C0. Introduction

C0.1

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

PT Austindo Nusantara Jaya Tbk operates as the holding company of various agribusiness subsidiaries, mainly operating as integrated oil palm plantations (approximately 99% revenue), as well as sago starch and vegetable (Edamame) production. We also operate renewable energy power plants as complementary business to our palm oil operations, using the Crude Palm Oil (CPO) mill effluents as feedstock. Our products include Crude Palm Oil, Palm Kernel, Palm Kernel Oil, sago starch, fresh edamame, and frozen edamame. We have a landbank of 154,650 ha across Indonesia, with palm oil operations in North Sumatra (9,988 ha in Binanga and 9,412 ha in Siais), Belitung Island (17,360 ha), West Kalimantan (13,880 ha), and South West Papua (91,210 ha). We have legal land certificates (HGU) in all these locations. We are also developing a green field plantation in South Sumatra (12,800 ha), on which the land acquisition process is still ongoing.

Our greenhouse gas emissions are mainly from our palm oil business which contributes 99% of total group revenue. Emissions from our palm oil activities are mainly comprised of emissions from:

1. Cultivation activities: Land use change to palm oil plantation and the replanting of old palm trees.

2. Cultivation activities: Land management activities, mainly the use of fertilizers and fuels

3. Peat oxidation

4. Extraction and processing activities, mainly from Palm Oil Mill Effluent (POME), fuel consumption, and electricity from the national grid

As a longstanding player in the agribusiness sector, we know that doing business in a way that benefits society and the environment ultimately improves our own performance. We have therefore committed ourselves to a path of responsible development that balances our economic objectives with social and environmental priorities.

In October 31, 2019, ANJ has renewed its commitment to Sustainable Development in the Oil Palm Industry by publishing a Sustainability Policy which is formulated in a way that it supports the United Nation's Sustainable Development Goals and link them to our Sustainable Development Approach. The structure of the policy identifies the core components of each key element, ensuring maximum coverage and supporting our commitment to Sustainable Development. The coverage encompasses legal compliance, good governance, the recognition of human rights, and positive engagement with all stakeholders. The environmental stewardship prioritizes the protection of natural areas of importance and efforts to minimize and manage pollution in our business operations.

In order to implement sustainable business practices and demonstrate this to external stakeholders, we subscribe to a number of economic, environmental and social principles, standards and certification schemes. These standards are embodied in various certification schemes, specifically the Roundtable on Sustainable Palm Oil (RSPO) where ANJ has been a member of since 27th February 2007, Indonesia Sustainable Palm Oil (ISPO), and the International Sustainability & Carbon Certification (ISCC) which focus on no deforestation, no exploitation of peat-land, transparent supply chains and measurement of greenhouse gas emissions. ANJ is committed to ensuring that all of its plantations and mills achieve and maintain certification under these internationally recognized schemes. Other standards to which ANJ is committed include the International Standards Organization's Environmental Management System (ISO 14001) and Occupational Health and Safety Management System (ISO 45001).

In keeping with our commitments under the terms of our RSPO, ISPO and ISCC certification, and the Indonesian government regulations and GHG reduction targets, we have made corporate commitments to reduce our GHG emissions. Our group aspires to achieving net-zero emissions by 2030 and to reduce the GHG emissions intensity of our palm oil unit scope 1 and scope 2 emission by 30%, compared to the 2015 baseline, by the year 2030. We have also set a target to increase our renewable energy portfolio to above 60% and to reduce our fossil fuel dependence by 20% by 2025. We have signed up in 2022 to a public commitment to the SBTi's (Science Based Targets initiative) target-setting criteria to validate our targets. Our net-zero commitment is under the responsibility of the Board of Directors with the Vice President Director directly tasked to deliver our GHG reduction targets to ensure we achieve our target by 2030.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data and indicate whether you will be providing emissions data for past reporting years.

Reporting year

Start date
January 1 2022

End date
December 31 2022

Indicate if you are providing emissions data for past reporting years
Yes

Select the number of past reporting years you will be providing Scope 1 emissions data for
1 year

Select the number of past reporting years you will be providing Scope 2 emissions data for
1 year

Select the number of past reporting years you will be providing Scope 3 emissions data for
1 year

C0.3

(C0.3) Select the countries/areas in which you operate.
Indonesia

C0.4

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

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.
Financial control

C-AC0.6/C-FB0.6/C-PF0.6

(C-AC0.6/C-FB0.6/C-PF0.6) Are emissions from agricultural/forestry, processing/manufacturing, distribution activities or emissions from the consumption of your products – whether in your direct operations or in other parts of your value chain – relevant to your current CDP climate change disclosure?

	Relevance
Agriculture/Forestry	Both own land and elsewhere in the value chain [Agriculture/Forestry only]
Processing/Manufacturing	Direct operations only [Processing/manufacturing/Distribution only]
Distribution	No
Consumption	No

C-AC0.6e/C-FB0.6e/C-PF0.6e

(C-AC0.6e/C-FB0.6e/C-PF0.6e) Why are distribution activities not relevant to your current CDP climate change disclosure?

Row 1

Primary reason
Evaluated but judged to be unimportant

Please explain
We are already taking into account the distribution from plantation to our internal mill processing facilities, which comprises the majority of our emissions. We have analyzed and calculated the emission from distribution activities beyond our internal distribution activities such as external FFB transported to our mills and CPO distribution to our buyers. Our analysis concluded that emissions from distribution activities do not have a significant impact on our disclosure. Nevertheless, these emissions will be reported in our Scope 3 emissions.

C-AC0.6g/C-FB0.6g/C-PF0.6g

(C-AC0.6g/C-FB0.6g/C-PF0.6g) Why are emissions from the consumption of your products not relevant to your current CDP climate change disclosure?

Row 1

Primary reason
Analysis in progress

Please explain
Since we are primarily a B2B company, our main products are further processed by our buyers before reaching the consumption stage. It is virtually impossible for us to understand what the consumed end-products turn out to be and, consequently, we do not know how these products are disposed of or treated for waste management. Therefore, we are attempting to calculate only the GHG emissions from the consumption of our products (CPO) at the processing stage in our client's refineries. This analysis is still ongoing for validation.

C-AC0.7/C-FB0.7/C-PF0.7

(C-AC0.7/C-FB0.7/C-PF0.7) Which agricultural commodity(ies) that your organization produces and/or sources are the most significant to your business by revenue? Select up to five.

Agricultural commodity
Palm Oil

% of revenue dependent on this agricultural commodity
More than 80%

Produced or sourced
Both

Please explain
The largest percentage of our revenue (approximately 99%) is associated with palm oil products that are produced from fresh fruit bunches in our own plantations and third party sources. To calculate this figure, we have considered all of our palm oil products and their associated revenue in the past financial year.

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, an ISIN code	ID1000270002
Yes, a Ticker symbol	ANJT IJ

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 or committee	Responsibilities for climate-related issues
Chief Executive Officer (CEO)	The CEO reviews all aspects of the Company's strategic direction on sustainability, its implementation, and impacts after taking into account all C-suite input. In 2022, this includes the decision to determine the strategy in order to achieve our climate targets.
Chief Operating Officer (COO)	The Chief Operating Officer (COO) / Vice President Director (VPD) is mandated to oversee and manage climate-related issues, risks, and opportunities and ensure climate policies are maintained and reviewed regularly. The choice of providing the mandate to the COO/VPD is because climate-related issues are closely related to the productivity of our biological assets (oil palm trees). The more we can implement best agricultural practices and apply innovative mitigation and adaptation measures through our research and development, the better our agronomic results will be. Therefore, the VPD sponsors GHG emissions reduction projects such as composting plants and the expansion of drip fertigation projects in our estates.
Chief Sustainability Officer (CSO)	The CSO or Sustainability Director, after obtaining input from the COO (VPD), formulates the sustainability strategy as part of the overall Company strategy and champion the approval of this strategy with the BOD and BOC. The CSO then determines relevant sustainability programs and initiatives to implement and propose them to the CEO, who will then lead the Board of Directors' meeting to agree and approve the sustainability strategy objectives, its programs and initiatives, and the related monitoring and evaluation systems. The CSO leads the translation of the strategy into sustainability projects, monitoring its implementation, and revise or improve projects based on feedback from the sustainability teams and external parties (NGOs, communities and Government). The CSO leads several departments, including Conservation, Community Involvement and Development (including Plasma relationship management), Stakeholders Relation (including Government Relation) and Corporate Communications.
Board-level committee	Board-level committee, i.e. The CSR and Sustainability Committee consist of several non-executive directors (BOC) to oversee and monitor the development and implementation by the BOD of the Company's sustainability practices, including Responsible Development commitments, based on identified environmental, social and economic impacts of the business, as well as related risks and opportunities. The CSR and Sustainability Committee has quarterly meetings with the BOD to discuss relevant issues and aspects including updates on sustainability compliance (e.g. RSPO), progress with responsible development projects, environmental and social issues and community grievances, community engagement, government engagement, biodiversity conservation, alignment with SDGs, media attention, and internal sustainability awards system. The CSR and Sustainability Committee then share the meeting results and issues to all BOC (non-executive Board) members.
Board-level committee	The Risk Management Committee supports the Board of Commissioners in evaluating the Group's risk management system (including climate-related risk), including the internal control system and assessing the Company's risk tolerance. It also advises the Board of Directors on current and potential risk management and compliance issues.

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 – all meetings	Reviewing and guiding annual budgets Overseeing major capital expenditures Reviewing innovation/R&D priorities Overseeing and guiding employee incentives Reviewing and guiding strategy Overseeing and guiding the development of a transition plan Monitoring the implementation of a transition plan Overseeing the setting of corporate targets Monitoring progress towards corporate targets Reviewing and guiding the risk management process	<Not Applicable>	ANJ management has arranged regular meetings, including monthly management meetings, bi-weekly board-level leadership team to report and discuss strategy implementation progress, climate-related issues, and any sustainability issues, quarterly audit meetings, risk management committee meetings (minimum six times p.a.), quarterly sustainability and CSR committee meetings, quarterly combined BOD-BOC meetings, BOC meetings (six times p.a.), cross-functional sustainability working group meetings (as needed), and monthly sustainability department meetings. These various meetings discuss sustainability issues, climate-related, and forest-related issues as part of their agenda, including related project progress in each business unit, strategy implementation, risk management, and mitigation initiatives. Board-level executives and supervising commissioners are involved in the meetings.

C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	Yes	The criteria for the assessment of the competence of the board in managing climate-related issues include deforestation and land use change, wildfire management, carbon emissions, energy consumption, changing weather and temperature, as well as climate-related regulations and trends. We have a Nomination and Remuneration Committee (NRC) that nominates and select executive board members (Directors), including their competence on climate-related issues from the environmental as well as political, social, and legal aspects due to the critical nature of this issue in our business. The NRC is chaired by an Independent Commissioner (non-executive director) to ensure that nomination, selection, and evaluation processes are unbiased. The annual performance of Directors is assessed by the President Director, and in the case of the President Director, by the NRC. Evaluation of directors We take measures to ensure that our BOD members have sufficient knowledge and skills in sustainability and sustainable development. Board members receive sustainability training and awareness through short courses, workshops and seminars, self-study, and involvement in sustainability-oriented projects. One example is our Chief Operating Officer (COO) / Vice President Director has completed a course “Health Effects of Climate Change” from Harvard University in 2020 and our CSO has completed a course of "Leading Sustainability Corporation Program" from Oxford University in 2022. One of our non-executive Board member is involved actively as a Task Force member to review and comment on the IFRS Sustainability standards drafts. Our board also build their competence on these issues through their extensive experience, expertise, and exposure in the RSPO principles and criteria (Indonesian National Interpretation Working Group), including RSPO No Deforestation Task Force . They are also active in the PONGO Alliance, United Nations Global Compact (UNGC), and other organizations and initiatives that have an emphasis on the environment, conservation, and forest-related issues.	<Not Applicable>	<Not Applicable>

C1.2

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

Position or committee
Chief Operating Officer (COO)

Climate-related responsibilities of this position
Managing annual budgets for climate mitigation activities
Developing a climate transition plan
Implementing a climate transition plan
Integrating climate-related issues into the strategy
Setting climate-related corporate targets
Monitoring progress against climate-related corporate targets
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities
<Not Applicable>

Reporting line
Reports to the board directly

Frequency of reporting to the board on climate-related issues via this reporting line
More frequently than quarterly

Please explain
Climate related issues are strategically discussed quarterly during the related regular Committee meetings between our Directors and Commissioners (non-executive directors), where the COO/VPD reports any progress related to our climate actions or initiatives. It is also on the agenda during our bi-weekly senior management meetings (called ANJ Executive Leadership Meeting or AELT), among others to discuss carbon trading opportunities and the monitoring of climate-related mitigation and adaptation projects.

Position or committee
Chief Sustainability Officer (CSO)

Climate-related responsibilities of this position
Integrating climate-related issues into the strategy
Setting climate-related corporate targets
Monitoring progress against climate-related corporate targets
Managing public policy engagement that may impact the climate

Coverage of responsibilities
<Not Applicable>

Reporting line
CEO reporting line

Frequency of reporting to the board on climate-related issues via this reporting line
More frequently than quarterly

Please explain
Climate related issues are strategically discussed quarterly during the related regular Committee meetings between our Directors and Commissioners (non-executive directors). It is also on the agenda during our bi-weekly senior management meetings (called ANJ Executive Leadership Meeting or AELT), among others to discuss carbon trading opportunities and the monitoring of climate-related mitigation and adaptation projects.

Position or committee
Business unit manager

Climate-related responsibilities of this position
Implementing a climate transition plan
Monitoring progress against climate-related corporate targets
Managing climate-related risks and opportunities

Coverage of responsibilities
<Not Applicable>

Reporting line
Operations - COO reporting line

Frequency of reporting to the board on climate-related issues via this reporting line
More frequently than quarterly

Please explain
Climate-related issues such as wildfire mitigation, droughts, floods, and mitigation/adaptation projects or initiatives are discussed in our monthly management meeting involving General Managers/Head of Departments and above. General managers are the most senior managers of our plantations which responsibilities include the implementation of climate-related issues and projects in the plantations they manage. General managers report to our COO/Vice-President Director.

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	As part of C-suite employees or board member's performance evaluation, climate-related adaptation and mitigation are integrated in the Key Performance Indicators of the related directors, management, and employees that are responsible for the successful implementation of these projects. Additionally, we include a 15% weight on KPIs related to our responsible development projects, that may also include climate-related issues. Failure of meeting these annual KPIs targets and progress during the performance appraisal, will affect the amount of bonus earned.

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
Board/Executive board

Type of incentive
Monetary reward

Incentive(s)
Bonus – set figure
Promotion
Salary increase

Performance indicator(s)
Achievement of a climate-related target
Implementation of an emissions reduction initiative
Reduction in absolute emissions
Reduction in emissions intensity

Incentive plan(s) this incentive is linked to
Short-Term Incentive Plan

Further details of incentive(s)
Board members mentioned in C1.1 and C1.2 have the achievement of climate-related initiatives and transition plans, such as methane capture projects, composting plants, and drip fertigation expansion, tied to their specific Key Performance Indicators. Furthermore, up to 15% of the KPI is from the implementation of Responsible Development project, which includes projects designed to tackle climate change issues. Some examples are 3R (reduce, reuse, and recycle) projects to reduce domestic waste, agricultural innovation projects to increase food security and climate resilience, or the engagement of smallholder farmers to raise awareness about climate issues. The performance of the Board of Directors in these initiatives will improve their overall performance evaluation by the Nomination and Remuneration Committee (NRC), thus increasing their chances to receive promotions, salary increases, and annual bonuses. The amount of bonus for members of the BoD is determined by the NRC based on the KPI achievements, including the achievement on the Responsible Development project, taking into consideration the financial condition of the Company.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan
This incentive is provided for the successful implementation of climate-related strategic projects which are essential parts of our climate commitments and transition plans. The KPIs helps our BoD to focus on strategic climate-related projects with the highest impact on the achievement of our plans and emissions targets.

Entitled to incentive
All employees

Type of incentive
Non-monetary reward

Incentive(s)
Internal company award
Internal team/employee of the month/quarter/year recognition
Public recognition

Performance indicator(s)
Implementation of an emissions reduction initiative
Energy efficiency improvement
Increased engagement with suppliers on climate-related issues
Increased value chain visibility (traceability, mapping, transparency)
Company performance against a climate-related sustainability index (e.g., DJSI, CDP Climate Change score etc.)
Implementation of employee awareness campaign or training program on climate-related issues

Incentive plan(s) this incentive is linked to
Not part of an existing incentive plan

Further details of incentive(s)
We have internal awards and recognitions for individual employees and estates. Estate-level and individual employee performance awards are given yearly in our Estate Ranking process. The Estate Ranking looks into the productivity performance of each estate compared to others, which are affected by climate adaptation initiatives. Employees are also required to participate in at least one Responsible Development project, projects which underpin our sustainability commitments. Many of these projects are climate-related and the best projects are awarded and recognized annually. The most successful projects also participate in external awards to receive wider public recognition. Over the years, many of these projects have won prestigious external awards.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan
The recognition of employee initiatives through non-monetary rewards reinforces employee engagement and motivation to contribute to our sustainability commitments. This also helps increase employee awareness and support to the Company's climate commitments and ambitions.

Entitled to incentive

Business unit manager

Type of incentive
Monetary reward

Incentive(s)
Bonus – set figure
Promotion
Salary increase

Performance indicator(s)
Achievement of climate transition plan KPI
Progress towards a climate-related target
Implementation of an emissions reduction initiative

Incentive plan(s) this incentive is linked to
Short-Term Incentive Plan

Further details of incentive(s)
General Managers lead the implementation of climate initiatives and transition plans in our estates, which are tied to their Key Performance Indicators (KPIs). Their performance indicators on these KPIs will affect their overall performance evaluation which are related to promotions, salary increases, and annual bonuses they may receive, which amount are determined by the Board of Directors depending on individual performance and company financial situation. Furthermore, General Managers have 15% of their KPIs tied to the implementation of Responsible Development project, which includes projects designed to tackle climate change issues.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan
This incentive is provided for the successful implementation of climate-related strategic projects which are essential parts of our climate commitments and transition plans. The KPIs helps our General Managers to focus on strategic climate-related projects with the highest impact on the achievement of our plans and emissions targets.

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	Our short-term horizon is one year. This short-term horizon identifies risks and opportunities for the coming year carried out in line with our annual planning, cascaded from our long term strategic planning. Based on the assessment of long term risks and opportunity related with climate change, we established annual project initiatives, arrange project financing and budgeting, project charters, project teams, and prepare detailed project schedules for implementation.
Medium-term	1	5	Our mid-term horizon is one to five years. This is carried out during our business strategic meeting, carried out every year, that covers a horizon of up to five years. Mid-term risks and opportunities, including those related to climate change and global warming, are assessed and influence our five-year strategic objectives and priorities. The risk assessment is one of the foundations for establishing priority project initiatives and five-year planning.
Long-term	5	10	Our long-term horizon is from five to ten years, or horizons beyond our regular business strategic planning. This long-term perspective for assessing risks and opportunities is carried out at the highest level of management, involving executive and non-executive directors in the Risk Management Committee. This assessment is used to inform high-level trends and dynamics, so as to enable responsiveness to adapt to or mitigate identified risks and/or benefit from identified opportunities, including those related to climate change.

C2.1b

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

We assess risks based on two factors: (1) the likelihood of the inherent risk to happen without any risk mitigation action, based on historical occurrences and readiness of our risk mitigation to control such risk (2) the impact if such risk would occur in the assessment years.

There are five likelihood categories: rare, unlikely, possible, probable, almost certain. The impact scale is ranging from insignificant impact (< USD 10,000), minor (USD 10,000- USD 100,000), moderate (USD 100,000- 1 million), major/high (USD 1-10 million) to catastrophic impact (with a potential financial impact of 10-> USD100 million, representing >20% of our equity book value).

We define substantive risk as risk within the following category:

1. Likelihood: almost certain with catastrophic impact

2. Likelihood: probable with catastrophic impact

3. Likelihood: almost certain with major impact

4. Likelihood: almost certain with moderate impact

5. Likelihood: probable with major impact

6. Likelihood: possible with catastrophic impact

We have a similar process to assess strategic opportunities, categorizing the likelihood and the potential impact to our Company value. There are five likelihood categories: rare, unlikely, possible, prospective, low-hanging fruits. The impact scale ranges from insignificant impact (< USD 10,000), incremental (USD 10,000- USD 100,000), significant (USD 100,000- 1 million), break-through (USD 1-10 million) to game changer impact (with a potential financial impact of 10- > USD100 million, representing >20% of our equity book value).

We define substantive opportunities as opportunities that fall within the following categories:

1. Likelihood: low-hanging fruits with game changer impact

2. Likelihood: prospective with game changer impact

3. Likelihood: low-hanging fruits with break-through impact

4. Likelihood: low-hanging fruits with significant impact

5. Likelihood: prospective with break-through impact

6. Likelihood: possible with game changer impact

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

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
Climate-related risk and opportunity assessments is integrated into our corporate strategic planning process. The objective of this procedure is to identify and control risks and identify opportunities to ensure the positive business development of the organization and effective risk reporting, in compliance with global sustainability standard, ESG standard and national laws and regulations.

Mitigation of climate-change is one of our key strategy that we also communicate to our investors during annual public expose or investors meeting. Therefore integration of climate-change related risks and opportunity is part of our integration of ESG into business strategy. Each risk and opportunity profile is assessed annually during our strategic review. The mitigation of physical and transitional risks is under the responsibility of the Board of Directors, led by our Chief Operating Officer.

The process used to determine which climate-related risks and opportunities could have a substantive financial or strategic impact applies to all value chain stages and consists of two parts:

RISK IDENTIFICATION:
Top-down processes are used to identify climate-related risks and opportunities during corporate level strategy session by Board of Directors and cascaded as bottom up process during business level strategy session. All risks and opportunities (including climate-related) are identified and assessed on corporate level by subject matter experts in the Board of Directors.

RISK ASSESSMENT:
Identified risks and opportunities are assessed for substantive financial or strategic impact and the likelihood of the event. The effect of revenue or loss related risks and opportunities are estimated on annual impact bases, with category as described in the section C2.b. The top risks and opportunities will be included in the corporate SWOT analysis as part of the strategy formulation process. Based on the top risks and opportunities, the corporate will defined project prioritization for the next 5 years, and budget will be allocated accordingly based on the priority of impact and the likelihood.

Process for responding to climate related Risk and Opportunity (R/O):
After climate related R/Os have been identified and assessed, they are prioritized according to impact to business and likelihood
1. Prevent risks with a high likelihood and high impact, for example: wild forest fire in surrounding plantation areas, we establish hotspot monitoring system for early warning system, installation of composting and drip fertigation to reduce impact of long drought. This process is monitored on a daily basis for hotspot monitoring and a monthly basis for project to reduce impact of long drought.
2. Reduce risks with a high likelihood but low impact by mitigation measures
3. Transfer risks with low likelihood but high impact by insurance
4. Accept risk with low likelihood and low impact, if the cost to mitigate risk is higher than cost to bear the risk.

CASE STUDIES for the process used to determine which climate related R/Os could have a substantive financial or strategic impact:

PHYSICAL RISK:
- Situation: long drought or dry spell that incurred in 2015 caused the decline on the production of FFB 15% to 30% in several site location (Belitung and North Sumatera)
- Task: to mitigate this, several initiatives were identified how to retain moisture and improve soil condition during long drought.
- Action: one of the initiatives to mitigate this situation was developing drip fertigation pilot project to directly provide water and soluble fertilizers to the of the palm trees.
- Result: the application of drip fertigation pilot project has been effective in preserving moisture during dry season

TRANSITIONAL OPPORTUNITY:
- Situation: we have identified that the value of certified sustainable palm oil (CSPO) will increase to provide premium price in the global market
- Task: In order to be able to prioritize this opportunity, its financial and strategic impact has been assessed.
- Action: we have been increasing our CSPO to cover all of our mill production until 2021.
- Result: The impact of this opportunity has been estimated to additional revenue of up to $2M per year

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	In the palm oil industry, land-use change policies and stricter sustainability standards and regulations for developing new plantations represent a key transitional risk. For example, regulations and standards on sustainable palm oil have increased expectations from governments, NGOs, buyers, and consumers that palm oil companies should do more to tackle climate change. This has introduced commitments to NDPE, protection of HCV and HCS areas, and strict procedures for new planting. There are also policies to reduce fossil fuel consumption and transition to renewable energy in our operations. The Government has also issued regulations and policies, and expects private sector contributions to meet the national emissions targets in the context of the Paris Agreement.
Emerging regulation	Relevant, always included	The Government continues to prepare new regulations and policies related to climate change and to ensure that Indonesia can meet its emissions commitments. Hence we carefully monitor and observe regulatory dynamics in this area as part of our risk and opportunities assessment. Examples are emerging regulations about carbon tax and carbon credit/markets currently being developed by the Government. This is relevant because we also observe the emergence of carbon markets, and we are exploring the opportunity to generate carbon credits from Certified Emissions Reduction (CER) from our renewable energy projects and Voluntary Carbon Unit (VCU) from a carbon-funded conservation project.
Technology	Relevant, always included	Tackling climate change and overcoming climate risks requires the application of new and innovative technologies and practices as adaptation or mitigation measures. The development of technologies can present opportunities or new approaches to solving climate change problems, therefore we consider this a relevant aspect that we always include in our analysis. We have established an R&D center to explore and test innovative measures such as nature-based solutions, composting, drip fertigation, waste-to energy initiatives using biomass as feedstock for our boilers, biogas from POME using methane capture technology, and application of digital technologies/digital transformation.
Legal	Relevant, always included	Legal risk are relevant because there are legal issues or litigation commonly associated with our industry, especially related to deforestation, land use change, land legality, or wildfire, many of which are related to climate risks. As an example, we have put in place a thorough traceability system and due diligence processes as mitigation to potential litigations about the legality of our FFB sources, ensuring that they are deforestation-free and come from legally operated lands.
Market	Relevant, always included	Market trends and demand for sustainable palm oil is an issue that we always include in our risk assessments. The changing market expectations about what is considered sustainable palm oil and what climate commitments and actions should be made will require adjustments to ensure that we continue to meet expectations and have access to certain markets. Failure to understand these trends can result in loss of market access and loss of revenue. Demand from investors for good ESG performance also affects our capability to obtain financing as well as the performance of our stock price in the stock market. Our membership in RSPO and commitment to having certified sustainable palm oil is a direct result of responding to market trends. We also participate in voluntary ESG disclosure initiatives and ESG ratings to meet market expectations.
Reputation	Relevant, always included	Our industry has a relatively bad reputation when it comes to its climate change impacts and environmental impacts in general. Therefore, reputation is always a risk that we have to overcome by demonstrating good sustainability and ESG performance. On the other hand, there is also an opportunity to build our reputation as a sustainable company by addressing key stakeholder concerns about our industry and our operations. We assess these reputational risks and opportunities by monitoring stakeholder expectations and ensuring that our operations meet sustainability expectations. For instance, we have identified that human rights and child labor have increasingly become an issue for international stakeholders in recent years. As a response, we have taken steps to address this potential issue in our operations to mitigate the reputational risks it presents.
Acute physical	Relevant, always included	Climate change is causing acute extreme weather events, such as high rainfall, floods, droughts, or wildfire events, which are affecting our agribusiness operations. For instance, The impact of droughts in 2015 and 2019 was substantial, reducing our crop yields by more than 20% compared to the previous year. This type of disruptive events require mitigation measures in case they occur. We ensure the availability of water and assess the capacity of watersheds to maintain the natural flow and contain any fluctuations in water levels. Therefore, water availability in all our locations' river basins is reviewed as part of our business risk review to formulate our strategies for water management and overcoming extreme weather challenges. We also take into account the general trends and risks regarding water at the national level. A detailed mitigation plan is designed and implemented based on these insights, including water catchment in arid areas and the construction of water gates to avoid flooding.
Chronic physical	Relevant, always included	Climate change, such as prolonged La Nina or El Nino, is potentially lowering our crop yields, making our agricultural management more complicated and costly, and causing disruptions to the global supply of agribusiness commodities. As an example, climate change has affected the behavior of insect pollinators that disrupts the natural pollination of the palm flowers and the development of palm fruits. The impact on production can reach a 10% reduction in the average FFB weight and an overall 10% reduction in the total production yield. As such, chronic physical risks related to climate change are always assessed so that we can implement the necessary measures to mitigate and adapt to the situation.

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

Acute physical	Drought

Primary potential financial impact

Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

The adverse weather of intense and prolonged drought (El Nino) in the year 2015 and 2019 imposed prolonged water deficit period in most of our plantation location. This water deficit caused severe damage to the growth of young palms, productivity of mature palms and the survival of old palms. The most severe impact in 2015 was felt in the areas with sandy soils in Belitung, reduced the crop production within the range of 30% compared to the previous year, while in the North Sumatra, the long drought reduced the crop production within the range of 15%.

The El Nino in 2019 also imposed water deficit, however with several mitigation that has been implemented after 2015 the impact was not as severe as in the 2015. However, with inherent risk of drought will still be a major risk for our industry despite several initiatives has taken into implementation for mitigation and adaptation.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
12608115

Potential financial impact figure – maximum (currency)
50432460

Explanation of financial impact figure
The impact of long drought is reduce our crop productivity by 15%-30% of the 2022 production ranging from 125,000 MT to 250,000 MT. The potential CPO production loss ranging from 25,000 MT to 50,000 MT with an estimated oil extraction rate (OER) 20% and CPO price between USD 500 - 1,000/MT.

Cost of response to risk
20164000

Description of response and explanation of cost calculation
Composting: Our composting initiative converts empty fruit bunches into organic fertilizers using microbes. The application of compost reduces the use of chemical fertilizers, improves soil moisture, and rejuvenates the structure of the soil. As a result of this initiative, we have seen yield improvements in young mature palms in Belitung while reducing chemical fertilizer use by more than 50%, meaning that GHG emissions from fertilizers are also reduced. New composting construction will cost USD 3.5 million per site location. We already have 3 location with composting facility with total construction cost of USD 9.5 million. In the next 5 years, we plan to develop another 2 composting plant facility in other plantation location, with total capital expenditures for 5 composting plants of USD 17.5 million.

Drip Fertigation: By installing small pipeline systems to distribute water and fertilizers that reach each palm tree, we can mitigate the impact of drought and dependency on workers. This initiative involves an initial investment of USD 1,850 per hectare, to reduce operational costs by more than 55% while maintaining comparable crop growth, especially during prolonged drought seasons. Until end of 2022, we have installed 2 pilot projects in 2 site location covering total area of 233 Ha. In the first half of 2023, we have finished the third project in another location with 150 Ha pilot area. After reviewing the implementation of drip fertigation, the plan is to expand with another 150 ha in each location in each year. Total target area covered by drip fertigation within the next 5 years shall be 1,440 ha with total investment of USD 2.7M.

In total, the investment to mitigate the impact of long drought is estimated within the range of USD 20.2M until 2027.

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	Heat wave

Primary potential financial impact
Decreased asset value or asset useful life leading to write-offs, asset impairment or early retirement of existing assets

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
The adverse weather of intense and prolonged drought (El Nino) also impose heat wave which increase the risk of wild fire. The wild fire mostly originated from the surrounding areas of our concession and posed risk when it entered the concession area. We experienced wild fire entered our concession area and plasma area in 2015 and 2019. The impact was severe, as more than 500 ha plantation assets was lost and impaired.

Our wild fire prevention initiatives include building a closed canal system in the boundary as firewall and water reservoirs as protection. The canal boundaries objective was to prevent forest fires entering from outside of our concessions. We also developed community based forest fire prevention (Kelompok Tani Peduli Api) and strengthen our rapid response capabilities to tackle forest fires in our surrounding areas.

Integrated Fire Mitigation initiatives cost USD 4.5 million capital expenditures, including the infrastructure building (canal), water reservoir, pump house and water ponds in the area with high risk of wild fire exposure from outside of our concession. The construction of forest fire mitigation infrastructure has been implemented for two years with a total realization cost of USD 2 million until end of 2022 and the plan was to complete in 2023.

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
10000000

Potential financial impact figure – maximum (currency)
20000000

Explanation of financial impact figure
The impact of forest fire encroaching our concession based on historical event is estimated in total amount of USD 10 million, the reduction of production decline from the lost of plantation assets is estimated total of USD 10 million for 5 years.

Cost of response to risk
4500000

Description of response and explanation of cost calculation
Our wild fire prevention initiatives include building a closed canal system in the boundary as firewall and water reservoirs as protection . The canal boundaries objective was to prevent forest fires entering from outside of our concessions. We also developed community based forest fire prevention (Kelompok Tani Peduli Api) and strengthen our rapid response capabilities to tackle forest fires in our surrounding areas.

Wildfire Prevention initiative cost USD 4.5 million capital expenditures.

Comment

Identifier
Risk 3

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Chronic physical	Heat stress

Primary potential financial impact
Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
Changing behavior of insect pollinators disrupts the natural pollination of the palm flowers and the development of palm fruits. The impact on production can reach a 10% reduction in the average FFB weight and an overall 10% reduction in the total production
yield. In addition, the heat stress will impact the productivity of our plantation workers as much as 70% due to the health deterioration.

Time horizon
Short-term

Likelihood
Likely

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
8000000

Potential financial impact figure – maximum (currency)
20000000

Explanation of financial impact figure
The impact on production can reach a 10% reduction in the average FFB weight and an overall 10% reduction in the total production yield with estimated total consolidated FFB production 800,000 – 1,000,000 MT. The potential CPO production loss ranging from 16,000 MT to 20,000 MT with oil extraction rate (OER) 20% and CPO price USD 500 - 1,000/MT.

Cost of response to risk
500000

Description of response and explanation of cost calculation
Assisted Pollination: we maintain the population growth of pollinators and mechanically assist the pollination process in areas with a lower population of pollinators. This initiative has improved the overall weight of bunches and the development of fruit sets. Cost of response USD 100,000 per location. Total capital expenditures of USD 500,000.

Comment

Identifier
Risk 4

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Acute physical	Flood (coastal, fluvial, pluvial, groundwater)

Primary potential financial impact
Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
High intensity rainfall and frequent floods can disrupt the accessibility of roads and bridges during harvesting and reduce FFB production by up to 10%, estimated total FFB production ranging from 800,000 – 1,000,000 MT. The potential CPO production loss ranging from 16,000 MT to 20,000 MT with oil extraction rate (OER) 20% and CPO price USD 500 - 1,000/MT.

Time horizon
Short-term

Likelihood
Likely

Magnitude of impact
Medium

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
8000000

Potential financial impact figure – maximum (currency)
20000000

Explanation of financial impact figure
High intensity rainfall and frequent floods can disrupt the accessibility of roads and bridges during harvesting and reduce FFB production by up to 10%, estimated total FFB production ranging from 800,000 – 1,000,000 MT. The potential CPO production loss ranging from 16,000 MT to 20,000 MTwith oil extraction rate (OER) 20% and CPO price USD 500 - 1,000/MT.

Cost of response to risk
2500000

Description of response and explanation of cost calculation
Water management and road maintenance cost of USD 2.5 million per annum.

Comment

Identifier
Risk 5

Where in the value chain does the risk driver occur?
Upstream

Risk type & Primary climate-related risk driver

Current regulation	Mandates on and regulation of existing products and services

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
RSPO, EUDR, and NDPE commitments require compliance in our supply chain. There is a risk that some smallholder suppliers fail to comply with these commitments, for example by opening HCV/HCS areas, resulting in the loss of commercial relationships with downstream buyers or customers.

Time horizon
Short-term

Likelihood
Unlikely

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
2000000

Potential financial impact figure – maximum (currency)
4000000

Explanation of financial impact figure
Restrictions or policies banning CPO products will force us to market our products in other markets with buying prices below the usual market price, thus potentially incurring income losses. First, there are losses from the premium value of certified CPO products, estimated to reach up to USD 2 million per year because these markets

do not value sustainable palm oil. Secondly, we may have to sell our products at a discounted price of up to USD 10 per ton of CPO. With our production of sustainable CPO reaching 200,000 tons, the total discount can reach another additional USD 2 million per year.

Cost of response to risk
365000

Description of response and explanation of cost calculation
To ensure that our suppliers meet RSPO, NDPE, and similar regulatory requirements, we implement traceability and smallholder empowerment programs by using eTIS application to trace the source of external FFB supplies. This program cost USD 365,000 (including consultant fees of USD 250,000).

Comment

Identifier
Risk 6

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation	Carbon pricing mechanisms

Primary potential financial impact
Increased direct costs

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
The Indonesian government is planning to implement a carbon tax system in Indonesia. The implementation of this carbon tax has been delayed but the Government claims that it will be in vigor by 2025. The amount of the tax and the system that will be implemented remains unclear at this point, with discussions of applying a "cap and tax system" where the tax will only be applied after a company exceeds a certain amount of emissions. The amount of the tax varies in the different drafts and discussions, going from IDR 75,000 (USD 5) to IDR 30,000 (USD 2) per tonne of CO_2 equivalent.

Time horizon
Medium-term

Likelihood
Very likely

Magnitude of impact
Medium

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
550000

Potential financial impact figure – maximum (currency)
1400000

Explanation of financial impact figure
We calculate the potential impact by assuming that the tax applied will be in the range of USD 2-5 per TonCO_2eq. We also do not take into account the possibility of a "cap and tax" system as it is still difficult to predict what the GHG emissions cap will be applied in our industry by the government. We calculate based on Scope 1 and 2 emissions in 2022.

Cost of response to risk
0

Description of response and explanation of cost calculation
We do not have any specific program related to this risk because we believe our investment on GHG reduction projects can help us reduce our emissions and achieve net zero carbon.

Comment

Identifier
Risk 7

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Technology	Transitioning to lower emissions technology

Primary potential financial impact
Increased capital expenditures

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description

Our transition program to lower emissions consists of investing in technological innovation such as biogas plants, composting plants, drip fertigation, and new efficient boilers as a source of energy in our palm oil mill. These technologies can achieve better efficiency and lower emissions overall but will also increase our capital expenditures.

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
24555450

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
We have calculated that the transitional projects to implement lower emissions technology in our operations will generate a total capital expenditure of USD 24.6 million until 2028. This is comprised of capex for boiler USD 1.6 million, capex for biogas plant in four estates totaling USD 14.0 million, capex for composting plants in two estates totaling USD 7.0 million and capex for drip fertigation projects amounting USD 2.0 million.

Cost of response to risk
1473327

Description of response and explanation of cost calculation
These capital expenditures will affect our cash flow and may thus require additional loans to cover our operational needs. We calculate the cost of response by assuming an interest rate of 6% for a total external loan of USD 24.6 million.

Comment

Identifier
Risk 8

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Reputation	Stigmatization of sector

Primary potential financial impact
Increased credit risk

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
ESG performance on several key topics, including climate change, increasingly become a part of business or investment decisions for investors and lenders. The palm oil industry is widely seen as a main contributor to climate change, mostly due to land use change and deforestation, which increases the risk profile of the industry. Perceptions and reputation as a high-risk industry with low returns might cause a lower appetite to invest. As a consequence, loans may only be obtained with a higher interest rate than normal to attract investors or lenders.

Time horizon
Long-term

Likelihood
More likely than not

Magnitude of impact
Medium-low

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
164500

Potential financial impact figure – maximum (currency)
329000

Explanation of financial impact figure
The impact of higher interest rates is estimated to be between 0.125%-0.25% per year on long term loans. With the assumption that we currently have long term loans of USD 131.6 million, this is equivalent to USD 164,500-329.000 difference due to interest rates per year.

Cost of response to risk
54297

Description of response and explanation of cost calculation
To obtain better conventional loan rates, or Sustainability-linked/Green loans with lower interest rates, we spend additional expense to show that we have lower ESG risks compared to peers by doing ESG disclosure and risk ratings in various credible third-party platforms. The cost of response is composed of consultant fees and risk rating agency fees.

Comment

Identifier
Risk 9

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Market	Uncertainty in market signals

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
Climate change and extreme weather such as dry seasons, flooding, or forest fires, can affect the global production of crops and commodities which will ultimately cause Crude Palm Oil price volatility. If the price is affected negatively due to reduced demand or oversupply, our company may experience a significant decrease in revenue and profitability as operating costs increase.

Time horizon
Medium-term

Likelihood
Very likely

Magnitude of impact
Medium-high

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
9300000

Potential financial impact figure – maximum (currency)
46500000

Explanation of financial impact figure
From our records, we have observed that every USD 50/MT negative variance in CPO price will decrease our consolidated net income by USD 9.3 million. Our projections expect the CPO price to range from USD 500 - 1,000 /MT, meaning that maximum variance from the current price can reach USD 250 resulting in a maximum impact of USD 46.5 million.

Cost of response to risk
443253

Description of response and explanation of cost calculation
Traceability and RSPO certification can mitigate the impact of price volatility as our products are considered more premium and more sustainable in the market. The cost of response comprises of eTIS (electronic traceability) implementation, sustainable palm oil consulting fees, and RSPO certification-related fees.

Comment

Identifier
Risk 10

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Legal	Exposure to litigation

Primary potential financial impact
Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
There is a risk that wildfires occurring in and around our operations spread to wider areas and result in litigation from Government authorities. If found guilty of negligence, the company might get considerable fines to compensate for the material damages incurred. Even when found not guilty, the litigation fees are considerable due to the nature of the cases.

Time horizon
Medium-term

Likelihood
About as likely as not

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
750000

Potential financial impact figure – maximum (currency)
18250000

Explanation of financial impact figure
We calculate the amount of fines based on previously reported cases in the media, where it can range from USD 13 million to USD 35 million for an area of 1000 ha. We take the assumption that the affected area covers 500 ha, resulting in a maximum potential financial impact of USD 17.5 million. When found not guilty as charged, then the minimum potential impact will be at USD 750,000 which is cost of legal fees.

Cost of response to risk
4500000

Description of response and explanation of cost calculation
Fires are frequently caused by the slash and burn land clearing methods that are still practiced by some businesses, smallholder farmers, and local communities. Fires from beyond our operational borders can easily expand and encroach on our territories. Vegetation fires can also occur in our smallholder suppliers' planting areas. This why we have a wildfire prevention initiative that involves surrounding stakeholders. Our wildfire prevention initiatives include building a closed canal system in the boundary as firewall and water reservoirs as protection . The canal boundaries objective was to prevent forest fires entering from outside of our concessions. We also developed community based forest fire prevention (Kelompok Tani Peduli Api) and strengthen our rapid response capabilities to tackle forest fires in our surrounding areas. The cost of establishing the wildfire prevention initiative reaches USD 4.5 million in capital expenditures over multiple years.

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?
Direct operations

Opportunity type
Resource efficiency

Primary climate-related opportunity driver
Use of recycling

Primary potential financial impact
Reduced direct costs

Company-specific description
Chemical fertilizers are one of the major cost drivers in the palm oil industry, counting roughly 30% of the cost of production of CPO. The chemical fertilizers application in the long term has side effect to the texture of soil as well as emitting Green House Gases in the the form of nitrogen oxide to the atmosphere. As the price of chemical fertilizers fluctuates following the price of crude oil and natural gas, the price increase of this energy commodity would also increase the price of chemical fertilizers.

Since 2015 we have started our composting initiatives converting palm oil mill effluent (POME) and empty fruit bunches into organic fertilizers, with the assistance of specific microbes. The application of compost reduces the use of chemical fertilizers, improves soil moisture, and rejuvenates the structure of the soil. As a result of this initiative, we have seen yield improvements in young mature palms in Belitung while reducing chemical fertilizer use by more than 50%, meaning that GHG emissions from fertilizers are also reduced.

Time horizon
Medium-term

Likelihood
Very likely

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)
1000000

Potential financial impact figure – maximum (currency)
12000000

Explanation of financial impact figure
We have implemented composting projects in two estates. The impact of composting is to reduce the fertilizer cost up to US$12 million per year at the current high fertilizer cost. However, the potential impact of financial figures can be as low as USD 1 million when fertilizer cost goes down. We plan to expand composting plant to all of our estates for the next five years.

Cost to realize opportunity
3500000

Strategy to realize opportunity and explanation of cost calculation
We will start to build our 4th composting plant in North Sumatra 1 and expected to commence in 2024. For the next 5 years we will expand the project in Southwest Papua estates.

Comment

Identifier
Opp2

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Resource efficiency

Primary climate-related opportunity driver
Use of recycling

Primary potential financial impact
Reduced direct costs

Company-specific description
We plan to increase renewable energy usage with four methane capture projects across all our palm oil mills for energy optimization, which will capture methane from palm oil mill effluents (POME), a waste product from palm oil processing. We are also exploring the possibility of developing BioCNG to fuel our transportation trucks. The energy or fuel generated from this waste can be used as a in our operations, thus reducing our energy costs.

Time horizon
Long-term

Likelihood
Very likely

Magnitude of impact
Medium-high

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
1200000

Potential financial impact figure – maximum (currency)
2400000

Explanation of financial impact figure
The figures stated above is the impact on profit annually. We currently have a 1.8 MW methane capture power plant that sell the electricity to the state owned company at a fixed low price. We used this project to extrapolate the possibility of profit earnings in the future. If we use the current price offered for new plants, then the financial impact figure will be nearly tripled. Note that we have not included any CER value that might be possible to sell in the future. Another possibility is to use the electricity for our turbine in the CPO mill, and sell the biomass to export market instead.

Cost to realize opportunity
14000000

Strategy to realize opportunity and explanation of cost calculation
Roughly building 1.8 MW methane capture facility will cost about USD 3.5 million. For the four methane capture facilities, the cost will be 7.2 MW times USD 3.5 million, or total USD 14 million.

Comment
The biogas produced can also be turned into CNG to power our distribution trucks. We are in the process of assessing the feasibility of this project, including computing the GHG emission reduction for not using fossil fuel as our energy source. There are additional expected cost for road maintenance and change of truck types, as the CNG container is quite heavy.

Identifier
Opp3

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Resource efficiency

Primary climate-related opportunity driver
Use of more efficient production and distribution processes

Primary potential financial impact
Reduced direct costs

Company-specific description
Drip Fertigation. By installing small pipeline systems to distribute water and fertilizers that reach each palm tree, we can mitigate the impact of drought and dependency on workers. This initiative involves an initial investment of USD 1,700 per hectare, to reduce operational costs by more than 55% while maintaining comparable crop growth, especially during prolonged drought seasons. The main purpose of this project is to to maintain soil moisture during dry and/or unpredictable weather conditions to sustain/enhance FFB yields.

Time horizon
Medium-term

Likelihood
Likely

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
24000

Potential financial impact figure – maximum (currency)
210000

Explanation of financial impact figure
Calculation for trial plot of 120Ha. Operating cost saving are mainly reduction in fertilizer cost and labour around USD 200/Ha for five years or approximately USD 24 thousand in five years. In addition we also have significant saving of opportunity loss during extreme El Nino scenario where we can lower the impact of extreme El Nino to production yield. Production saving is estimated amounting to USD 186 thousand in five years.

Cost to realize opportunity
184000

Strategy to realize opportunity and explanation of cost calculation
Currently we are extending the scope of pilot project for drip to our estate in North Sumatra for another 120 hectare. If this project is successful, we plan to roll out the drip fertigation for suitable area in all estates.

Comment
The areas around the equator will be impacted severely by increase of the temperature/humidity. We have not included the effect of productivity rate resulted from drip fertigation initiative.

Identifier
Opp4

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Energy source

Primary climate-related opportunity driver
Participation in carbon market

Primary potential financial impact
Increased revenues through access to new and emerging markets

Company-specific description
ANJ Biogas Carbon Emission Reduction Project

Time horizon
Short-term

Likelihood
Likely

Magnitude of impact
Medium-low

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
1000000

Potential financial impact figure – maximum (currency)
2000000

Explanation of financial impact figure
We have an opportunity to build four methane capture facilities which will generate CER around 80,000 ton CO2/e with estimated revenue amounting to USD 1 million - 2

million.

Cost to realize opportunity
800000

Strategy to realize opportunity and explanation of cost calculation
This CER revenue opportunity is in conjunction with ANJ 4 methane capture facilities to be built until 2029 in which there is a potential revenue to be generated from the CER that we can sell to the market. The cost to realize the opportunity represents the incremental cost for the CER verification/CER audit fees.

Comment

C3. Business Strategy

C3.1

(C3.1) Does your organization's strategy include a climate transition plan that aligns with a 1.5°C world?

Row 1

Climate transition plan
No, but our strategy has been influenced by climate-related risks and opportunities, and we are developing a climate transition plan within two years

Publicly available climate transition plan
<Not Applicable>

Mechanism by which feedback is collected from shareholders on your climate transition plan
<Not Applicable>

Description of feedback mechanism
<Not Applicable>

Frequency of feedback collection
<Not Applicable>

Attach any relevant documents which detail your climate transition plan (optional)
<Not Applicable>

Explain why your organization does not have a climate transition plan that aligns with a 1.5°C world and any plans to develop one in the future
Our strategy has considered the impact of climate-related risks and opportunities and we are also considering developing a transition plan that aligns with the Science Based Target initiatives (SBTi). In 2022, we signed up for the first time to a public commitment to the SBTi's (Science Based Targets initiative) target-setting criteria for the Net-Zero Standard and Business Ambition for 1.5°C. We aim to publish our SBTi-validated climate targets in 2023.

Explain why climate-related risks and opportunities have not influenced your strategy
<Not Applicable>

C3.2

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

	Use of climate-related scenario analysis to inform strategy	Primary reason why your organization does not use climate-related scenario analysis to inform its strategy	Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future
Row 1	No, but we anticipate using qualitative and/or quantitative analysis in the next two years	Other, please specify (We are in the process of developing it.)	We are currently in the initial stage of developing our climate scenario analysis. However, the palm oil industry has not fully researched the effect of climate change on the sector, making it challenging to analyse industry trends on climate-related risks and opportunities. Nevertheless, our own observation already note climate impacts such as a potential 20% productivity decrease during long droughts and decreasing pollination during long rainy season. Understanding that further research in our sector is needed, we are committed to initiate our own climate scenario analysis by following TCFD's guidance and by seeking external expertise to assist the process. We expect to have a scenario analysis by 2024 as basis for our climate risk assessment. In the meantime, we assess our climate risks mostly using a qualitative risk assessment approach.

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	Climate-related issues, especially related to impacts on forests due to land use change and development on peatlands, has driven the increased demand for sustainable palm oil products and pressures to companies to comply with sustainability standards. This has influenced our strategy as we are members of the RSPO. We commit to comply with RSPO Principles and Criteria in all our operations and endeavor to obtain RSPO certification for our palm oil products. Drought, flood, unexpected weather patterns, all have affected to the productivity of palm trees, and therefore long-term strategy to mitigate the temperature increase will determine our competitive advantage in the future.
Supply chain and/or value chain	Yes	Sustainability issues and standards have also influenced our engagement with our supply chain, especially smallholder farmers who are our suppliers, because they impact our overall sustainability performance. We have implemented strategies to ensure the traceability of our products and promote sustainable palm oil to our suppliers. Our smallholder farmers are subject to the same predicament as we do due to climate change, especially the weather patterns, therefore we also include them in our strategy, for example teaching them the benefit of composting, which reduce GHG emission and also reduce their cost of fertilizer. If the productivity of our smallholder farmers decline, we may have capacity issues in our mill, also even in our methane biogas stock feeding.
Investment in R&D	Yes	We have invested heavily on R&D and has established an advanced R&D center to find innovative adaptation and mitigation measures that can be applied in our estates. The R&D department carry out studies and trials for new climate initiatives, such as composting or drip fertigation, to test their effectiveness before scaling them up in our estates.
Operations	Yes	Climate change has increased the urgency to apply innovations in our operations, to ensure continued productivity despite extreme weather challenges and other climate impacts. We apply best agronomic practices and other initiatives such as composting, drip fertigation, or assisted pollination in our estates. All of these new processes will change our cost structure, our human resources requirement, and our system for measurement and internal control.

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 Direct costs Indirect costs Capital expenditures Access to capital	Climate-related risks, such as extreme weather events, is causing significant impacts on the productivity of our plantations, which will ultimately affect our revenue targets and assumptions. Climate risks and impacts have also increased direct costs and capital expenditures in our planning and estimations, for instance measures and investments to deal with flooding, building water catchment for back up during drought. Formation of Disaster Recovery Team (fire brigade) and incentive for surrounding community to prevent fire, directly increase the cost. Composting facility will increase cost of producing and transporting the compost to the field, while reducing the cost of inorganic fertilizer. In total this can reduce our fertilizer cost by USD 12 million when the fertilizer cost increase by 200% (which is the increase that we are experiencing due to the current supply chain disruption), while keeping our productivity intact in 2021 & 2022. The new design to mitigate climate-related risks will rely heavily on innovation and new system of measurement, all requiring different type of human resources and IT system, which will increase our indirect costs to develop this capacity. Furthermore, the financing of some of our climate mitigation and adaptation initiatives are planned to come from green loans or sustainability-linked loans.

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's climate transition?

	Identification of spending/revenue that is aligned with your organization's climate transition	Indicate the level at which you identify the alignment of your spending/revenue with a sustainable finance taxonomy
Row 1	No, but we plan to in the next two years	<Not Applicable>

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

Is this a science-based target?

No, but we anticipate setting one in the next two years

Target ambition
<Not Applicable>

Year target was set
2021

Target coverage
Product level

Scope(s)
Scope 1
Scope 2

Scope 2 accounting method
Location-based

Scope 3 category(ies)
<Not Applicable>

Intensity metric
Metric tons CO2e per metric ton of product

Base year
2015

Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)
8.49

Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)
0.01

Intensity figure in base year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for total Scope 3 (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)
7.24

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure
100

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

100

% of total base year emissions in Scope 3, Category 1: Purchased goods and services covered by this Scope 3, Category 1: Purchased goods and services intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 2: Capital goods covered by this Scope 3, Category 2: Capital goods intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) covered by this Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution covered by this Scope 3, Category 4: Upstream transportation and distribution intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 5: Waste generated in operations covered by this Scope 3, Category 5: Waste generated in operations intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 6: Business travel covered by this Scope 3, Category 6: Business travel intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 7: Employee commuting covered by this Scope 3, Category 7: Employee commuting intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 8: Upstream leased assets covered by this Scope 3, Category 8: Upstream leased assets intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution covered by this Scope 3, Category 9: Downstream transportation and distribution intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 10: Processing of sold products covered by this Scope 3, Category 10: Processing of sold products intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 11: Use of sold products covered by this Scope 3, Category 11: Use of sold products intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products covered by this Scope 3, Category 12: End-of-life treatment of sold products intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 13: Downstream leased assets covered by this Scope 3, Category 13: Downstream leased assets intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 14: Franchises covered by this Scope 3, Category 14: Franchises intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Category 15: Investments covered by this Scope 3, Category 15: Investments intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Other (upstream) covered by this Scope 3, Other (upstream) intensity figure
<Not Applicable>

% of total base year emissions in Scope 3, Other (downstream) covered by this Scope 3, Other (downstream) intensity figure
<Not Applicable>

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this total Scope 3 intensity figure
<Not Applicable>

% of total base year emissions in all selected Scopes covered by this intensity figure
100

Target year
2030

Targeted reduction from base year (%)
30

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]
5.068

% change anticipated in absolute Scope 1+2 emissions
2

% change anticipated in absolute Scope 3 emissions
2

Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)
7.97

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)
0.01

Intensity figure in reporting year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for total Scope 3 (metric tons CO2e per unit of activity)
<Not Applicable>

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)
7.97

Does this target cover any land-related emissions?
Yes, it covers land-related and non-land related emissions (e.g. SBT approved before the release of FLAG target-setting guidance)

% of target achieved relative to base year [auto-calculated]
-33.609576427256

Target status in reporting year
Underway

Please explain target coverage and identify any exclusions
Greenhouse Gas emission for Scope 1 & 2 intensity reduction by 30% from 2015 baseline by 2030. As 99% of our revenue is from palm oil business, we focus the intensity and GHG emission from palm oil business. In addition, as we only include scope 1 and 2, the absolute emission to calculate intensity is divided with the CPO produced from our internal plantation and plasma only.

Plan for achieving target, and progress made to the end of the reporting year
To achieve this ambition, we have the following initiatives: 1. To build at least one methane capture in the next two years and we aspire to build four additional methane capture facilities before 2030 to reduce emission from POME. 2. Reduce the number of inorganic fertilizers by optimizing the use of composting method using biobag. 3. Optimizing the use of biomass and reduce fossil fuel dependency by 20%. We aim to increase renewable energy portfolio to above 60%. 4. Various responsible development projects on site such as 3R program, the use of solar panel, etc.

List the emissions reduction initiatives which contributed most to achieving this target
<Not Applicable>

C4.2

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

C4.2c

(C4.2c) Provide details of your net-zero target(s).

Target reference number
NZ1

Target coverage
Company-wide

Absolute/intensity emission target(s) linked to this net-zero target
Int1

Target year for achieving net zero
2030

Is this a science-based target?
No, but we anticipate setting one in the next two years

Please explain target coverage and identify any exclusions
The target cover overall emission from scope 1, scope 2 and scope 3 and will take into account the sequestration from our plantation and HCV area and potential credits.

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?
No

Planned milestones and/or near-term investments for neutralization at target year
<Not Applicable>

Planned actions to mitigate emissions beyond your value chain (optional)

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		
To be implemented*	7	274336.5
Implementation commenced*		
Implemented*	5	883576
Not to be implemented		

C4.3b

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

Initiative category & Initiative type

Low-carbon energy generation	Biogas

Estimated annual CO2e savings (metric tonnes CO2e)
8011

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
69000

Investment required (unit currency – as specified in C0.4)
3000000

Payback period
>25 years

Estimated lifetime of the initiative
11-15 years

Comment
We operate a 1.8 MW biogas power plant at our Plantation in Belitung which generates electricity by methane gas from palm oil mill effluent (POME) as a by-product from

our CPO mill. In 2022, our biogas power plant produce 9,899,429 kwh of electricity, which for every 1 kwh can save emissions of 0.80919 kgCO2e/kWh.

Initiative category & Initiative type

Waste reduction and material circularity	Product/component/material recycling

Estimated annual CO2e savings (metric tonnes CO2e)
59453

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 1
Scope 3 category 5: Waste generated in operations

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
69000

Investment required (unit currency – as specified in C0.4)
3000000

Payback period
>25 years

Estimated lifetime of the initiative
11-15 years

Comment
We operate a 1.8 MW biogas power plant at our Plantation in Belitung which generates electricity by methane gas from palm oil mill effluent (POME) as a by-product from our CPO mill.

Initiative category & Initiative type

Waste reduction and material circularity	Product/component/material recycling

Estimated annual CO2e savings (metric tonnes CO2e)
2987

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 1
Scope 3 category 5: Waste generated in operations

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
12000000

Investment required (unit currency – as specified in C0.4)
3500000

Payback period
4-10 years

Estimated lifetime of the initiative
6-10 years

Comment
We have implemented composting in 2 estates and plan to roll out the composting to all estates. The compost is from the empty fruit bunches that is being treated to become compost and then we apply them in the plantation area. From the composting program we are able to reduce inorganic fertilizers application and the GHG emission from those fertilizers.

Initiative category & Initiative type

Non-energy industrial process emissions reductions	Process material efficiency

Estimated annual CO2e savings (metric tonnes CO2e)
334

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
40000

Investment required (unit currency – as specified in C0.4)
240000

Payback period
4-10 years

Estimated lifetime of the initiative
6-10 years

Comment
Drip fertigation initiative by installing small pipeline systems to distribute water and fertilizers that reach each palm tree, we can mitigate the impact of drought and dependency on workers. It also reducing chemical fertilizer use.

Initiative category & Initiative type

Company policy or behavioral change	Other, please specify (Conservation Areas Management)

Estimated annual CO2e savings (metric tonnes CO2e)
812791

Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 1

Voluntary/Mandatory
Mandatory

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

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

Payback period
Please select

Estimated lifetime of the initiative
Please select

Comment
Conservation and reforestation activities in our concession area increase carbon sequestration. In 2022, we manage total conservation area of 97,682 ha, of which 88,635 ha are forested conservation areas where every 1 ha of it can absorb emissions equal to 9.17 tons CO2 eq per year.

C4.3c

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

Method	Comment
Dedicated budget for low-carbon product R&D	We have dedicated budget for our internal Research and Development in developing method to tackle climate change impact and reducing carbon emission. We also have a dedicated Research and Development facilities in Belitung island.
Employee engagement	We strive to build employee engagement in each operation location to have creative emission reduction initiatives. This initiatives is managed through Responsible Development program.
Dedicated budget for energy efficiency	We have set our targets to increase renewable energy usage with planned methane capture projects across all our palm oil mills for energy optimization. We anticipate having at least one more methane capture facility online by 2023 and have been exploring the possibility of developing a BioCNG plant at one of our estates.

C-AC4.4/C-FB4.4/C-PF4.4

(C-AC4.4/C-FB4.4/C-PF4.4) Do you implement agriculture or forest management practices on your own land with a climate change mitigation and/or adaptation benefit?
Yes

C-AC4.4a/C-FB4.4a/C-PF4.4a

(C-AC4.4a/C-FB4.4a/C-PF4.4a) Specify the agricultural or forest management practice(s) implemented on your own land with climate change mitigation and/or adaptation benefits and provide a corresponding emissions figure, if known.

Management practice reference number
MP1

Management practice
Composting

Description of management practice
We have implement composting in three estates and plan to roll out the composting to all estates. The compost is from the empty fruit bunches that is being treated to become compost and then we apply them in the plantation area. From the composting program we are able to reduce inorganic fertilizers application and the GHG emission from those fertilizers.

Primary climate change-related benefit
Reduced demand for fertilizers (adaptation)

Estimated CO2e savings (metric tons CO2e)
2987

Please explain
Composting applications in plantations can increase carbon stock and, at the same time, reduce the use of inorganic fertilizers that produce GHG by around 50%. The composting application also reduces the volume of waste (POME) in the WWTP because some of the POME liquid is used for the compost production mix.

Management practice reference number
MP2

Management practice
Fire control

Description of management practice
We have build wildfire prevention, monitoring and management system in our sites that prone to wildfire. We also have a team of fire squad, fire management equipment, and procedures ready to be deployed in case of wildfire occurence.

Primary climate change-related benefit
Emission reductions (mitigation)

Estimated CO2e savings (metric tons CO2e)
0

Please explain
By managing wildfire in our operation, we are able to manage zero fire resulting in zero emission, avoiding spike of CO2 emission due to wildfire.

Management practice reference number
MP3

Management practice
Integrated pest management

Description of management practice
We are looking for innovative way to manage pest attack in our plantation. One of them is by introducing Tito Alba / Barn Owl to manage the rat population in our estate instead of using rodenticide.

Primary climate change-related benefit
Reduced demand for pesticides (adaptation)

Estimated CO2e savings (metric tons CO2e)
25.9

Please explain
Tyto alba can reduce potential use of rodenticides to zero because it helps balance rat population. Rodenticides potential use without Tyto alba is 65 ton/year in our 50,000 ha planted area or equivalent to 26.38 tCO2eq emissions. However, in fact we only use rodenticides in areas prone to rat attack, which is 1200 kg or equivalent to 0.48 tCO2eq and saving 25.89 tCO2eq emissions.

Management practice reference number
MP4

Management practice
Replacing fossil fuels by renewable energy sources

Description of management practice
The main source of our palm oil millWe cannot be 1s are biomass from palm products. 00% free from diesel, as the starting process of turbine still require use of diesel, other fossil fuels or heat from electricity acquire from state-owned electricity company. This happens especially when the mill does not operate at full capacity due to lower crop availability. We can minimize the use of fossil fuels by managing the operation time and feedstock management at the mill.

Primary climate change-related benefit
Reduced demand for fossil fuel (adaptation)

Estimated CO2e savings (metric tons CO2e)
3338.76

Please explain
In 2022, we reduced fossil fuel consumption by approximately 1,070,116 litres with potential emission savings of 3.12 kgCO2e/l.

Management practice reference number
MP5

Management practice
Waste management

Description of management practice
We are active in reducing waste through 3R program in all of our operation unit. These initiatives include domestic waste composting program, plastic use reduction activities such as avoiding plastic bottled water and encouraging environmentally friendly packaging; and 3R awareness-building activities targeting our employees, suppliers, and contractors. We have also established an incentivized system of rewards to promote our 3R initiatives.

Primary climate change-related benefit
Emission reductions (mitigation)

Estimated CO2e savings (metric tons CO2e)
1038

Please explain
Total saving of 1,038 tonCO2e comes from the domestic waste composting program as the alternative of land fill only.
One example of 3R program is in Binanga for household waste management and treatment, through which the community generated 26,132 kg of processed organic waste and 7,406 kg of compost that they directly applied to plants, vegetables, home gardens, and farmland. A further 2,017 kg of inorganic waste, 7,174 kg of plastic, and 5,324 kg of boiler ash from our estate was used to manufacture paving blocks for the benefit of our operations and the community. All of these efforts reduce the S3 emission by avoiding inbound transportation of food products and building materials.

Management practice reference number

MP6

Management practice
Fertilizer management

Description of management practice
Drip fertigation initiative

Primary climate change-related benefit
Increasing resilience to climate change (adaptation)

Estimated CO2e savings (metric tons CO2e)
334

Please explain
Besides optimizing water use (water conservation) drip fertigation is also reduces the use of Urea, MOP and RP fertilizers significantly which has an impact on greenhouse gases.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?
Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

Level of aggregation
Product or service

Taxonomy used to classify product(s) or service(s) as low-carbon
Other, please specify (Indonesia Green Taxonomy 1.0)

Type of product(s) or service(s)

Other	Other, please specify (Crude Palm Oil, Palm Kernel and Palm Kernel Oil)

Description of product(s) or service(s)
We consider our products (Crude Palm Oil, Palm Kernel and Palm Kernel Oil) low carbon product following Indonesia Green Taxonomy 1.0 as all of our operating area has obtained RSPO and ISPO certificate. In addition, we set aside a total conservation area of 89,532 HA, which is larger than our planted area of 50,042 HA.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)
No

Methodology used to calculate avoided emissions
<Not Applicable>

Life cycle stage(s) covered for the low-carbon product(s) or services(s)
<Not Applicable>

Functional unit used
<Not Applicable>

Reference product/service or baseline scenario used
<Not Applicable>

Life cycle stage(s) covered for the reference product/service or baseline scenario
<Not Applicable>

Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario
<Not Applicable>

Explain your calculation of avoided emissions, including any assumptions
<Not Applicable>

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year
63

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?
No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?
No

Name of organization(s) acquired, divested from, or merged with
<Not Applicable>

Details of structural change(s), including completion dates
<Not Applicable>

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	Yes, a change in methodology	We have changed our methodology based on input by experts and following GHG Protocol's Land Sector and Removal Guidance where crop sequestration and sequestration from conservation are included as removals in the Scope 1 calculation.

C5.1c

(C5.1c) Have your organization's base year emissions and past years' emissions been recalculated as a result of any changes or errors reported in C5.1a and/or C5.1b?

	Base year recalculation	Scope(s) recalculated	Base year emissions recalculation policy, including significance threshold	Past years' recalculation
Row 1	Yes	Scope 1	We have recalculated the base year emissions to follow inputs for calculating Scope1 emissions. This is because we compare our intensity and absolute emissions reduction based on the base year, so applying the same method is best to ensure comparability between the base year and target year.	Yes

C5.2

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

Scope 1

Base year start
January 1 2015

Base year end
December 31 2015

Base year emissions (metric tons CO2e)
1394534

Comment
Majority source of scope 1 emissions are: Land use change, Peat oxidation, and Palm Oil Mill Effluent (POME)

Scope 2 (location-based)

Base year start
January 1 2015

Base year end
December 31 2015

Base year emissions (metric tons CO2e)
1876

Comment
The source of scope 2 emissions are electricity purchased from state owned enterprise (PLN)

Scope 2 (market-based)

Base year start
January 1 2015

Base year end
December 31 2015

Base year emissions (metric tons CO2e)
0

Comment
No market-based method for calculating our Scope 2 emissions.

Scope 3 category 1: Purchased goods and services

Base year start
January 1 2015

Base year end
December 31 2015

Base year emissions (metric tons CO2e)
0

Comment
We have not calculated the Scope 3 emissions in our base year.

Scope 3 category 2: Capital goods

Base year start
January 1 2015

Base year end
December 31 2015

Base year emissions (metric tons CO2e)
0

Comment
We have not calculated the Scope 3 emissions in our base year.

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start
January 1 2015

Base year end
December 31 2015

Base year emissions (metric tons CO2e)
0

Comment
We have not calculated the Scope 3 emissions in our base year.

Scope 3 category 4: Upstream transportation and distribution

Base year start
January 1 2015

Base year end
December 31 2015

Base year emissions (metric tons CO2e)
0

Comment
We have not calculated the Scope 3 emissions in our base year.

Scope 3 category 5: Waste generated in operations

Base year start
January 1 2015

Base year end
December 31 2015

Base year emissions (metric tons CO2e)
0

Comment
We have not calculated the Scope 3 emissions in our base year.

Scope 3 category 6: Business travel

Base year start
January 1 2015

Base year end
December 31 2015

Base year emissions (metric tons CO2e)
0

Comment
We have not calculated the Scope 3 emissions in our base year.

Scope 3 category 7: Employee commuting

Base year start
January 1 2015

Base year end
December 31 2015

Base year emissions (metric tons CO2e)
0

Comment
We have not calculated the Scope 3 emissions in our base year.

Scope 3 category 8: Upstream leased assets

Base year start
January 1 2015

Base year end
December 31 2015

Base year emissions (metric tons CO2e)
0

Comment
We have not calculated the Scope 3 emissions in our base year.

Scope 3 category 9: Downstream transportation and distribution

Base year start
January 1 2015

Base year end
December 31 2015

Base year emissions (metric tons CO2e)
0

Comment
We have not calculated the Scope 3 emissions in our base year.

Scope 3 category 10: Processing of sold products

Base year start
January 1 2015

Base year end
December 31 2015

Base year emissions (metric tons CO2e)
0

Comment
We have not calculated the Scope 3 emissions in our base year.

Scope 3 category 11: Use of sold products

Base year start
January 1 2015

Base year end
December 31 2015

Base year emissions (metric tons CO2e)
0

Comment
We have not calculated the Scope 3 emissions in our base year.

Scope 3 category 12: End of life treatment of sold products

Base year start
January 1 2015

Base year end
December 31 2015

Base year emissions (metric tons CO2e)
0

Comment
We have not calculated the Scope 3 emissions in our base year.

Scope 3 category 13: Downstream leased assets

Base year start
January 1 2015

Base year end
December 31 2015

Base year emissions (metric tons CO2e)
0

Comment
We have not calculated the Scope 3 emissions in our base year.

Scope 3 category 14: Franchises

Base year start
January 1 2015

Base year end
December 31 2015

Base year emissions (metric tons CO2e)
0

Comment
We have not calculated the Scope 3 emissions in our base year.

Scope 3 category 15: Investments

Base year start
January 1 2015

Base year end
December 31 2015

Base year emissions (metric tons CO2e)
0

Comment
We have not calculated the Scope 3 emissions in our base year.

Scope 3: Other (upstream)

Base year start
January 1 2015

Base year end
December 31 2015

Base year emissions (metric tons CO2e)
0

Comment
We have not calculated the Scope 3 emissions in our base year.

Scope 3: Other (downstream)

Base year start
January 1 2015

Base year end
December 31 2015

Base year emissions (metric tons CO2e)
0

Comment
We have not calculated the Scope 3 emissions in our base year.

C5.3

(C5.3) 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
ISO 14064-1
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
The Greenhouse Gas Protocol: Scope 2 Guidance
Other, please specify (RSPO PalmGHG Calculator Version 4)

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)
239806

Start date
January 1 2022

End date
December 31 2022

Comment
Emission calculation cover the cultivation of palm and edamame , extraction of palm oil and processing of edamame. This covers land use change, emission from fertilizers, N2O Direct and indirect emission, peat oxidation, N2O from peat, emission from transport and machinery fuels, and emission from Palm Oil Mill Effluent (POME). Crop sequestration and conservation sequestration are also included in the calculation as deduction to the total emissions. We source our emissions and sequestration data from the RSPO PalmGHG Calculator version 4.

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)
340281

Start date
January 1 2021

End date
December 31 2021

Comment
This number has changed compared to last year as we have deducted the total emissions with crop sequestration and conservation sequestration to the total following latest guidance from the GHG protocol and SBTi.

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
Please select

Comment
Our scope 2 emission is mainly from electricity purchased from state owned company (PLN)

C6.3

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

Reporting year

Scope 2, location-based
2384

Scope 2, market-based (if applicable)
<Not Applicable>

Start date
January 1 2022

End date
December 31 2022

Comment
Our scope 2 emission is mainly from electricity purchased from state owned company (PLN).

Past year 1

Scope 2, location-based
1970

Scope 2, market-based (if applicable)
<Not Applicable>

Start date
January 1 2021

End date
December 31 2021

Comment
Our scope 2 emission is mainly from electricity purchased from state owned company (PLN).

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?
No

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
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
22468

Emissions calculation methodology
Site-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
This represents the purchase of FBB as well as several goods and services. The current figure only covers emissions due to FFB purchase, which is calculated using RSPO PalmGHG calculator and is site-specific. For the other goods and services, we are in the process of calculating this emission and we are exploring the best methods to obtain the most accurate emissions number. We plan to disclose the figure only after it has been validated by third parties.

Capital goods

Evaluation status
Relevant, not yet calculated

Emissions in reporting year (metric tons 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
This represents emissions from the acquisition of fixed assets from our suppliers and contractors. We are in the process of calculating this emission and we are exploring the best methods to obtain the most accurate emissions number. We plan to disclose the figure only after it has been validated by third parties.

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

Evaluation status
Relevant, not yet calculated

Emissions in reporting year (metric tons 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
This category represents the fuel we purchase for our own use. We are in the process of calculating this emission and we are exploring the best methods to obtain the most accurate emissions number. We plan to disclose the figure only after it has been validated by third parties.

Upstream transportation and distribution

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
1342

Emissions calculation methodology
Fuel-based method
Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
This item represents fuel consumption from the transportation of FFB from third-party suppliers and of fertilizers delivered by suppliers. These goods are transported by land using trucks.

Waste generated in operations

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
61

Emissions calculation methodology
Waste-type-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
This represents hazardous waste that are processed by licensed operators. The type of waste include electronic waste, chemical waste, medical waste, pesticide packaging. We calculate the emissions based on the quantity of waste incinerated by these operators.

Business travel

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
245

Emissions calculation methodology
Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
Business travel only covers air travel, which are calculated based on the distance between origin and destination airports using data from our travel ticket purchase requests (Travel Requisition From).

Employee commuting

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
31

Emissions calculation methodology
Average data method
Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
We calculate commuting by conducting a survey in 2021 to gather an average emission from commuting per employee. A sample of 170 employees participated and provided commuting distance and transportation means used. We obtain the total monthly commuting distance per type of transportation (composed of motorcycles, cars, trains and buses). We multiply the total distance with the emissions factor for each type of transport and then divide this total by 170 to obtain an average emissions per employee per month. We multiply the average number with the total number of employees to obtain the final emissions amount. Only employees in urban areas are included in our calculation because employees working on site do not commute daily. We have a total of 312 employees working in urban areas.

Upstream leased assets

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons 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
We have no activities in our operations that corresponds to this category.

Downstream transportation and distribution

Evaluation status
Relevant, calculated

Emissions in reporting year (metric tons CO2e)
7478

Emissions calculation methodology
Fuel-based method
Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain
For downstream distribution and transportation, we accounted for the emissions from third party vehicles that transport mill production, such as crude palm oil, palm kernel and palm kernel oil. We use IPCC 2007 GWP method to calculate emissions from scope 3 downstream transport and distribution.

Processing of sold products

Evaluation status
Relevant, not yet calculated

Emissions in reporting year (metric tons 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
This represents emissions from the processing or refining of our CPO by our buyers. We are in the process calculating the emission based on the amount of CPO sold (by tonnage) from our records with the emissions factor related to the refining of CPO. However as we are not able to obtain any data from our buyers, we plan to disclose the figure only when it can be validated by third parties.

Use of sold products

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons 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
This is not relevant because we do not sell usable products directly to end-consumers.

End of life treatment of sold products

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons 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
This is not relevant because we do not sell usable products directly to end-consumers.

Downstream leased assets

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons 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
Not available in our group

Franchises

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons 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
Not available in our group

Investments

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons 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
Not available in our group

Other (upstream)

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons 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
Not available in our group

Other (downstream)

Evaluation status
Not relevant, explanation provided

Emissions in reporting year (metric tons 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
Not available in our group

C6.5a

(C6.5a) Disclose or restate your Scope 3 emissions data for previous years.

Past year 1

Start date
January 1 2021

End date
December 31 2021

Scope 3: Purchased goods and services (metric tons CO2e)
12098

Scope 3: Capital goods (metric tons CO2e)
0

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)
0

Scope 3: Upstream transportation and distribution (metric tons CO2e)
0

Scope 3: Waste generated in operations (metric tons CO2e)
0

Scope 3: Business travel (metric tons CO2e)
0

Scope 3: Employee commuting (metric tons CO2e)
0

Scope 3: Upstream leased assets (metric tons CO2e)
0

Scope 3: Downstream transportation and distribution (metric tons CO2e)
0

Scope 3: Processing of sold products (metric tons CO2e)
0

Scope 3: Use of sold products (metric tons CO2e)
0

Scope 3: End of life treatment of sold products (metric tons CO2e)
0

Scope 3: Downstream leased assets (metric tons CO2e)
0

Scope 3: Franchises (metric tons CO2e)
0

Scope 3: Investments (metric tons CO2e)
0

Scope 3: Other (upstream) (metric tons CO2e)
0

Scope 3: Other (downstream) (metric tons CO2e)
0

Comment

C-AC6.8/C-FB6.8/C-PF6.8

(C-AC6.8/C-FB6.8/C-PF6.8) Is biogenic carbon pertaining to your direct operations relevant to your current CDP climate change disclosure?
Yes

C-AC6.8a/C-FB6.8a/C-PF6.8a

(C-AC6.8a/C-FB6.8a/C-PF6.8a) Account for biogenic carbon data pertaining to your direct operations and identify any exclusions.

CO2 emissions from land use management

Emissions (metric tons CO2)
618989

Methodology
Default emissions factors

Please explain
Consists of emission due to land conversion. This figure is based on our land clearing between 2004 - 2016 distributed over 25 years according to RSPO PalmGHG Calculator version 4.

CO2 removals from land use management

Emissions (metric tons CO2)
421440

Methodology
Default emissions factors

Please explain
Consist of sequestration from palm oil plantation for the year according to RSPO PalmGHG Calculator Version 4.

Sequestration during land use change

Emissions (metric tons CO2)
812791

Methodology
Default emissions factors

Please explain
Consist of carbon sequestration from conservation area for the year according to RSPO PalmGHG Calculator version 4.

CO2 emissions from biofuel combustion (land machinery)

Emissions (metric tons CO2)

Methodology

Please explain

CO2 emissions from biofuel combustion (processing/manufacturing machinery)

Emissions (metric tons CO2)
0

Methodology
Default emissions factors

Please explain
We use biomass-based fuel from empty fruit bunch (EFB), fiber, and shell wastes in our boilers. These are alternative sources of energy that replaces diesel or fossil fuels. Biomass-based fuel is considered as carbon neutral because they come from living and growing plants, in our case our oil palm trees, where the CO2 emissions that result from it will eventually be sequestered during plant growth. Hence, we follow ISCC's GHG calculation methodology where EFB burning is set to zero or has an emissions factor of zero.

C-AC6.9/C-FB6.9/C-PF6.9

(C-AC6.9/C-FB6.9/C-PF6.9) Do you collect or calculate greenhouse gas emissions for each commodity reported as significant to your business in C-AC0.7/FB0.7/PF0.7?

Agricultural commodities
Palm Oil

Do you collect or calculate GHG emissions for this commodity?
Yes

Reporting emissions by
Unit of production

Emissions (metric tons CO2e)
0.79

Denominator: unit of production
Unit of product

Change from last reporting year
Lower

Please explain
As more than 80% of our revenue is from palm oil, we calculate the GHG emission to produce this commodity. We also set the intensity target based on the tonnage of CPO produced from our operation. The reduction in emissions is due to adjustments to conservation area data and reduced use of inorganic fertilizers in 2022 due to the initiative to use organic fertilizer from composting and drip fertigation fertilization systems. We are able to reduce our emissions intensity, or the amount of emissions generated per ton of CPO produced, by 36.8%, from 1.25 tCO2eq/ton CPO in 2021 to 0.79 tCO2eq/ton CPO in 2022. While absolute emission produced in 2022 decreased by 0.18% (from 1,476,693 tCO2eq in 2021 to 1,474,037 tCO2eq in 2022), our net emissions, which includes carbon sequestration, have reduced by 29.5% from 340,281 tCO2eq to 239,806 tCO2eq. This reduction is due to the addition of our conservation areas in our West Papua operations that increases the overall carbon sequestration in our operations. We have increased our conservation sequestration in 2022 by 11.7% going from 717,702 tCO2eq of carbon sequestered to 812,791 tCO2eq, with a total conservation area that have increased by 36,697 ha from 60,985 ha in 2021 to 97,682 ha in 2022. We have also increased our CPO production by 5% to 275,769 tons in 2022.

Explain why you do not calculate GHG emission for this commodity and your plans to do so in the future
<Not Applicable>

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
0.0009

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
242191

Metric denominator
unit total revenue

Metric denominator: Unit total
269166721

Scope 2 figure used
Location-based

% change from previous year
31

Direction of change
Decreased

Reason(s) for change
Other emissions reduction activities

Please explain
Our reduction is total scope 1 emissions this year is mainly due to the addition of our areas set aside for conservation, which has increased our conservation sequestration number.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?
No

C7.2

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

Country/area/region	Scope 1 emissions (metric tons CO2e)
Indonesia	239806

C7.3

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

By business division

C7.3a

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

Business division	Scope 1 emissions (metric ton CO2e)
Palm oil business unit	239806

C-AC7.4/C-FB7.4/C-PF7.4

(C-AC7.4/C-FB7.4/C-PF7.4) Do you include emissions pertaining to your business activity(ies) in your direct operations as part of your global gross Scope 1 figure?

Yes

C-AC7.4a/C-FB7.4a/C-PF7.4a

(C-AC7.4a/C-FB7.4a/C-PF7.4a) Select the form(s) in which you are reporting your agricultural/forestry emissions.

Emissions disaggregated by category (advised by the GHG Protocol)

C-AC7.4b/C-FB7.4b/C-PF7.4b

(C-AC7.4b/C-FB7.4b/C-PF7.4b) Report the Scope 1 emissions pertaining to your business activity(ies) and explain any exclusions. If applicable, disaggregate your agricultural/forestry by GHG emissions category.

Activity
Agriculture/Forestry

Emissions category
Non-mechanical

Emissions (metric tons CO2e)
63783

Methodology
Default emissions factor

Please explain
Our main activity is plantation sector and the biggest input is fertilizer. So according to RSPO PalmGHG guidelines we accounted for the emission from organic fertilizers in this non-mechanical category.

Activity
Agriculture/Forestry

Emissions category
Land use change

Emissions (metric tons CO2e)
27162

Methodology
Default emissions factor

Please explain
For emissions from land use change, we include CO2e emissions from all oil palm planted areas and other infrastructure, emission from peat soil oxidation, conservation sequestration and crop sequestration. We use RSPO PalmGHG as a calculation tool to calculate land use change emissions for one cycle of oil palm plantations (25 years). Due to sequestration, our emissions from land use change is only 27,162 TonCO2eq.

Activity
Agriculture/Forestry

Emissions category
Mechanical

Emissions (metric tons CO2e)
11619

Methodology
Default emissions factor

Please explain
For mechanical emission figures, we accounted for the emissions from all machinery and vehicles in our plantation areas, such as residential generators, heavy equipment and dump trucks. We use RSPO PalmGHG to calculate emissions from mechanical activity.

Activity
Processing/Manufacturing

Emissions category
Mechanical

Emissions (metric tons CO2e)
137243

Methodology
Default emissions factor

Please explain
We also process raw materials to produce crude palm oil products. We accounted for the emissions from fossil fuels use and our waste water management using RSPO PalmGHG calculator.

C7.5

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

Country/area/region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Indonesia	2384	0

C7.6

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

C7.6a

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

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Palm oil Business	2384	0

C7.6b

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

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
ANJA Binanga Palm Oil Mill	1876	0
ANJA Siais Palm Oil Mill	38	0
Jangkang Palm Oil Mill	455	0
Galempa Sejahtera Bersama	15	0

C7.7

(C7.7) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?
Yes

C7.7a

(C7.7a) Break down your gross Scope 1 and Scope 2 emissions by subsidiary.

Subsidiary name
PT Austindo Nusantara Jaya Agri

Primary activity
Palm oil farming

Select the unique identifier(s) you are able to provide for this subsidiary
No unique identifier

ISIN code – bond
<Not Applicable>

ISIN code – equity
<Not Applicable>

CUSIP number
<Not Applicable>

Ticker symbol
<Not Applicable>

SEDOL code
<Not Applicable>

LEI number
<Not Applicable>

Other unique identifier
<Not Applicable>

Scope 1 emissions (metric tons CO2e)
73286

Scope 2, location-based emissions (metric tons CO2e)
1876

Scope 2, market-based emissions (metric tons CO2e)
0

Comment
PT Austindo Nusantara Jaya Agri is our subsidiary located in North Sumatra province which is engaged in the oil palm plantation industry.

Subsidiary name

PT Austindo Nusantara Jaya Agri Siais

Primary activity
Palm oil farming

Select the unique identifier(s) you are able to provide for this subsidiary
No unique identifier

ISIN code – bond
<Not Applicable>

ISIN code – equity
<Not Applicable>

CUSIP number
<Not Applicable>

Ticker symbol
<Not Applicable>

SEDOL code
<Not Applicable>

LEI number
<Not Applicable>

Other unique identifier
<Not Applicable>

Scope 1 emissions (metric tons CO2e)
279585

Scope 2, location-based emissions (metric tons CO2e)
38

Scope 2, market-based emissions (metric tons CO2e)
0

Comment
PT Austindo Nusantara Jaya Agri Siais is our subsidiary located in North Sumatra province which is engaged in the oil palm plantation industry.

Subsidiary name
PT Sahabat Mewah dan Makmur

Primary activity
Palm oil farming

Select the unique identifier(s) you are able to provide for this subsidiary
No unique identifier

ISIN code – bond
<Not Applicable>

ISIN code – equity
<Not Applicable>

CUSIP number
<Not Applicable>

Ticker symbol
<Not Applicable>

SEDOL code
<Not Applicable>

LEI number
<Not Applicable>

Other unique identifier
<Not Applicable>

Scope 1 emissions (metric tons CO2e)
32670

Scope 2, location-based emissions (metric tons CO2e)
455

Scope 2, market-based emissions (metric tons CO2e)
0

Comment
PT Sahabat Mewah dan Makmur is our subsidiary located in Bangka-Belitung province which is engaged in the oil palm plantation industry.

Subsidiary name
PT Kayung Agro Lestari

Primary activity
Palm oil farming

Select the unique identifier(s) you are able to provide for this subsidiary
No unique identifier

ISIN code – bond
<Not Applicable>

ISIN code – equity
<Not Applicable>

CUSIP number
<Not Applicable>

Ticker symbol
<Not Applicable>

SEDOL code
<Not Applicable>

LEI number
<Not Applicable>

Other unique identifier
<Not Applicable>

Scope 1 emissions (metric tons CO2e)
470726

Scope 2, location-based emissions (metric tons CO2e)
0

Scope 2, market-based emissions (metric tons CO2e)
0

Comment
PT Kayung Agro Lestari is our subsidiary located in West Kalimantan province which is engaged in the oil palm plantation industry.

Subsidiary name
PT Putera Manunggal Perkasa and PT Permata Putera Mandiri

Primary activity
Palm oil farming

Select the unique identifier(s) you are able to provide for this subsidiary
No unique identifier

ISIN code – bond
<Not Applicable>

ISIN code – equity
<Not Applicable>

CUSIP number
<Not Applicable>

Ticker symbol
<Not Applicable>

SEDOL code
<Not Applicable>

LEI number
<Not Applicable>

Other unique identifier
<Not Applicable>

Scope 1 emissions (metric tons CO2e)
0

Scope 2, location-based emissions (metric tons CO2e)
0

Scope 2, market-based emissions (metric tons CO2e)
0

Comment
PT Putera Manunggal Perkasa and Putera Peramata Mandiri are our subsidiaries located in Southwest Papua province which is engaged in the oil palm plantation industry. Due to sequestration, our operations there is climate positive or carbon negative with emissions of -606,191 Ton CO2eq.

Subsidiary name
PT Galempa Sejahtera Bersama

Primary activity
Palm oil farming

Select the unique identifier(s) you are able to provide for this subsidiary
No unique identifier

ISIN code – bond
<Not Applicable>

ISIN code – equity
<Not Applicable>

CUSIP number
<Not Applicable>

Ticker symbol
<Not Applicable>

SEDOL code
<Not Applicable>

LEI number
<Not Applicable>

Other unique identifier
<Not Applicable>

Scope 1 emissions (metric tons CO2e)
0

Scope 2, location-based emissions (metric tons CO2e)
15

Scope 2, market-based emissions (metric tons CO2e)
0

Comment
PT Galempa Sejahtera Bersama is our subsidiary located in South Sumatera province which is engaged in the oil palm plantation industry. this operations is still in development and as of 2022 is carbon negative or climate positive with an emissions of -10,270 TonCo2eq

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?
Decreased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change in emissions	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	0	No change	0	Our renewable energy comes from biomass fibers and shells which are considered to have zero emissions.
Other emissions reduction activities	97819	Decreased	29	This is the reduction due to sequestration, mainly from the sequestration from conservation areas as we have added 12,629 hectares as a conservation area in Southwest Papua.
Divestment	0	No change	0	There were no divestment compared to the previous year.
Acquisitions	0	No change	0	There were no acquisition compared to the previous year.
Mergers	0	No change	0	There were no mergers compared to the previous year.
Change in output	0	No change	0	no change in output
Change in methodology	0	No change	0	There is a change in methodology, but we have restatated and applied the new methodology for the emssions of the previous year.
Change in boundary	0	No change	0	no change in boundary.
Change in physical operating conditions	0	No change	0	no change in physical operating conditions.
Unidentified	0	No change	0	
Other	0	No change	0	

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?
Location-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?
More than 5% but less than or equal to 10%

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	Yes

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)	HHV (higher heating value)	33989.72	37424.72	71414.44
Consumption of purchased or acquired electricity	<Not Applicable>	0	2545.28	2545.28
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>	2.22	<Not Applicable>	2.22
Total energy consumption	<Not Applicable>	33991.94	39970	73962

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	Yes
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.

Sustainable biomass

Heating value
HHV

Total fuel MWh consumed by the organization
22105.5

MWh fuel consumed for self-generation of electricity
22105.5

MWh fuel consumed for self-generation of heat
0

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>

Comment
We produce biomass from palm shells and fibres, which we divert into energy for our boiler.
64% of the feedstock (Fresh Fruit Bunches) for our mills is certified as sustainable product in 2022 by RSPO while all of our Palm Oil mills are RSPO certified.

Other biomass

Heating value
HHV

Total fuel MWh consumed by the organization
11884.2

MWh fuel consumed for self-generation of electricity
11884.2

MWh fuel consumed for self-generation of heat
0

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>

Comment
Only 64% of the feedstock (Fresh Fruit Bunches) for our mills is certified as sustainable product in 2022 by RSPO although all of our Palm Oil mills are RSPO certified. The remaining feedstock are purchased from independent FFB suppliers.

Other renewable fuels (e.g. renewable hydrogen)

Heating value
HHV

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

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>

Comment
We did not produce other renewable fuels in 2022.

Coal

Heating value
HHV

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

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>

Comment
We did not use coal to generate electricity in 2022.

Oil

Heating value
LHV

Total fuel MWh consumed by the organization
37424.72

MWh fuel consumed for self-generation of electricity
37424.72

MWh fuel consumed for self-generation of heat
0

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>

Comment
We used diesel and gasoline fuel to generate electricity in 2022.

Gas

Heating value
HHV

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

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>

Comment
We did not use gas to generate electricity in 2022.

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value
HHV

Total fuel MWh consumed by the organization
0

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

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>

Comment
We did not use other non-renewable fuels to generate electricity in 2022.

Total fuel

Heating value
HHV

Total fuel MWh consumed by the organization
71414.44

MWh fuel consumed for self-generation of electricity
71414.44

MWh fuel consumed for self-generation of heat
0

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>

Comment
Total fuel consumed in 2022 is from biomass from palm shells and fibers, which we divert into energy for our boiler and diesel and gasoline fuel for Generator to generate electricity with total fuel of 70,436 MWh.

C8.2d

(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	71416.67	61517.22	43891.11	33991.67
Heat	0	0	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

C8.2g

(C8.2g) Provide a breakdown by country/area of your non-fuel energy consumption in the reporting year.

Country/area
Indonesia

Consumption of purchased electricity (MWh)
6.34

Consumption of self-generated electricity (MWh)
2.22

Is this electricity consumption excluded from your RE100 commitment?
<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)
0

Consumption of self-generated heat, steam, and cooling (MWh)
0

Total non-fuel energy consumption (MWh) [Auto-calculated]
8.56

C9. Additional metrics

C9.1

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

Description
Energy usage

Metric value
230625

Metric numerator
Gigajoules

Metric denominator (intensity metric only)

% change from previous year
17

Direction of change
Increased

Please explain
The energy consumption has increased due to increased production. This involves a 14% increase in renewable energy consumption, but coupled with an increase of 18% in non-renewable energy, mainly diesel fuel.

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	Third-party verification or assurance process in place

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
Moderate assurance

Attach the statement
1
SR 2022 - ANJT -EN (110523) LOW RES.pdf

Page/ section reference
Sustainability Report 2022 Appendix 1 - Independent Assurance Opinion Statement on page 116 - 120 of the report.
The specific assurance for emission is stated on page 118.

Relevant standard
AA1000AS

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
Moderate assurance

Attach the statement
1
SR 2022 - ANJT -EN (110523) LOW RES.pdf

Page/ section reference
Sustainability Report 2022 Appendix 1 - Independent Assurance Opinion Statement on page 116 - 120 of the report.
The specific assurance for emission is stated on page 118.

Relevant standard
AA1000AS

Proportion of reported emissions verified (%)
100

C10.1c

(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope 3 category
Scope 3: Purchased goods and services
Scope 3: Downstream transportation and distribution

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Moderate assurance

Attach the statement
1
SR 2022 - ANJT -EN (110523) LOW RES.pdf

Page/section reference
Sustainability Report 2022 Appendix 1 - Independent Assurance Opinion Statement on page 116 - 120 of the report.
The specific assurance for emission is stated on page 118, but only covers FFB purchases.

Relevant standard
AA1000AS

Proportion of reported emissions verified (%)
2

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?
Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C8. Energy	Energy consumption	AA1000 AS - Type 2 Moderate level of assurance	Sustainability Report 2022 Appendix 1 - Independent Assurance Opinion Statement on page 116 - 120 of the report. The specific assurance for energy is stated on page 118.

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, but we anticipate being regulated in the next three years

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

We are constantly monitoring the progress of the regulation. In addition, we are also active in complying international standards for emission reporting and calculation such as GRI reporting, SBTi Forest, Land and Agriculture project (SBTi FLAG), RSPO and ISCC. Based on the trend of the regulation development, we take a pro-active approach by adjusting our strategy and preparing changes in our system to benefit from the opportunities and mitigate any risks coming out.

In order to be ready with the changes of sustainable business practices we subscribe to a number of economic, environmental and social principles, standards and certification schemes. These standards are embodied in various certification schemes, specifically the Roundtable on Sustainable Palm Oil (RSPO) where ANJ has been a member of since 27th February 2007, Indonesia Sustainable Palm Oil (ISPO), and the International Sustainability & Carbon Certification (ISCC) which focus on no deforestation, no exploitation of peat-land, transparent supply chains and measurement of greenhouse gas emissions. We are committed to ensuring that all of its plantations and mills achieve and maintain certification under these internationally recognized schemes. Other standards to which ANJ is committed include the International Standards Organization's Environmental Management System (ISO 14001) and Occupational Health and Safety Management System (ISO 45001).

We have established corporate ambition to minimize our GHG emissions in order to meet future climate requirements. Our group aims to achieve net-zero emissions by 2030, as well as to lower the GHG emissions intensity of our palm oil unit scope 1 and scope 2 emissions by 30% by 2030, compared to the 2015 baseline. We have also set a goal of increasing our renewable energy portfolio to more than 60% and reducing our reliance on fossil fuels by 20% by 2025.

In 2022, we made a public commitment to the SBTi's (Science Based Targets initiative) target-setting standards to justify our goals.

C11.2

(C11.2) Has your organization canceled any project-based carbon credits within the reporting year?

No

C11.3

(C11.3) Does your organization use an internal price on carbon?

No, but we 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 suppliers

Yes, other partners in the value chain

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement
Engagement & incentivization (changing supplier behavior)

Details of engagement
Run an engagement campaign to educate suppliers about climate change

% of suppliers by number
22

% total procurement spend (direct and indirect)
58

% of supplier-related Scope 3 emissions as reported in C6.5
82

Rationale for the coverage of your engagement
We share the impact of climate change and introduce our climate ambitions, which include emissions intensity reduction and net zero emissions overall, with explanations on the reasons why we are doing it to our suppliers. 56% of our spending are for the purchase of French Fruit Bunch (FFB) from growers and suppliers. Therefore, we focus our engagement to these FFB suppliers, which also have the highest impact on the climate.

From these sharing sessions, we hope to influence our suppliers to take similar steps and set their own climate ambition.
We can only influence our suppliers because there is currently no government regulation in place that mandates emissions reductions throughout our supply chain. We have also started to collect information on our smallholder farmers' practices, ensuring that they will not open new land in protected forest areas, teaching about the efficient fertilizer use, applying of certified seedlings, and providing agronomic best practices, including training on the benefits of using compost.

Additionally, we also purchase fertilizers, fuel, pesticides, electronic devices, services, etc. from various multiple vendors, with whom we do not develop strong business relationships due to the scale of our transaction with them. Since these vendors are mainly large corporations, we are exploring the best approaches to effectively engage with them on climate-related topics. This also explains why our engagement rate by the number of suppliers is 22%, while by procurement spend it reaches 58%.

Impact of engagement, including measures of success
Our engagement was successful in maintaining good relationships with our suppliers and to obtain their support as well as commitment to implement good agricultural practices, including zero fire, efficient usage of fertilizers, usage of composts as empty fruit bunches as inorganic fertilizers, conserve riparian areas, and collaborate to mitigate wildfires.

Comment

C12.1d

(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

We understand that applying stringent sustainability standards can be a challenge to smallholder suppliers. Hence, we apply the 'No Purchasing' policy for failing to comply with standards with prudence as we understand that a sudden halt of relationships with them might harm their livelihoods and escalate into conflict. Instead, our approach is to assist individual suppliers in complying with our requirements and encourage them to adopt sustainability principles. This will help them increase their productivity while minimizing the risk of environmental damage and social issues. In line with the national program, we have a target that, by 2030, all third-party suppliers will be in compliance with our palm oil sourcing requirements as stated in their commitment to follow our Sustainability Policy.

We have the following action plans and targets to support and ensure our suppliers comply with our sustainable palm oil sourcing commitment, which include our climate-related commitments, by 2030:
- Completion of electronic traceability system implementation with traceability level of more than 99% (2023)
- Pilot project for independent smallholders to achieve RSPO certification in the group (2023)
- Advocacy on sustainable palm oil practices and ANJ's palm oil sourcing commitment will reach 90% of our smallholders (2025)
- 100% of scheme smallholders are RSPO certified (2025)
- 100% of suppliers, including independent smallholders, comply with ANJ's sustainable palm oil sourcing commitment (2030)

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?
No, but we plan to introduce climate-related requirements within the next two years

C-AC12.2/C-FB12.2/C-PF12.2

(C-AC12.2/C-FB12.2/C-PF12.2) Do you encourage your suppliers to undertake any agricultural or forest management practices with climate change mitigation and/or adaptation benefits?
Yes

C-AC12.2a/C-FB12.2a/C-PF12.2a

(C-AC12.2a/C-FB12.2a/C-PF12.2a) Specify which agricultural or forest management practices with climate change mitigation and/or adaptation benefits you encourage your suppliers to undertake and describe your role in the implementation of each practice.

Management practice reference number
MP1

Management practice
Land use change

Description of management practice
Our Sustainability Policy includes provisions regarding NDPE, which also applies to our suppliers. We regularly socialize and inform our smallholder suppliers about no deforestation and no opening of peat areas, as well as zero burning.

Your role in the implementation
Knowledge sharing

Explanation of how you encourage implementation
We have informed our suppliers that we do not accept FFB from new planting in forest and peat areas. We have procedures in place to verify new sources of FFB coming to our palm oil mill. If a supplier is found out to breach this regulation, we will exclude the supplier from our supplier list.

Climate change related benefit
Emissions reductions (mitigation)

Comment

Management practice reference number
MP2

Management practice
Composting

Description of management practice
In Belitung, where we have many independent voluntary farmers Groups supplying us with their fresh fruit bunch, we have shared the benefit of using compost and share some of our compost to be applied in their land to reduce their use of inorganic fertilizer.

Your role in the implementation
Knowledge sharing
Procurement

Explanation of how you encourage implementation
We share our knowledge to smallholder farmers about composting and its benefits. Farmers are invited to visit areas in our plantation that apply composts and we share the productivity improvement results after using these composts. Then we ask them if they want to apply composts on their land and propose to procure the compost for their use. For this pilot project, we needed about 6-12 months to convince smallholders on the benefit of using composts.

Climate change related benefit
Emissions reductions (mitigation)
Increasing resilience to climate change (adaptation)
Reduced demand for fertilizers (adaptation)

Comment
Our suppliers are actually interested to use the compost for their plantation. However, due to high demand on the compost we are still on focusing the application in our own plantations.

Management practice reference number
MP3

Management practice
Diversifying farmer income

Description of management practice
Some areas of our farmers' plantation cannot be planted with oil palm and produce fresh fruit bunch. We encouraged and provided these farmers with other economic activities to supplement their income, such as honey farming, mushroom growing, vegetable gardens, edamame planting, transportation cooperatives, enhancing their rice field productivity, fish farming, handicraft making, etc.
In 2022, the farmer cooperatives have harvested 4,365 kg of fresh edamame, with sales amounting to IDR 24,874,500.

Your role in the implementation
Financial
Knowledge sharing
Operational
Procurement

Explanation of how you encourage implementation
We trained them on how to create or grow the products, and we guaranteed the market availability of their products in our own internal market, i.e. our workers. We tried to also create a market among themselves, which usually become successful once they can enjoy the end product. There is not a large market that has developed yet, however, until now, all their products are either sold or self-consumed. Furthermore, farmers are usually fond of doing these type of activities

Climate change related benefit
Increasing resilience to climate change (adaptation)

Comment
We have chosen different projects for different areas depending on the needs of the farmers in a given area. In areas where there is flood, we taught them to grow rice using the floating rice farming method and grow fish in the flood prone areas. Honey farming also produce bees that are essential for pollination. Meanwhile, transportation cooperatives educate communities on management and operational efficiency to prepare them to use CNG transportation trucks in the future. Edamame planting improve food resilience by providing a plant-based source of protein.

Management practice reference number
MP4

Management practice
Fertilizer management

Description of management practice
We participate in the Palm Oil Fund Management Agency (Badan Pengelola Dana Perkebunan Kelapa Sawit or BPDPKS) program (PSR) for the replanting of independent smallholder farmers. We provide training on fertilizer application, good practices, and procurement management to farmers that participate in this scheme

Your role in the implementation
Knowledge sharing

Explanation of how you encourage implementation
In some estate we have a team consisting of field assistant to share their expertise on selected smallholders. This initiative is part of our responsible development project and monitored by Head Office. Therefore, these smallholders are shared with our knowledge about the correct fertilizer dosages and right timings for fertilizer application.

Climate change related benefit
Reduced demand for fertilizers (adaptation)

Comment

Management practice reference number
MP5

Management practice
Fire control

Description of management practice
As part of our fire management system, we work with stakeholders in high fire-risk areas and landscapes and have implemented initiatives which are based on making agreements and building collaboration with local authorities, communities, law enforcement agencies, and local fire brigades. In this context, we have formed community-based fire-fighting groups across both Western and Eastern Region estates, train them on fire prevention and fire management, and provide incentives for achieving zero fire throughout a year. These efforts are refreshed every year.

Your role in the implementation
Financial
Knowledge sharing
Operational
Procurement

Explanation of how you encourage implementation
We provide training, formation, procurement for firefighting tools/equipment, competition of the most “fire-prevention-ready” community group, and refresh the process every year.

Climate change related benefit
Emissions reductions (mitigation)
Increasing resilience to climate change (adaptation)

Comment

Management practice reference number
MP6

Management practice
Integrated pest management

Description of management practice
In certain areas where rat attacks threaten rice field productivity, we have taught the local community of using the barn owl as a pest control measure. The barn owl is commonly used in our plantations. We provided our knowledge on applying and raising barn owls, which will reduce the use of chemicals or rodenticides for pest management. This has achieved a noticeable increase in productivity of community rice fields and a 30% decrease in rat attacks since the project started.

Your role in the implementation
Knowledge sharing
Operational

Explanation of how you encourage implementation
By providing training and demonstrating to farmers how to raise barn owls and provide a suitable habitat for this animal to thrive.

Climate change related benefit
Reduced demand for pesticides (adaptation)

Comment

Management practice reference number
MP7

Management practice
Livestock management

Description of management practice
Many oil palm smallholders also raise cattle in their farms. The often release these cattle into our plantation for grazing which disturbs the management of our plantations. To solve this problem we provide financing and build cattle sheds for the cows. We also taught farmers to grow a certain type of grass which is a better option as cattle feed that can speed up the fattening process. In addition, farmers can use the cow manure as fertilizer.

Your role in the implementation
Financial
Knowledge sharing
Operational
Procurement

Explanation of how you encourage implementation

Climate change related benefit
Emissions reductions (mitigation)

Increasing resilience to climate change (adaptation)

Comment

Management practice reference number
MP8

Management practice
Organic farming

Description of management practice
We taught all our staff on how to make eco-enzyme from domestic organic waste and apply the eco-enzyme in their vegetable garden. The harvest of the vegetable garden can be used for their own consumption or sold in the weekly market.

Your role in the implementation
Knowledge sharing
Operational
Procurement

Explanation of how you encourage implementation
Teaching on how to make eco-enzyme, provide examples of agronomic practice, provide seeds, appointing champions for each area of this program, publish harvesting result, report income of each garden. Make this as community activities.

Climate change related benefit
Emissions reductions (mitigation)
Increasing resilience to climate change (adaptation)
Reduced demand for fossil fuel (adaptation)
Reduced demand for fertilizers (adaptation)
Reduced demand for pesticides (adaptation)

Comment
The products of the vegetable garden are available as a local produce sold in the same area where it will be consumed. Therefore, transportation costs are kept to a minimum and emissions from fossil fuels can be reduced. This also improves resilience to climate change (by teaching practices that improve the possibility of successful harvesting). Use of eco-enzyme also reduce the need to apply fertilizers.

Management practice reference number
MP9

Management practice
Rice management

Description of management practice
We observe the farmers' issues and try to provide solution, for example: owl barn for rat attack, floating rice growing technique.

Your role in the implementation
Knowledge sharing
Operational

Explanation of how you encourage implementation
Providing training and demonstrate the technique (hand-holding) until they enjoy the harvest.

Climate change related benefit
Increasing resilience to climate change (adaptation)

Comment

C-AC12.2b/C-FB12.2b/C-PF12.2b

(C-AC12.2b/C-FB12.2b/C-PF12.2b) Do you collect information from your suppliers about the outcomes of any implemented agricultural/forest management practices you have encouraged?
No

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the climate
Yes, our membership of/engagement with trade associations could influence policy, law, or regulation that may impact the climate

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?
No, but we plan to have one in the next two years

Attach commitment or position statement(s)
<Not Applicable>

Describe the process(es) your organization has in place to ensure that your external engagement activities are consistent with your climate commitments and/or climate transition plan
Our climate strategy, which is embedded in our ESG ambition, is already socialized throughout management level in our organization. Therefore, the management representative in the associations will also advocate the same ESG ambitions. We also monitor the climate change strategy within the associations that we participate in and review the potential gaps between the position of an association/organization and our commitment

Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate
<Not Applicable>

Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate
<Not Applicable>

C12.3b

(C12.3b) Provide details of the trade associations your organization is a member of, or engages with, which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association
Other, please specify (Roundtable on Sustainable Palm Oil (RSPO))

Is your organization's position on climate change policy consistent with theirs?
Consistent

Has your organization attempted to influence their position in the reporting year?
Yes, we publicly promoted their current position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position
The RSPO Principle No. 7 is to protect, conserve and enhance ecosystems and the environment. This principle includes objectives and criteria related to climate change,more specifically GHG reduction and minimizing GHG emissions. We coordinate with RSPO regularly on climate related activities and trade.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)
2368

Describe the aim of your organization's funding
This funding is a minimum amount for membership for RSPO in 2022, amounting to USD 2,368.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?
Yes, we have evaluated, and it is aligned

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
1
SR 2022 - ANJT -EN (110523) LOW RES.pdf

Page/Section reference
Sustainability Report 2022 - Planet section, page 53 until page 83

Content elements
Governance
Strategy
Risks & opportunities
Emissions figures
Emission targets
Other metrics
Other, please specify (Waste Management and Energy)

Comment
As a public company listed in Indonesia Stock Exchange, we are required to prepare an annual sustainability report. The topic for our 2022 sustainability report is Tackling Climate Change through Responsible Development. We have prepared the 2022 sustainability report in accordance with GRI Standards and we also have obtained an independent assurance with moderate level from TUV Rheinland.

C12.5

(C12.5) Indicate the collaborative frameworks, initiatives and/or commitments related to environmental issues for which you are a signatory/member.

	Environmental collaborative framework, initiative and/or commitment	Describe your organization's role within each framework, initiative and/or commitment
Row 1	International Sustainability & Carbon Certification (ISCC) Science Based Targets Network (SBTN) UN Global Compact Other, please specify (RSPO (Roundtable on Sustainable Palm Oil))	In 2022, we signed up for the first time to a public commitment to the SBTi's (Science Based Targets initiative) target-setting criteria for the Net-Zero Standard and Business Ambition for 1.5°C. While it is not a requirement of all the reporting platforms, ANJ voluntarily discloses our reviews to demonstrate our commitment to transparency. This commitment not only generates a deeper understanding of and appreciation for sustainability within our company but also holds us accountable to global standards and the time-bound targets set out in our annual strategic sessions. ANJ is a signatory of the UN Global Compact since June 2021 and has been particularly active as an IGCN member. ANJ has keenly participated by sending key representatives to various events and trainings that organized by UN Global Compact. Some of these events include the Climate Ambition Accelerator program, the Business and Human Rights Accelerator program, the Anti-Corruption Collective Action program, as well as sessions on gender equality and women's empowerment. ANJ has also participated in the 2022 Communication on Progress Early Adopter Program to report its progress in applying the UNGC principles within ANJ, in the UN Global Compact Leader Summit in Bangkok in June 2022 where our CEO shared the our practices, and was selected to participate at the Transformational Governance Think Lab at the global level. ANJ has sustainability guidelines as stipulated in the ISCC Certification covering types of biological and renewable raw materials and based on compliance with a series of standards that cover the entire supply chain. The criteria include standards for greenhouse gas emissions, conservation of biodiversity, plantation practices and the fulfillment of labor and land tenure rights. Our plantation in Belitung has obtained ISCC certification in 2012. Recertification is carried out annually by an accredited external agency.

C13. Other land management impacts

C-AC13.1/C-FB13.1/C-PF13.1

(C-AC13.1/C-FB13.1/C-PF13.1) Do you know if any of the management practices implemented on your own land disclosed in C-AC4.4a/C-FB4.4a/C-PF4.4a have other impacts besides climate change mitigation/adaptation?
Yes

C-AC13.1a/C-FB13.1a/C-PF13.1a

(C-AC13.1a/C-FB13.1a/C-PF13.1a) Provide details on those management practices that have other impacts besides climate change mitigation/adaptation and on your management response.

Management practice reference number
MP1

Overall effect
Positive

Which of the following has been impacted?
Soil
Yield

Description of impact
Composting and fertigation initiatives enable us to reduce our GHG emissions while also improving yields and production, and also lead to cost-savings. Predictions from our research and development team have determined that the improved soil condition and yields resulting from composting and fertigation could support a 50% reduction in inorganic fertilizer use in coming years, which would ultimately see a significant reduction in operational costs, as well as a further reduction in GHG emissions.

Have you implemented any response(s) to these impacts?
Yes

Description of the response(s)
We are planning to expand the composting initiative to all location within the next five years to optimize the benefits for our group. We will also review the result of fertigation initiative that is still in pilot phase at this stage. If the pilot result is satisfactory, we will also expand the fertigation initiative.

Management practice reference number
MP2

Overall effect
Positive

Which of the following has been impacted?
Biodiversity
Soil
Water
Yield

Description of impact
Fire management infrastructure and the implementation of fire management procedures will reduce the likelihood and impact of wildfire occurring in conservation and plantation area and therefor protect the biodiversity and plantation yield in those areas. As a result, there is no wildfire ocured in our plantation and conservation area in 2022.

Have you implemented any response(s) to these impacts?
Yes

Description of the response(s)
We are investing in enhancing our fire management infrastructure in high risk estates such as in West Kalimantan. In every estate we also have fire management system and infrastructure in place in case of wildfire to prevent, monitor and manage wildfire.

Management practice reference number
MP3

Overall effect
Positive

Which of the following has been impacted?
Soil
Water

Description of impact
3R Program reduced and mitigated the impact of waste on surface water and ground-water quality. In addition, 3R Program also reduced the impact of waste on soil especially from slow decomposition waste such as: plastic waste.

Have you implemented any response(s) to these impacts?
Yes

Description of the response(s)
We have started the implementation of 3R Program in 2019 as part of our responsible development program. Since 2021 the program has been implemented in all of our operating estates.

C-AC13.2/C-FB13.2/C-PF13.2

(C-AC13.2/C-FB13.2/C-PF13.2) Do you know if any of the management practices mentioned in C-AC12.2a/C-FB12.2a/C-PF12.2a that were implemented by your suppliers have other impacts besides climate change mitigation/adaptation?
Yes

C-AC13.2a/C-FB13.2a/C-PF13.2a

(C-AC13.2a/C-FB13.2a/C-PF13.2a) Provide details of those management practices implemented by your suppliers that have other impacts besides climate change mitigation/adaptation.

Management practice reference number
MP1

Overall effect
Positive

Which of the following has been impacted?
Biodiversity
Soil
Water

Description of impacts
By ensuring that there is no land opening on hilly area with steepness more than 25 degrees, or critical of protected forest area, we ensure that we keep the habitat for biodiversity intact, no land erosion and the forest function for water reserve are kept intact.

Have any response to these impacts been implemented?
Yes

Description of the response(s)
The socialization of our Sustainability Policies that prohibit this with the consequences that they will be black listed from our suppliers' chain is going on and refreshed every year, We also monitor if any new land opening happened in the surrounding area. Until today, we have noted no questionable area during our monitoring that may be opened in our operation surrounding area in 2022.

Management practice reference number
MP2

Overall effect
Positive

Which of the following has been impacted?
Soil
Yield

Description of impacts
Use of compost improve the soil condition and retain water more in the soil. It also improve the yield compared to if there is no fertilizer being applied or in some cases even compared to use of non organic fertilizer

Have any response to these impacts been implemented?
Yes

Description of the response(s)
Use of compost in our smallholder plantation is still in the beginning stage, and we have not recorded the result separately, however we have proven the use of compost in our own plantation provided all the impacts stated.

Management practice reference number
MP3

Overall effect
Positive

Which of the following has been impacted?
Biodiversity
Soil
Water
Yield

Description of impacts
Improvement of income and existence of income earning activities reduce the needs and tendency to do harm to habitat of biodiversity (illegal logging, poaching of protected species, opening of new land). These activities kept the habitat in conservation area intact, conserving the soil and water quality. In some cases, such as honey bee farming, use of eco-enzyme, planting of edamame, they also improve the soil quality.

Have any response to these impacts been implemented?
Yes

Description of the response(s)
Activities in different areas varies and the impacts recorded is stated in Our Sustainability Report

---

Management practice reference number
MP4

Overall effect
Positive

Which of the following has been impacted?
Soil
Water
Yield

Description of impacts
Knowledge sharing on how to apply fertilizer, and how to manage inventory of fertilizer will avoid excessive fertilizer usage, which may deteriorate soil and water quality with no increase of yield.

Have any response to these impacts been implemented?
No

Description of the response(s)
We are still in the beginning stage of implementing this initiative.

Management practice reference number
MP5

Overall effect
Positive

Which of the following has been impacted?
Biodiversity
Soil
Water
Yield

Description of impacts
Fire prevention and fire management keep the biodiversity, quality of soil and water reserve in the peat land all intact.

Have any response to these impacts been implemented?
Yes

Description of the response(s)
There is no fire within our land right in 2022, including the conservation area.

Management practice reference number
MP6

Overall effect
Positive

Which of the following has been impacted?
Biodiversity
Soil
Water
Yield

Description of impacts
We provided barn owl to help our supplier fight the rat attack, avoiding them to use chemical pesticide which will poison the soil, water and diminish some biodiversity. Use of barn owl also improve the yield of our smallholder.

Have any response to these impacts been implemented?
No

Description of the response(s)
We just started this initiative, so no monitoring and recording of impact is done yet.

Management practice reference number
MP7

Overall effect
Neutral

Which of the following has been impacted?
Yield

Description of impacts
Helping community to manage their livestock outside of our plantation and quickly fattening the livestock assist us in managing the manure contamination within our plantation and ensuring that the recording of link between yield and fertilizer or composting usage are not being intervened by the livestock activities within our plantation. It also avoid the young trees being trampled or eaten by the live stock.

Have any response to these impacts been implemented?
No

Description of the response(s)
The activities are limited to effected area. There are less incident of the livestock grazing in our plantation area.

Management practice reference number
MP8

Overall effect
Positive

Which of the following has been impacted?
Soil
Water

Description of impacts
Use of eco enzyme improve the pH or acidity level of the soil, and in some cases improve the water quality in our water reserve. It avoided the use of non organic fertilizer which may effect the soil and water quality.

Have any response to these impacts been implemented?
Yes

Description of the response(s)
Our workers produced ecoenzyme from their household, all ecoenzyme are implemented into organic farming, and distributed to community surrounding our plantation, who then sell their vegetable garden product back to us.

Management practice reference number
MP9

Overall effect
Positive

Which of the following has been impacted?
Soil
Water
Yield

Description of impacts
The success of rice management focus our suppliers on this activities, rather than trying to solve their income issue by doing some deforestation activities or other negative reaction. It also increase soil productivity and management of water use. Definitely it improves the yield of the productive land they cultivated.

Have any response to these impacts been implemented?
Yes

Description of the response(s)
In 2022, this program has grown and expanded to include two additional villages in Belitung. The result motivates farmer groups to expand into a “Mina Padi” system. Mina Padi is a well-developed technique of optimizing paddy field productivity through
the combination of rice farming with fish farming. Farmers chose to cultivate tilapia, and as many as 1,200 tilapias were raised during the year 2022. In addition to Mina Padi, the farmer groups also planted cassava along the rice raft border.

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	Yes, both board-level oversight and executive management-level responsibility	The BOD, under the leadership of the President Director, is responsible for leading, managing and directing day-today operations and ensuring that the Company observes its vision and mission concerning environmental, including biodiversity. To assist in its supervisory role regarding biodiversity, the BOC is supported by Corporate Social Responsibility (CSR) and Sustainability Committee chaired by one of the Commissioners. The committee meets quarterly to discuss issues, updates on sustainability compliance, progress with responsible development projects, environmental and social issues and community grievances, community engagement, government engagement, biodiversity conservation, alignment with SDGs, media attention, and sustainability recognitions. The CSR and Sustainability Committee met on four occasions in 2022, with full attendance at every meeting. The Director of Sustainability is responsible for the development and execution of the Company’s sustainability commitments and initiatives, including biodiversity. The Director of Sustainability is assisted by a team of senior managers. These senior managers report quarterly at the CSR & Sustainability Committee meetings and bi-weekly at the ANJ Executive Leadership Team (AELT) meetings attended by the complete BOD, including members from subsidiaries.	<Not Applicable>

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have made public commitments and publicly endorsed initiatives related to biodiversity	Commitment to not explore or develop in legally designated protected areas Commitment to respect legally designated protected areas Commitment to avoidance of negative impacts on threatened and protected species Commitment to no conversion of High Conservation Value areas Commitment to secure Free, Prior and Informed Consent (FPIC) of Indigenous Peoples Commitment to no trade of CITES listed species Other, please specify (Indonesian Regulation related to Biodiversity protection. (Peraturan Menteri Lingkungan Hidup dan Kehutanan No 106 Tahun 2018.))	SDG

C15.3

(C15.3) Does your organization assess the impacts and dependencies of its value chain on biodiversity?

Impacts on biodiversity

Indicate whether your organization undertakes this type of assessment
Yes

Value chain stage(s) covered
Direct operations
Upstream

Portfolio activity
<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity
Other, please specify (Environment Impact Assessment (EIA), HCV and HCS Assessment)

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)
We carry out Environmental Impact Assessment (EIA) following Indonesian Government Regulations (No 22/2021). The study is made by independent parties, applies robust scientific methods, and involves stakeholder inputs for drawing its recommendations. The EIA recommendations are implemented and monitored every six months. The same principles are also applied for the HCV and HCS assessments. The EIA study, HCV, and HCS assessments all incorporate impacts on biodiversity in their analysis.

Dependencies on biodiversity

Indicate whether your organization undertakes this type of assessment
No and we don't plan to within the next two years

Value chain stage(s) covered
<Not Applicable>

Portfolio activity
<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity
<Not Applicable>

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)
<Not Applicable>

C15.4

(C15.4) Does your organization have activities located in or near to biodiversity- sensitive areas in the reporting year?
Yes

C15.4a

(C15.4a) Provide details of your organization's activities in the reporting year located in or near to biodiversity -sensitive areas.

Classification of biodiversity -sensitive area
Key Biodiversity Area (KBAs)

Country/area
Indonesia

Name of the biodiversity-sensitive area
Batang Gadis National Park

Proximity
Up to 70 km

Briefly describe your organization's activities in the reporting year located in or near to the selected area
The Batang Gadis National Park in located 57 km from our site. Our main activities in this site as a palm oil plantation consists of cultivating, upkeeping, and harvesting oil palms to obtain fresh fruit bunches (FFB). We also purchase of palm oil FFB from external smallholder farmers that are located near The Batang Gadis National Park.

Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity
Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area
Project design
Scheduling
Physical controls
Operational controls
Restoration
Biodiversity offsets

Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented
Our activities itself in this area does not have any significant direct impact on the Batang Gadis National park. However, the activities of our FFB suppliers might negatively impact the National Park, such as from the use of chemicals for the upkeep of their plantations or human activities from plantation management. For this reason we monitor the source of our FFB to ensure that they do not originate from forest areas through our Traceability program and electronic traceability application called e-TIS. The e-TIS application helps us to map and monitor the source of our FFB.

Classification of biodiversity -sensitive area
Key Biodiversity Area (KBAs)

Country/area
Indonesia

Name of the biodiversity-sensitive area
Gunung Palung National Park

Proximity
Up to 5 km

Briefly describe your organization's activities in the reporting year located in or near to the selected area
Our main activities in this site as a palm oil plantation consists of cultivating, upkeeping, and harvesting oil palms to obtain fresh fruit bunches (FFB). We also purchase of palm oil FFB from external smallholder farmers that are located near the Gunung Palung National Park.

Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity
Yes, but mitigation measures have been implemented

Mitigation measures implemented within the selected area
Project design
Scheduling
Physical controls
Operational controls
Restoration
Biodiversity offsets

Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented
Our activities itself in this area does not have any significant direct impact on the Gunung Palung National park. However, the activities of our FFB suppliers might negatively impact the National Park, such as from the use of chemicals for the upkeep of their plantations or human activities from plantation management. The Gunung Palung National Park is home to the Orang Utan, a critically endangered endemic species in the area. We cooperate with the National Park Board (Balai Taman Nasional) to manage and protect the Orang Utan by applying a jurisdictional approach. We also monitor the source of our FFB to ensure that they do not originate from forest areas through our Traceability program and electronic traceability application called e-TIS. The e-TIS application helps us to map and monitor the source of our FFB.

C15.5

(C15.5) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Species management Education & awareness Livelihood, economic & other incentives

C15.6

(C15.6) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	Yes, we use indicators	State and benefit indicators Pressure indicators Response indicators

C15.7

(C15.7) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In voluntary sustainability report or other voluntary communications	Content of biodiversity-related policies or commitments Governance Impacts on biodiversity Biodiversity strategy	Please refer to ANJ 2022 Sustainability Report page 68 - 79 SR 2022 - ANJT -EN (110523) LOW RES.pdf

C16. 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.

There is no additional information or context.

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Vice President Director	Director on board

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please confirm below

I have read and accept the applicable Terms