awareness among of it: 1. Setting risk management as one of Key Performance indicators (KPI), on unit or division, which will affect individual work performance. 2. Became one of the structural officials responsible. 3. FGD and routine sharing knowledge. In the identification process, assessing and response due to the climate-related risk and opportunities. PTBA has set targets earlier to focus on reduction of air contamination, source of risk/opportunities from external and internal of the company, also setting risk matrices criteria. And then, to identified the risks which can potential delay the company target, also to look the cause and impact suppose the risks are happened. Afterwards, the company will identify and analyze mitigation plan for the risk treatment. Inherent risk level assessment are done by setting probability score and impact score. Next stages, The company run mitigation plan which has already made it and monitored the effectiveness of risk control periodically. All risk management activity in the company was including climate documentation and reporting periodically (whether monthly and quarterly). About risk climate changes, these risks identified on operational risk category, such as risk type HSE (Health and Safety Environment) and marketing & sales. In recent years, the rainy season has been longer and unpredictable. To find out how big this risk level is, an analysis was carried out to measure the possibility of production process disruption and how big the impact to the company's targets. Likelihood is measured by comparing planned and actual rain data. Meanwhile, the impact of this risk is calculated by estimating the opportunity loss from the production volume that is not achieved due to rainy days, multiplied by the estimated profit margin. Based on those analysis, this risk is very likely to occur (scale 4 of 5) and the value of its impact on financial is large (scale 4 of) so that this risk is considered as a high level risk. To deal with this risk, several actions were made, such as: production scheduling taking into account the season, higher production volume in the dry season, maintaining on All Weather Roads (AWR), ensuring the availability of supporting equipment for hauling road maintenance to minimize slippery time, and so on. Meanwhile for the upside risk, currently various associations around the world are very aware of environmental issues and regarding the use of renewable energy. As a company that has a vision to become a world-class energy company that cares about the environment, we also assess business development opportunities in the field of renewable energy. Until now, PTBA has identified and is running several renewable energy development projects, including the AP II Solar Power Plant Project, the Sigurgura Inalum Solar Floating Dam Power Plant Project, and the Ombilin Ex-Mining Area Photovoltaic Power Plant Project. (C2.2a).

C2.2a

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	PTBA has an active engagement strategy with the governments, regulators and other stakeholders within the countries in which we operate or plan to operate. We identify and assess current regulatory compliance risk and also formulate mitigation plans to minimize the unacceptable risk levels. We actively monitor and comply with regulations at a national level. In Indonesia, the main regulation related to environmental protection and management are "Act No. 32 year 2009 (Environmental Protection and Management Law), Govt Regulation No. 82 year 2001 (Water Quality Management and Water Pollution Control), Govt Regulation No. 41 year 1999 (Air Pollution Control), Govt Regulation No. 101 year 2014 (Management of Hazardous Wastes and Toxic Materials), and Minister Regulation of Environment No. 4 year 2014" (Immovable Source Emission Quality Standards for Mining Businesses and/or Activities).
Emerging regulation	Relevant, always included	There is no emerging regulation in 2020 that relevant with climate-related risk, but considering the low carbon emission regulation will be significant issue for PTBA, since our business is coal mining which released carbon to environment, PTBA continues to explore mitigation in reducing "Low Carbon Emissions" in every operation activity, through tight monitoring in each exploitation process and stock management. Furthermore, enhancing selective mining and to maintain coal condition are well organized up to loading site at jetty.
Technology	Relevant, always included	Technology development has the potential to enable more cost-effective achievement of our long term GHG mitigation target. There is a risk, however, if PTBA is not proactively searching for and using new technologies that we will not meet this target. PTBA has done several initiatives using technology development, which are digital mining with e-mining reporting systems, using our mining equipment (hybrid) give contribution 15% of total materials, in addition, the use of solar cells at mining areas, zero emission CHF surveillance and light saving energy. In addition, PTBA will make some research and further more deep development of technology enhancement in "carbon capture and storage (CCS)", also carbon clean tech (CCT) in company business development
Legal	Relevant, always included	The risk management program includes a consideration of legal climate change risks. Examples of legal climate change risks include the risks of non-compliance reporting regulations affecting our operations. We are prepared for the reporting requirements under the national reporting regulations, each semester (twice in a year), we are reporting the environment monitoring and managing to the provincial government, and regency ones.
Market	Relevant, always included	The transition to lower carbon, climate resilient economies is expected to have impacts on the demand for our products and these trends are factored into our risk and opportunity assessment. We have strategic initiatives outside BAU as follows: 1. Develop downstream projects We are developing several coal downstream projects such as Coal to Chemicals, Coal to Activated Carbon and assessing other potential downstream coal. 2. Develop renewable energy sector We are developing renewable energy projects such as solar power at airports and in ex-mining areas and exploring other renewable energy project opportunities
Reputation	Relevant, always included	The climate change aspects considered in the Risk Management program for operations include climate-related reputational risks. Climate change regulation continues to evolve rapidly and many of the proposed developments have significant potential reputational and financial implications of non-compliance. Failing to demonstrate positive climate change action would damage PTBA's reputation and impact our relationships with customers, investors, business partners, regulators and broader society. We have disclosed our ESG performance on the company's website so that stakeholders can get valid information about the company's efforts in the ESG aspect and can maintain the company's reputation in the eyes of the stakeholders
Acute physical	Relevant, always included	The climate change aspects considered in the risk management program for operations, include acute physical risks. Our sites are located in Indonesia which has an almost entirely tropical climate, so the acute events such as larger than normal rainfall events driven by climate change can contribute to discharge of polluted water into the environment. We actively monitor air-quality on sites to ensure that the water quality is in accordance with environmental quality standards. Besides that, in the dry season, we also drain the silt settling pond and maintain the water gates so that water with quality does not meet environmental quality standards and cannot get out into the river
Chronic physical	Relevant, always included	The climate change aspects considered in the risk management program for operations, include chronic physical risks. Chronic events such as prolonged drought caused by climate change can increase airborne dust compared to normal conditions and contribute to self-combustion of coal in the stockpile, which increases the amount of air pollution. We manage stockpile well and do regular watering to reduce the impact of chronic physical risks.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Market	Changing customer behavior
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Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Our business is subject to disruption caused by the international green energy transition trend which could affect our revenues, particularly from export sales. Our revenue from the coal segment in 2020 is 98.54% which export sales account for almost half. In the export market we supply products to several countries in Australia and Asian Regions such as India, Hong Kong, Taiwan, South Korea, China, Vietnam, Malaysia, Thailand, Brunei Darussalam, Japan and surrounding areas. Our biggest export market share is China which is planning to close the power plant in 2050

Time horizon

Long-term

Likelihood

Likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

The reduction of coal demand can cause oversupply in the market. Based on supply and demand laws, these things can significantly decrease the coal price. Furthermore, narrowing the coal market can affect strong competition and reduce potential markets

Cost of response to risk

10000000000

Description of response and explanation of cost calculation

Our largest revenue comes from coal sales of which almost half are export sales. The trend of using more environmentally friendly energy in the international world will sooner or later affect the demand for coal in the market. Even though coal is currently the cheapest source of energy, extreme climate change requires the world to immediately use environmentally friendly energy. In order to be able to reduce the impact of the trend to our business continuity in the future, its mitigation strategy has to be formulated in our strategic planning. Downstream project and renewable energy are designed to support the company's business continuity in the future despite declining coal demand. We are studying several coal downstream projects such as Coal to Chemicals, Coal to Activated Carbon and assessing other potential downstream coal. We are also developing renewable energy projects such as solar power at airports and assessing potential solar power in ex-mining areas. The costs of response to risk are calculated from expenditure for feasibility study, sample testing and project capital expenditure. There is no additional cost because in managing risks of changing customer behavior as our project is part of our regular course of business development division which has included in the Work Planning Corporate Budget.

Comment

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical	Increased severity and frequency of extreme weather events such as cyclones and floods
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Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Our sites are located in Tanjung Enim, Regency of Muara Enim, Province of South Sumatera, Indonesia which has almost entirely tropical climate, so serious events such as larger than normal rainfall events driven by climate change can contribute to discharge of polluted water into the environment. High levels of rainfall can trigger floods and 'Settling Pond' overflow, subsequently, the overflow water contamination will go to the river. Besides, this is not good for the environment, the contamination around mining areas is potentially becoming an audit finding. In fact, this can cause the society to complain. Others efforts in order to take action of audit finding and overcome the community protests around the area definitely require significant cost as matter fact this can increase indirect cost

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Financial potential impact covers the cost which is spent in order to manage society's complaints. These activities include the "Corporate Social Responsibility" program for charity of the local community

Cost of response to risk

17000000000

Description of response and explanation of cost calculation

High levels of rainfall can trigger floods and 'Settling Pond' overflow, subsequently, the overflow water contamination will go to the river. In order to be able to reduce that impact, our mitigation strategy has to be formulated in our Work Planning Corporate Budget. Our programs are draining the settling pond, drains maintenance, adding drains and settling ponds at vulnerable points. We also actively monitor water quality on sites to ensure that the water quality is in accordance with environmental quality standards. The costs of response to risk are calculated from expenditure for adding drains and maintenance of ≈Rp7billion, adding settling ponds of ≈Rp190million, and draining the settling pond of ≈Rp9,5billion

Comment

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical	Increased likelihood and severity of wildfires
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Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

The coal exploitation activities which cause climate change obligate "PTBA" to do re-vegetation and rehabilitation in order to recover nature's condition as it is. In addition, the land which had already finished the re-vegetation and became forest, has the potential of wildfires caused by extreme climate changes. Furthermore, Those fires can affect air pollution for local society around the area, therefore, It will trigger complaints and potentially become findings from law enforcement of Environmental Services

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Financial potential impact covers the cost which is spent in order to manage society's complaints. These activities include the "Corporate Social Responsibility" program for charity of the local community

Cost of response to risk

20000000

Description of response and explanation of cost calculation

Wildfires in the ex-mining area revegetation forest can endanger the surrounding area and the company must revegetate again. In order to be able to reduce that impact, our mitigation strategy has to be formulated in our Work Planning Corporate Budget. Our program is firebreak road construction. We also periodically monitor the revegetation are which exist in our mining concession especially during dry seasons. The costs of response to risk are calculated from expenditure for firebreak road construction of ≈Rp20million

Comment

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development of new products or services through R&D and innovation

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Even though coal is currently the cheapest source of energy, extreme climate change requires the world to immediately use environmentally friendly energy. It will sooner or later make the energy market from renewable energy source more popular. As our vision is become a world-class energy company that cares about the environment, we

explore the potential renewable energy project

Time horizon

Long-term

Likelihood

Very likely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

The development of renewable energy can expand PTBA's portfolio business and generate new revenue stream

Cost to realize opportunity

3000000000

Strategy to realize opportunity and explanation of cost calculation

Our vision is to become a world-class energy company that cares about the environment, not only energy that comes from coal, we also explore other energy sources. Considering that new renewable energy will become more popular in the future, we include it as one of our strategic initiatives in our strategic planning (Long Term Plan Company). We are beginning to study those opportunities and prepare the best strategy in order to get the best advantages from available chances. We are developing renewable energy projects such as solar power at airports and assessing the potential solar power in ex-mining areas. The costs which have been spent are calculated from project capital expenditure (CAPEX).

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Primary potential financial impact

Reduced direct costs

Company-specific description

One of the major cost components in our business is the use of fuel for heavy equipment in the mining area. The use of fuel can also increase the amount of emissions in the mining area. As an efficiency in operational activity and emission reduction program, the use of eco-mechanized mining with hybrid technology is a good alternative

Time horizon

Long-term

Likelihood

Very likely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

754000000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

The use of eco mechanized mining can save fuel expenditure. Total saving cost from fossil fuels that we get within 2017-2020 reach =Rp2Trillion

Cost to realize opportunity

Strategy to realize opportunity and explanation of cost calculation

PTBA consistently from 2017 until now has already enhanced the electrification system for heavy equipment and hauling in exploitation of coal, whereas this system reduced the use of fuel and replaced it with hybrid equipment using electricity as source of power. Although It has not yet fully enhanced the whole activity in mining, these electrification systems significantly decrease the emission which result from heavy equipment fossil fuels base. By using this technology, we managed to save an amount of =Rp754billion in 2020

Comment

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Primary potential financial impact

Reduced direct costs

Company-specific description

Tower lamp is one of our supporting units that need it in coal exploitation activity. The use of it in the mining front contributes to direct cost quite significantly. But the cost of fuel for tower lamps can be minimized by using other source of power. As an efficiency in operational activity and emission reduction program, using solar cells for tower lamp energy resource is a good alternative

Time horizon

Long-term

Likelihood

Very likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

444000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

The total saving cost from the uses of tower lamp with solar cell bases from 2016 until 2020 reach ≈ Rp2billion

Cost to realize opportunity

Strategy to realize opportunity and explanation of cost calculation

We identified the need for using more efficient energy sources for tower lamp operations. Using solar cells as an energy source is a great alternative so we make internal studies about it. We have been using solar cells as a source of energy for tower lamps since 2013 until now in 6 locations. By using this technology, we managed to save an amount of ≈Rp444million in 2020

Comment

C3. Business Strategy

C3.1

(C3.1) Have climate-related risks and opportunities influenced your organization's strategy and/or financial planning?

Yes, and we have developed a low-carbon transition plan

C3.1a

(C3.1a) Is your organization's low-carbon transition plan a scheduled resolution item at Annual General Meetings (AGMs)?

	Is your low-carbon transition plan a scheduled resolution item at AGMs?	Comment
Row 1	No, and we do not intend it to become a scheduled resolution item within the next two years	We are currently building a study on our carbon management. Still intensively under the control and coordination of strategic planning. We hope that the availability of the results of the study and the concept of carbon management which we will implement comprehensively will involve all internal stakeholders in its implementation

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

Yes, qualitative

(C3.2a) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenarios and models applied	Details
IEA Sustainable development scenario	<p>PTBA uses the International Energy Agency (IEA) Sustainable Development Scenario to give strong commitment to economic, environmental, and social performance. The implemented sustainability strategy is expected to leverage creation of sustainable shared value thereby will contribute impacts not only to the PTBA's economic performance but also has a positive impact on the environment and, surely, for the social community. In addition, PTBA is also committed to becoming a world-class energy company that contributes to achievement of the Sustainable Development Goals. PTBA as a coal mining company has transformed into an energy company and into an integrated company towards a pioneer in downstream products, we have assessed that there is a potential impact on operations and the environment from production operation activities and demand for PTBA products. We have formulated an analysis in which we have formulated the future role of the corporation and its impact on all potential impacts of these activities. We have considered global practices and are equipped with internal analysis to formulate a business roadmap scenario and future roles in the first 2020-2025 period, the second 10 years in the 2026-2035 period and beyond. After 2035. We have considered sustainable development given the very long life of the mine and play a role in adjusting the economic conditions that are sure to change significantly in 2050. Particularly in the current business lines in coal mining and coal power generation, the stage of increasing generation Electrical energy from renewable energy and the development stage of coal downstream products into chemicals and activated carbon. We have identified that the PTBA business line will emit different types of carbon, in terms of coal mining operations, carbon will arise from methane gas, fossil fuel vehicle emissions and fossil fuel-based power plants. In terms of coal-fired power plant (PLTU) activities, carbon will be produced from burning gas for electricity and fossil fuel-based electricity for offices. And from the downstream side of coal to chemical, carbon will be produced from burning coal into syngas, excess gas that is not absorbed by the system, fossil fuel-based power plants for chemical plant energy and fossil fuel-based electricity for offices. In this business scenario, PTBA has launched "carbon management" in anticipation of the trend of climate change that occurs from the activities of production operations carried out by PTBA and preserving the environment. Three business roadmap scenarios that are prepared for future business development by considering sustainable development scenarios are 1. Laying Foundations (2020-2025), where the corporation will begin to introduce and prepare the concept of carbon management, 2. Transform (2025-2035), where the corporation will improve carbon management programs and 3. Scale New Hight (2035 onwards) to become a leader in carbon management. Key programs in carbon management that have been implemented as a major part of PTBA's business transformation by 2050 include 1. Environmentally friendly mining operations: Reducing carbon emissions from mining operations, 2. Other Carbon Capture Utility & Storage (CCUS): Explore carbon capture as an additional business value and 3. Ex-mining land reclamation: Assist in the removal of carbon through reforestation programs. These three main programs are a manifestation of our efforts to reduce emissions, build resilience in climate change and identify climate change in business planning and investment which are all integrated in PTBA's core business</p>

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	<p>We have planned in our long term business plan for a transition and business transformation. We continue to build a new footprint to reduce the old portfolio from only selling coal at the port by utilizing coal at the mouth of the mine and transformed into other energy, in this case electricity generation and down streaming of coal to chemical and activated carbon. Demand for renewable energy and energy storage technologies is projected to increase as PTBA plays a role in transitioning to a lower carbon global economy. Therefore, as an energy company, in addition to diversification related to coal, we have also transformed into providing environmentally friendly energy sourced from new and renewable energy. As our commitment transformed into renewable energy, PTBA has developed the Angkasa Pura II solar power plant with a capacity of 241 kWp in 2020. This provides a new portfolio for PTBA as an environmentally friendly energy company. In addition to the commitment to fulfill the energy mix regulated by the government, providing environmentally friendly electrical energy is a product and service of PTBA in supporting the reduction of carbon emissions in the process</p>
Supply chain and/or value chain	Yes	<p>Our supply chain, from planning, mining to sales, strives to fulfill our commitment to operational excellence that is environmentally friendly and reduces carbon emissions therein. In the 1980s we implemented continuous mining using the main and supporting mining equipment supplied by electricity, including material and coal transportation facilities using an electrically powered belt conveyor. Then in PTBA's business transformation by 2050 we have included our commitment to reduce carbon emissions from fuel use and realized it by adding electricity-based mining operation tools (dig and transport) with sources obtained from self-built power plants. So that we are known as a pioneer in mining that applies conventional tools to dig and transport using electric power. With this method we are not only able to reduce the reduction of fossil fuels (diesel and the like) by more than 80% but also to reduce the total carbon emissions resulting from fuel-based engines in general. With the majority of contractors still using conventional fossil fuel-based equipment, we have a joint commitment to implementing operational excellence, including optimization of haul distances to avoid engine idling and encourage further fuel economy</p>
Investment in R&D	Yes	<p>Climate change risks and opportunities have contributed to the drive to invest in innovation. We have considered this in an effort to implement carbon capture in PTBA's business activities. Further studies are needed to see the costs & benefits to determine the effectiveness of investment in carbon capture facilities and of strategic value for PTBA's core business to how much it helps reduce carbon emissions from PTBA's activities. We realize that Carbon Capture generally requires a very high capex at this point in time. However, we are committed to investing in R&D to see this potential as well as investing in low-carbon equipment, products and services. We have invested ± IDR 646 Billion in 2018 into doing R&D and continuing this up to the procurement of electricity-based equipment (electrification) for the excavation, transport fleets and supporting equipment in our mining activities. So it is significant that we no longer use conventional fossil fuel-based digging and hauling tools to support our main mining equipment. On the other hand, we have invested in research and development, initiated strategic partners and initiated initiatives to build power plants by utilizing new and renewable energy. We have implemented a solar power plant in collaboration with other SOEs as part of our business portfolio and then we are planning a larger EBT power plant in post-mining land. Regarding reclamation and reforest in ex-mining areas and lands that are within mining permit areas, we have at least invested in R&D for replanting in post-mining areas, using coal-based fertilizers, plantations and replanting areas that are prepared for mining up to 2050 base on PTBA's business transformation by 2050</p>
Operations	Yes	<p>We have had various initiatives to initiate emission reduction in mining operations and refer to our corporate values where PTBA will be an environmentally friendly company. PTBA has a strong starting point in over 100 years of mining operation experience. The condition is that there is an increase in carbon from the operational side itself and the use of energy in the office and its utilization. From these condition it can be explained that the initiatives that have been carried out from a fuel perspective for the short term have started to be carried out by implementing operational excellence by optimizing the use of vehicles and routes, then the use of biodiesel for conventional fleets complements the use of electric powered fleets and the use of low-carbon fleets for projects, new, and use the conveyor belt as a means of transporting the final material and product. Meanwhile, in the medium term, a redesign of the "site" is carried out for optimization of vehicle lanes and routes, upgrading the fleet with more efficient and environmentally friendly propulsion engines and conversion to hybrid vehicles. While in the long term considering switching to a hydrogen fueled fleet and expanding the capacity of renewable energy generation to supply the mining fleet. Another initiative that have been carried out is a change of technology used in power plants at PTBA, from gradual generation and switching to Supercritical technology which is more efficient and environmentally friendly. The use of all of those initiatives have an impact on reducing emissions both on mine operations and power plants</p>

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Capital expenditures	Revenues : Changing market demands for products driven by the transition to an increasing carbon in global economy will impact demand in PTBA's products. PTBA as a coal mining company has transformed into an energy company and into an integrated company towards a pioneer in downstream products such as coal to chemical and activated carbon. This strategic initiatives will give long life and resilience of PTBA assets, the time horizons over which we will continue to invest is long-term. Capital expenditures : The studies we are currently conducting have provided an overview of the effect on our financial planning in the future. Major efforts have been made to plan finances related to initiatives towards carbon balance and to map possible business potentials through storage and utilization of carbon generated from our operating activities. In the detailed planning stages of the strategic plan up to 2050, we have understood the amount of invest CAPEX required and have become a management concern for the allocation of funding in addition to other investments in the interests of business development. On the other hand, of course, it will affect the financial targets that we have planned before. The time horizon over which we will continue to invest in CAPEX on carbon management is long-term

C3.4a

(C3.4a) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Intensity target

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number

Int 1

Year target was set

2017

Target coverage

Other, please specify (Tanjung Enim Mining Business Unit)

Scope(s) (or Scope 3 category)

Scope 1+2 (location-based)

Intensity metric

Metric tons CO2e per unit of production

Base year

2017

Intensity figure in base year (metric tons CO2e per unit of activity)

0.00354

% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure

100

Target year

2025

Targeted reduction from base year (%)

7.5

Intensity figure in target year (metric tons CO2e per unit of activity) [auto-calculated]

0.0032745

% change anticipated in absolute Scope 1+2 emissions

% change anticipated in absolute Scope 3 emissions

Intensity figure in reporting year (metric tons CO2e per unit of activity)

0.00316

% of target achieved [auto-calculated]

143.126177024482

Target status in reporting year

Underway

Is this a science-based target?

Yes, we consider this a science-based target, but it has not been approved by the Science Based Targets initiative

Target ambition

Please select

Please explain (including target coverage)

Our target for reducing greenhouse gas emissions by 2025 is a 7,5% reduction in CO2e / tonne total material intensity. The long-term targets are in line with our aspirations to develop low carbon mining. In addition, reduction targets have been included in the company's resource policy

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

Target(s) to increase low-carbon energy consumption or production

C4.2a

(C4.2a) Provide details of your target(s) to increase low-carbon energy consumption or production.

Target reference number

Low 1

Year target was set

2020

Target coverage

Other, please specify (Tanjung Enim Mining Business Unit)

Target type: absolute or intensity

Intensity

Target type: energy carrier

Electricity

Target type: activity

Consumption

Target type: energy source

Low-carbon energy source(s)

Metric (target numerator if reporting an intensity target)

Percentage

Target denominator (intensity targets only)

metric ton of product

Base year

2017

Figure or percentage in base year

0.0207

Target year

2025

Figure or percentage in target year

92.5

Figure or percentage in reporting year

7.5

% of target achieved [auto-calculated]

8.08753958994067

Target status in reporting year

New

Is this target part of an emissions target?

Yes, it is part of an emission target. Emission target is equal with decreasing of energy consumption

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain (including target coverage)

We have target to reduce Intensity of energy consumption for 7,5%. From 2017 to 2025, We have achieved to reduce intensity of energy consumption

C-CO4.2d

(C-CO4.2d) Indicate which targets reported in C4.1a/b incorporate methane emissions, or if you do not have a methane-specific emissions reduction target for your coal mining activities, please explain why not and forecast how your methane emissions will change over the next five years.

PT Bukit Asam, Tbk does not have a specific target for methane reduction. PT Bukit Asam, Tbk's target is in the form of an overall GHG reduction target which includes a methane reduction target.

Along with the movement of the mine, the wider the area of

land that is mined, the more methane gas is exposed to the air. PT Bukit Asam, Tbk consistently replants crops on land that has been finalized. Planting this plant is followed by plant care so that the growth success reaches 90%. With the high success of growing this revegetation plant, it is hoped that it will be able to absorb carbon gas in the air

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	0
To be implemented*	0	0
Implementation commenced*	0	0
Implemented*	15	310828
Not to be implemented	0	0

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

Energy efficiency in production processes	Fuel switch
---	-------------

Estimated annual CO2e savings (metric tonnes CO2e)

11753

Scope(s)

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

29359947508

Investment required (unit currency – as specified in C0.4)

18197000000

Payback period

4-10 years

Estimated lifetime of the initiative

Ongoing

Comment

Initiative category & Initiative type

Energy efficiency in production processes	Process optimization
---	----------------------

Estimated annual CO2e savings (metric tonnes CO2e)

12397

Scope(s)

Scope 1

Voluntary/Mandatory

Mandatory

Annual monetary savings (unit currency – as specified in C0.4)

21123000000

Investment required (unit currency – as specified in C0.4)

769163000000

Payback period

4-10 years

Estimated lifetime of the initiative

Ongoing

Comment

Initiative category & Initiative type

Energy efficiency in production processes	Machine/equipment replacement
---	-------------------------------

Estimated annual CO2e savings (metric tonnes CO2e)

23111

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Mandatory

Annual monetary savings (unit currency – as specified in C0.4)

40166000

Investment required (unit currency – as specified in C0.4)

400000000

Payback period

4-10 years

Estimated lifetime of the initiative

Ongoing

Comment

Initiative category & Initiative type

Energy efficiency in production processes	Automation
---	------------

Estimated annual CO2e savings (metric tonnes CO2e)

3355

Scope(s)

Scope 1

Voluntary/Mandatory

Mandatory

Annual monetary savings (unit currency – as specified in C0.4)

10780000000

Investment required (unit currency – as specified in C0.4)

40000000

Payback period

4-10 years

Estimated lifetime of the initiative

Ongoing

Comment

Initiative category & Initiative type

Energy efficiency in production processes	Electrification
---	-----------------

Estimated annual CO2e savings (metric tonnes CO2e)

207804

Scope(s)

Scope 1

Voluntary/Mandatory

Mandatory

Annual monetary savings (unit currency – as specified in C0.4)

754255000000

Investment required (unit currency – as specified in C0.4)

951287000000

Payback period

4-10 years

Estimated lifetime of the initiative

Ongoing

Comment

Initiative category & Initiative type

Energy efficiency in production processes	Smart control system
---	----------------------

Estimated annual CO2e savings (metric tonnes CO2e)

112

Scope(s)

Scope 1

Voluntary/Mandatory

Mandatory

Annual monetary savings (unit currency – as specified in C0.4)

20041338240

Investment required (unit currency – as specified in C0.4)

117000000

Payback period

4-10 years

Estimated lifetime of the initiative

Ongoing

Comment

Initiative category & Initiative type

Low-carbon energy consumption	Hydropower
-------------------------------	------------

Estimated annual CO2e savings (metric tonnes CO2e)

129

Scope(s)

Scope 1

Voluntary/Mandatory

Mandatory

Annual monetary savings (unit currency – as specified in C0.4)

223008900

Investment required (unit currency – as specified in C0.4)

869000000

Payback period

4-10 years

Estimated lifetime of the initiative

Ongoing

Comment

Initiative category & Initiative type

Non-energy industrial process emissions reductions	Carbon capture and storage/utilization (CCS/U)
--	--

Estimated annual CO2e savings (metric tonnes CO2e)

29774

Scope(s)

Scope 1

Voluntary/Mandatory

Mandatory

Annual monetary savings (unit currency – as specified in C0.4)

1064694000

Investment required (unit currency – as specified in C0.4)

1236000000

Payback period

4-10 years

Estimated lifetime of the initiative

Ongoing

Comment

Initiative category & Initiative type

Non-energy industrial process emissions reductions	Process material substitution
--	-------------------------------

Estimated annual CO2e savings (metric tonnes CO2e)

22393

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Mandatory

Annual monetary savings (unit currency – as specified in C0.4)

73960333

Investment required (unit currency – as specified in C0.4)

51900000

Payback period

4-10 years

Estimated lifetime of the initiative

Ongoing

Comment

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Compliance with regulatory requirements/standards	
Dedicated budget for energy efficiency	The implementation of electric powered digging equipment (Shovel) and transportation equipment (Truck) aims to obtain more effective mining methods with an orientation towards reducing energy consumption, especially fuel energy and reducing greenhouse gas emissions. Implementation mining by electrification method can reduce CO2 emissions by 207,804 tCO2e / year
Dedicated budget for other emissions reduction activities	Digitalization technology that aims to reduce the hours of damage or obstacles to the Coal Handling Facility (CHF) by using the CHF 1, CHF 2, CHF 3, and CHF 4 mining control system communication network which has been integrated into the intranet domain. This CHF Monitoring and Control System replaces the manual monitoring system that previously required operational vehicles. Digitization of the CHF monitoring and control system can reduce CO2 emissions by 112 tCO2e / year. The BWE (Bucket Wheel Excavator) system for coal handling aims to replace the previous coal handling system that used conventional methods (Dump Trucks and Excavators). Through this program the company is able to save fuel consumption (diesel) of 2,207,016 liters per year or Rp. 17.8 billion per year. With this system, PTBA succeeded in reducing GHG emissions by 5,253 tCO2e / year
Partnering with governments on technology development	PTBA uses solar cell energy sources for the operation of the Light Tower in the mining area. This program started in 2013 until now. There are 6 solar cell locations including MTBU, MTBS Post, KTU Post, Cik Ayip Post, ALP Post, MTBS Pump. The solar cell system can reduce CO2 emissions by 138 tCO2e / year
Other (Reduction of CO2 emissions (fuel combustion))	Optimization of coal and land hauling distance 1. Shorten the coal hauling distance from the front to the temporary stock and overburden from the front to the disposal area 2. Heavy equipment pick-up every 3 – 6 months or every change of mining location Programs Optimization of coal and land hauling distances can reduce emission by 12,397 tCO2e / year. Mining reporting is previously carried out from all mining sites and will subsequently be reported at the main mining office. This reporting system is carried out conventionally, namely paper reporting and each shift/work shift is delivered to the main office using an operational vehicle. Currently reporting uses a digital application that can be accessed from any mine site without the need to submit reports to the main office. E-mining reporting system can reduce CO2 emissions by 3,355 tCO2e / year
Other (Reduction of CO2 emissions (Electricity))	Several programs that aim to reduce CO2 emissions from electricity include: a. Use of capacitor banks Power Factor Regulator (PFR) is equipment that works electronically by detecting the actual power factor (difference in current and voltage angle) in the system and responding to it by energizing or cutting off steps on the Capacitor Bank so that the reactive power supply in the system can be maintained. so that the power factor can be stable according to the target. PFR can save electricity and reduce emissions. The reduction in emission load from the Capacitor Bank program reached 23,111 tCO2e / year. b. Replacement of TL and halogen lamps into energy efficient lamps One form of implementing this efficient energy use is to replace TL and Halogen lamps into energy-saving lamps (LED) without reducing the standard of lighting intensity for each activity. Until 2020 (June) 7,647 units of TL and Halogen lamps have been replaced with energy-saving lamps. Replacement of TL and halogen lamps into energy efficient lamps can reduce 758 tCO2e / year. c. Micro hydro power plant (MHP) The construction of a Micro Hydro Power Plant (MHP) is a follow-up program to the Memorandum of Understanding between PT. Bukit Asam Tbk and the Regional Government of Muara Enim Regency. MHP with a capacity of 35 kW was built in Pelakat village. Replacement of TL and halogen lamps into energy efficient lamps can reduce 129 tCO2e / year
Other (Reduction of CO2 emissions (Agricultural around the company))	Reducing emissions by cultivating food crops in Pagar Dewa Village. This program makes changes from non-organic farming to organic and converting rice mills and poles (rice polisher) based on diesel fuel to renewable energy in the form of a solar cell with a power capacity of 12,000 watts. So that it contributes to environmental improvement in reducing Greenhouse Gas emissions in the community
Other (Absorption of carbon (CO2) emissions)	Increasing carbon stock by revegetation of ex-mining land. PT Bukit Asam, Tbk consistently replants crops on land that has been finalized. This plant planting was followed by plant care so that the growth success reaches 90%. With the high success of growing this re-vegetation plant, it is hoped that it will be able to absorb more carbon gas in the air
Other (Reduction of Ozone Depleting Substances (BPO))	The BPO that can be reduced is that which comes from AC refrigerants (freon) and from APAR (Halon 1211), so to reduce BPO, it is replaced with AC (Hydrocarbons) and APAR (HCFC-123) refrigerants

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

No

C-CO4.6

(C-CO4.6) Describe your organization's efforts to reduce methane emissions from your activities.

There is no technology to capture airborne methane. Currently, PTBA has conducted several research and developments in implementing methane gas capture technology in our mines[RMS1] . PT Bukit Asam, Tbk consistently replants crops on land that has been finalized. This planting is followed by plant care so that the growth success reaches 90%. With the high success of growing this re-vegetation plant, it is hoped that it will be able to absorb methane gas in the air

[RMS1]

C-CO4.7

(C-CO4.7) Does your organization conduct leak detection and repair (LDAR) or use other methods to find and fix fugitive methane emissions from coal mining activities?

No, we do not have a program in place

C-CO4.7b

(C-CO4.7b) Explain why not and whether you plan to conduct methane leak detection and repair or adopt other methods to find and fix fugitive methane emissions from your coal mining activities.

Currently PTBA is conducting development and research related to methane gas that comes out of our coal mining

C-CO4.8

(C-CO4.8) If flaring is relevant to your coal mining operations, describe your organization's efforts to reduce flaring, including any flaring reduction targets.

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start

January 1 2017

Base year end

December 31 2017

Base year emissions (metric tons CO2e)

739.997

Comment

Scope 2 (location-based)

Base year start

January 1 2017

Base year end

December 31 2017

Base year emissions (metric tons CO2e)

36.329

Comment

Scope 2 (market-based)

Base year start

January 1 2017

Base year end

December 31 2017

Base year emissions (metric tons CO2e)

0

Comment

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

IPCC Guidelines for National Greenhouse Gas Inventories, 2006

Other, please specify (Guidelines for the Implementation of the National Greenhouse Gas Inventory, Ministry of Environment, 2012)

C5.2a

(C5.2a) Provide details of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

Guidelines for the Implementation of the National Greenhouse Gas Inventory, Ministry of Environment, are standards or guidelines provided by the ministry of environment in calculating greenhouse gas emissions produced in an activity

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

863.844

Start date

January 1 2020

End date

December 31 2020

Comment

Scope 1

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)

890.599

Start date

January 1 2019

End date

December 31 2019

Comment

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We have no operations where we are able to access electricity supplier emission factors or residual emissions factors and are unable to report a Scope 2, market-based figure

Comment

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

Scope 2, location-based

23,471

Scope 2, market-based (if applicable)

<Not Applicable>

Start date

January 1 2020

End date

December 31 2020

Comment

Past year 1

Scope 2, location-based

41,499

Scope 2, market-based (if applicable)

<Not Applicable>

Start date

January 1 2019

End date

December 31 2019

Comment

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source

CO2 from Sport facilities

Relevance of Scope 1 emissions from this source

No emissions from this source

Relevance of location-based Scope 2 emissions from this source

Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source (if applicable)

Please select

Explain why this source is excluded

After review, the contribution of CO2 from sport facilities PTBA to carbon footprint was considered negligible (significantly below the materiality threshold)

Source

N2O

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

Please select

Relevance of market-based Scope 2 emissions from this source (if applicable)

Please select

Explain why this source is excluded

After review, the contribution of N2O to PTBA carbon footprint was considered negligible (significantly below the materiality threshold)

Source

CO2 emissions from spontaneous combustion

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

Please select

Relevance of market-based Scope 2 emissions from this source (if applicable)

Please select

Explain why this source is excluded

the incidence of spontaneous combustion is very small and rare as well

Source

Emissions from explosives detonation

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

Please select

Relevance of market-based Scope 2 emissions from this source (if applicable)

Please select

Explain why this source is excluded

the resulting emissions are very small and no measurements are taken

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Capital goods

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Upstream transportation and distribution

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Waste generated in operations

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Business travel

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Employee commuting

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Upstream leased assets

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Downstream transportation and distribution

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Processing of sold products

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Use of sold products

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

End of life treatment of sold products

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Downstream leased assets

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Franchises

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Investments

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Other (upstream)

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Other (downstream)

Evaluation status

Not evaluated

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

No

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.00151

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

422199

Metric denominator

metric ton of product

Metric denominator: Unit total

280106957

Scope 2 figure used

Location-based

% change from previous year

Direction of change

<Not Applicable>

Reason for change

This is our first year of reporting, so we cannot compare to last year

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CH4	21	Other, please specify (2012 National GHG Inventory Guidelines, Book 2 Volume 1 Energy Use & Procurement)
CO2	842.678	Other, please specify (2012 National GHG Inventory Guidelines, Book 2 Volume 1 Energy Use & Procurement)

C-CO7.1b

(C-CO7.1b) Break down your total gross global Scope 1 emissions from coal mining activities in the reporting year by greenhouse gas type.

	Gross Scope 1 CO2 emissions (metric tons CO2)	Gross Scope 1 methane emissions (metric tons CH4)	Total gross Scope 1 GHG emissions (metric tons CO2e)	Comment
Fugitives (Underground coal mining)	0	0	0	
Fugitives (Surface coal mining)	409.874	19.517	429.392	calculations using the method in "2012 National GHG Inventory Guidelines, Book 2 Volume 1 Energy Use & Procurement"
Fugitives (Post-mining and abandoned coal mines)	34.156	1.626	35.783	calculations using the method in "2012 National GHG Inventory Guidelines, Book 2 Volume 1 Energy Use & Procurement"
Flaring	0	0	0	
Utilized methane	0	0	0	
Combustion (Underground coal mining, excluding flaring and utilization)	0	0	0	
Combustion (Surface coal mining, excluding flaring and utilization)	0	0	0	
Combustion (Electricity generation)	0	0	0	
Combustion (Other)	0	0	0	
Emissions not elsewhere classified	0	0	0	

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
Indonesia	863.844

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By activity

C7.3c

(C7.3c) Break down your total gross global Scope 1 emissions by business activity.

Activity	Scope 1 emissions (metric tons CO2e)
Production	858.132
Non-production	5.712

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions , metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	863.844	<Not Applicable>	
Electric utility activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
Indonesia	23.471	0	0	0

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By activity

C7.6c

(C7.6c) Break down your total gross global Scope 2 emissions by business activity.

Activity	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Production	22.521	
Non production	9.51	

C-CE7.7IC-CH7.7IC-CO7.7IC-MM7.7IC-OG7.7IC-ST7.7IC-TO7.7IC-TS7.7

(C-CE7.7IC-CH7.7IC-CO7.7IC-MM7.7IC-OG7.7IC-ST7.7IC-TO7.7IC-TS7.7) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO2e.

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	23.471	0	
Metals and mining production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (midstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

This is our first year of reporting, so we cannot compare to last year

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	No

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)		1523.1	1523.1
Consumption of purchased or acquired electricity	<Not Applicable>		74.85	74.85
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total energy consumption	<Not Applicable>		1597.95	1597.95

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	No
Consumption of fuel for the generation of heat	No
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Fuels (excluding feedstocks)

Diesel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

1523.1

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

<Not Applicable>

Emission factor

2.68

Unit

kg CO2 per liter

Emissions factor source

IPCC

Comment

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description

Land use

Metric value

32390.11

Metric numerator

Company-managed land (hectares)

Metric denominator (intensity metric only)

% change from previous year

0

Direction of change

No change

Please explain

5 Mining Permits (IUP)

Description

Land use

Metric value

8013.57

Metric numerator

Land altered by mining activities & infrastructure

Metric denominator (intensity metric only)

% change from previous year

1.47

Direction of change

Increased

Please explain

mining activities & infrastructure in 5 Mining Permits (IUP)

Description

Land use

Metric value

2094.91

Metric numerator

Land rehabilitated (hectares)

Metric denominator (intensity metric only)

% change from previous year

1

Direction of change

Increased

Please explain

Land rehabilitated in 5 Mining Permits (IUP) We launched a concurrent rehabilitation strategy and will set new targets for land rehabilitation in 2020

C-CO9.2a

(C-CO9.2a) Disclose coal reserves and production by coal type attributable to your organization in the reporting year.

Thermal coal

Proven reserves (million metric tons)

1315

Probable reserves (million metric tons)

1482

Production (million metric tons)

24.23

Energy content of production (GJ per metric ton)

Heating value

Unable to confirm heating value

Emission factor of production (metric tons CO2e per metric ton)

Comment

Metallurgical coal

Proven reserves (million metric tons)

Probable reserves (million metric tons)

Production (million metric tons)

Energy content of production (GJ per metric ton)

Heating value

Emission factor of production (metric tons CO2e per metric ton)

Comment

Other coal

Proven reserves (million metric tons)

Probable reserves (million metric tons)

Production (million metric tons)

Energy content of production (GJ per metric ton)

Heating value

Emission factor of production (metric tons CO2e per metric ton)

Comment

Total coal

Proven reserves (million metric tons)

1315

Probable reserves (million metric tons)

1482

Production (million metric tons)

24.23

Energy content of production (GJ per metric ton)

Heating value

Unable to confirm heating value

Emission factor of production (metric tons CO2e per metric ton)

Comment

C-CO9.2b

(C-CO9.2b) Disclose coal resources by coal type attributable to your organization in the reporting year.

Thermal coal

Measured resources (million metric tons)

1740

Indicated resources (million metric tons)

1856

Inferred resources (million metric tons)

1120

Total resources (million metric tons)

4717

Comment

Metallurgical coal

Measured resources (million metric tons)

Indicated resources (million metric tons)

Inferred resources (million metric tons)

Total resources (million metric tons)

Comment

Other coal

Measured resources (million metric tons)

Indicated resources (million metric tons)

Inferred resources (million metric tons)

Total resources (million metric tons)

Comment

Total coal

Measured resources (million metric tons)

1740

Indicated resources (million metric tons)

1856

Inferred resources (million metric tons)

1120

Total resources (million metric tons)

4717

Comment

C-CO9.3a

(C-CO9.3a) Break down the coal production attributed to your organization in the reporting year by grade.

	Production (%)	Comment
Lignite		
Subbituminous		
Bituminous	100	According ASTM around 14,000 BTU/lb – 10,500 BTU/LBU
Anthracite		
Other		

C-CO9.3b

(C-CO9.3b) Break down the coal production attributed to your organization in the reporting year by mine type.

	Production (%)
Underground	0
Surface	100

C-CO9.4a

(C-CO9.4a) Explain which listing requirements or other methodologies you have used to provide reserves data in C-CO9.2a. If your organization cannot provide data due to legal restrictions on reporting reserves figures in certain countries, please explain this.

PT Bukit Asam, Tbk. uses Indonesian Codes for Mineral Resources (KCM Code) to estimate the coal reserves. KCM (Member of **crirsco**) is a professional code that is being used as guidelines for Public Reporting of mineral and coal Exploration Results, Resources and Reserves. Early exploration activities until infrastructure development, production expansion and mining acquisition need sources of funds. The basis for external investors or internal shareholders of mining companies to provide funds is the status of resources and reserves that reflect investors' expectations and confidence in the possible return on investment and asset growth. In order for investors to make a balanced judgement in the framework of provision of funds or investment, the status of resources and reserves must be based on accurate and credible reporting

C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

	Investment in low-carbon R&D	Comment
Row 1	Yes	We have pursued various activities and investments in order to offset carbon emissions to the air due to mining and energy generation activities in our company, including: - Use of environmentally friendly production equipment - The environmentally friendly electrical energy generation & renewable - Development of the coal downstream industry - Initiation and development of the utilization of coal bed methane - Consistently carry out post-mining reclamation (plants and water) - Carbon management program in long-term planning

C-CO9.6a/C-EU9.6a/C-OG9.6a

(C-CO9.6a/C-EU9.6a/C-OG9.6a) Provide details of your organization's investments in low-carbon R&D for your sector activities over the last three years.

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (optional)	Comment
Coal bed methane capture	Pilot demonstration	≤20%		Pilot project
Process improvements	Large scale commercial deployment	81-100%		Mining electrification
Other, please specify (Infrastructure)	Large scale commercial deployment	61-80%		Electric generation plant
Renewable energy	Small scale commercial deployment	≤20%		Solar cell generation project
Carbon capture and storage/utilisation	Basic academic/theoretical research	0%		

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	No emissions data provided

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Third party verification/assurance underway

Attach the statement

laporan-keberlanjutan-2020.pdf

Page/ section reference

220 pages

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

100

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Third party verification/assurance underway

Attach the statement

laporan-keberlanjutan-2020.pdf

Page/ section reference

220 pages

Relevant standard

ISAE3000

Proportion of reported emissions verified (%)

100

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

No, we are waiting for more mature verification standards and/or processes

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

No, and we do not anticipate being regulated in the next three years

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

No

C11.3

(C11.3) Does your organization use an internal price on carbon?
 No, and we do not currently anticipate doing so in the next two years

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?
 Yes, our customers

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement

Collaboration & innovation

Details of engagement

Other, please specify (Included policies regarding emission in the commitments with customers)

% of customers by number

100

% of customer - related Scope 3 emissions as reported in C6.5

0

Portfolio coverage (total or outstanding)

<Not Applicable>

Please explain the rationale for selecting this group of customers and scope of engagement

All of our customers are chosen for the engagement because they are required to adhere policies regarding emission as stated in marine policies. Commitment with customers will be going well if only they comply with the policies

Impact of engagement, including measures of success

Marine policies convention is the main international convention covering prevention of the marine environment by ships from operational or accidental causes. As PT Bukit Asam uses FOB incoterms in selling our coal, the vessel sent by our customers must comply with the policies. The cargo delivery will be going well if only they shippers comply with the marine pollution policies. Otherwise obedient, the vessel will have no permission for ocean going. The cargo delivery will be success if they have no issues regarding marine policies and the vessels can sail without a hitch

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?
 Direct engagement with policy makers
 Trade associations
 Funding research organizations

C12.3a

(C12.3a) On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Energy efficiency	Support	Bukit Asam together with Indonesia Coal Mining Association (ICMA) always support the government concern about energy efficiency and clean energy generation	Now, as the commitment of Bukit Asam to transform to be energy company, Bukit Asam was entering into renewable energy business. Bukit Asam plans to develop solar panel power plants, at mine closure land in Tanjung Enim (South Sumatera) and Sawahlunto (West Sumatera). Bukit Asam has proposed this business scheme to the Government
Clean energy generation	Support	Bukit Asam together with Indonesia Coal Mining Association (ICMA) always support the government concern about energy efficiency and clean energy generation	Now, as the commitment of Bukit Asam to transform to be energy company, Bukit Asam was entering into renewable energy business. Bukit Asam plans to develop solar panel power plants, at mine closure land in Tanjung Enim (South Sumatera) and Sawahlunto (West Sumatera). Bukit Asam has proposed this business scheme to the Government

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?
 Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association

Bukit Asam take a position on Indonesia Coal Mining Association

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The Association concerns to the environmental aspects, that the Association taken into a place to actively discuss with relevant regulators regarding to the environmental law

How have you influenced, or are you attempting to influence their position?

Bukit Asam takes the role of giving influence to the management of mining activities the balance of the environment. Bukit Asam is a pioneer in realizing coal downstreaming in order to increase the added value of coal and is consistent in developing new and renewable energy businesses, for example: solar power plants

C12.3d

(C12.3d) Do you publicly disclose a list of all research organizations that you fund?

Yes

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

As a commitment to ensure that all of direct and indirect activities that influence policy are consistent with PTBA overall climate change strategy, PTBA continue to implement the environmental, social, and governance aspects. These aspects also include in the Company's Long Work Plan (RJPP) for over 5 years that in the RJPP, the renewable energy will become the company business. As the result, the RJPP is aligned with the activities that influence policy as the Company had explained above.

1. Social

As a commitment, PTBA continues to focus on empowering the community through sustainable programs as a form of Corporate Social Responsibility through the Partnership Program, Community Development, and Regional Development. PTBA also ensures that all social responsibility activities are always guided by the requirements stipulated in ISO 26000: 2010 Guidelines on Social Responsibility and other regulations so as to provide confidence for all Stakeholders both on a national and international level. In addition, as a company's commitment to Occupational Health and Safety (OHS), the Company has received an ISO 45001:2018 certificate which is outlined in the Golden Rules Guidelines.

2. Environment

PTBA also continues to focus on managing the environment by implementing Good Practice Mining in accordance with applicable regulations by carrying out reclamation efforts and post-mining activities. In addition, the Company has also implemented ISO 14001: 2015 as a standard for good environmental management in the Company. As the world's commitment to reduce emissions, PTBA has also made sustainable efforts with a focus on energy saving and striving to use new and renewable energy. Nowadays, PTBA also active in following climate change issue. This commitment is reflected in the company's efforts to join in the world-recognized gold standard organization in the aspects of climate change, water security and forest, namely CDP. Through the CDP, PTBA revealed various information in the form of commitments, big targets and important efforts made as an important contribution in participating with the global community in dealing with the climate change. PTBA takes urgent action to combat climate change and its impacts, especially in energy efficiency, by reducing energy consumption and reduction in energy needed for products and services.

3. Governance

As a public company listed at the Indonesia Stock Exchange, the implementation of GCG is a must. The commitment is focused on the transparency of information disclosure through various existing media. PTBA, has committed to uphold transparency to the public through the disclosure of information submitted by the company on the company's website, social media and websites where the company lists its shares consistently and continuously. PTBA believes that improving ESG performance is a long-term effort that requires a strong commitment. PTBA is committed to mitigating risks and optimizing opportunities to be able to continuously improve ESG performance as a tangible manifestation of the company in achieving sustainable development targets

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In mainstream reports

Status

Complete

Attach the document

laporan-tahunan-2020.pdf

Page/Section reference

Chapter: Corporate Social Responsibility: Emissions Management, pages 505-508

Content elements

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Other metrics

Comment

Publication

In voluntary sustainability report

Status

Complete

Attach the document

laporan-keberlanjutan-2020.pdf

Page/Section reference

Chapter: Creating Shared Value through Environmental Preservation: Emissions, pages 166-74

Content elements

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Other metrics

Comment

Publication

In voluntary communications

Status

Complete

Attach the document

Page/Section reference

Content elements

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Other metrics

Comment

PTBA News & Social Media

C15. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C15.1

(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	President Director	Chief Executive Officer (CEO)

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I am submitting to	Public or Non-Public Submission
I am submitting my response	Investors	Public

Please confirm below

I have read and accept the applicable Terms