Brother Industries, Ltd. - Climate Change 2021



C0. Introduction

C0.1

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

The Brother Group started by providing repair services for sewing machines in 1908. Since then, we have been growing by focusing on our own technology development, promoting the diversification of our businesses through applying accumulated core technologies, and continuing to cultivate new markets consistently. The headquarters of Brother group, "Brother Industries, Ltd" is located in Japan. Paid-in Capital is 19,209 million yen (As of March 31, 2021) and the sales revenue is 631,812 million yen (fiscal year ending March 31, 2021). The Brother group delivers products and services to customers all over the world with manufacturing facilities and sales facilities in 40 or more countries and regions of the world. The consolidated number of employees is 38,741 / and the non-consolidated number is 3,803 (as of March 31, 2021). We offer products and services with Brother expertise in a wide range of fields such as "communications and printing equipment," "home sewing machines," "industrial sewing machines/machine tools/industrial parts, "Coding & Marking Equipment, Digital Printing Equipment" and "online karaoke/content-delivery systems." In 2018, the Brother Group established the Brother Group Environmental Vision 2050. This environmental vision recognizes environmental issues in society such as climate change, resource depletion, environmental pollution, and destruction of the ecosystem as business risks for the Brother Group and clearly states the Brother Group's continuous commitment to solving these issues over the long term. The Brother Group is committed to reducing CO2 emissions of the entire value chain in all its business operations by 2050 and contributing to creating a carbon-free society, which is a mission for the global community and it is subject to audit based on ISO 14064 that provides guidelines for measuring and verifying emissions of greenhouse gases (GHGs). We expand the environmental understanding and awareness for all employees and stakeholders by conducting activities such as environmental e

C0.2

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

Si	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year A	April 1 2020	March 31 2021	No	<not applicable=""></not>

C0.3

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(C0.3) Select the countries/areas for which you will be supplying data.
Argentina
Australia
Austria Palaium
Belgium Brazil
Bulgaria
Canada
Chile
China
China, Hong Kong Special Administrative Region
Czechia
Denmark
Finland France
Germany
Hungary
India
Indonesia
Ireland
Italy
Japan
Malaysia Marian
Mexico Netherlands
New Zealand
Norway
Peru
Philippines
Poland
Portugal
Republic of Korea
Romania Control of the control of th
Russian Federation
Singapore Slovakia
South Africa
Spain
Sweden Sweden
Switzerland
Taiwan, Greater China
Thailand
Turkey
United Arab Emirates
United Kingdom of Great Britain and Northern Ireland United States of America
Viet Nam
C0.4
(C0.4) Select the currency used for all financial information disclosed throughout your response.
JPY
C0.5
(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should
align with your chosen approach for consolidating your GHG inventory.
Operational control
C1. Governance
C1.1
C1.1
(C1.1) Is there heard level everyight of climate related iscuss within your experiention?
(C1.1) Is there board-level oversight of climate-related issues within your organization? Yes
100
C1.1a

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

Position of individual(s)	Please explain
murviduai(s)	
Chief	The COO is a Managing Executive Officer overseeing the environmental programs at Brother. This position is the chief executive of the "Law, Environment & General Affairs Department" and
Operating	responsible as chairman of the Brother Environmental Committee. The COO has the authority to settle single-year environmental objectives and medium-term environmental action plans. The Mid-
Officer	term Environmental Action Plan includes targets for climate change, resource recycling and biodiversity.
(COO)	

C1.1b

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

which climate- related issues	Governance mechanisms into which climate-related issues are integrated	board- level	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Setting performance objectives Monitoring implementation and performance of objectives Monitoring and overseeing progress against goals and targets for addressing climate-related issues	Applicabl	The risk management committee of BIL (BROTHER INDUSTRIES, LTD.) as chaired by the president, manages the activities of the environmental committee. This environmental committee develops the strategy, annual plan (Brother Medium Term Environmental Action Plan) and tracks the performance of the climate change programs as well as evaluates risks associated with the programs. At the Board of Directors meetings, he is responsible for reporting and problem solving as the person in charge of environmental issues. Risks and opportunities in line with the TCFD recommendations will be submitted to the Board of Directors in 2021.

C1.2

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

Name of the position(s) and/or committee(s)	Reporting line	, · · ·	_ ~	Frequency of reporting to the board on climate-related issues
Chief Operating Officer (COO)		Both assessing and managing climate-related risks and opportunities	<not applicable=""></not>	Half-yearly

C1.2a

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

The COO is a Managing Executive Officer overseeing the environmental programs at Brother. This position is the chief executive of the "Law, Environment and General Affairs Department" and responsible as chairman of the environmental committee. This position provides advice and requests the data from all facilities necessary to evaluate climate change in Brother. The COO makes the final decisions regarding operational changes that can affect the performance of facilities in achieving the groups Environmental Target 2030 objectives. The environmental committee is top management organization in Brother group regarding environmental issues and responsibility for managing our environmental policy, plans and major environmental issues including climate change. Law, Environment & General Affairs Department is collecting all environmental risks and opportunities from group-wide and reports the information to Environmental committee half-yearly.

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	We provide incentives for achievement of KPI and voluntary efforts in each department and subsidiary.

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		Activity inventivized	Comment
Executive officer	Non- monetary reward	Emissions reduction target	A President Award will be presented from the President. CO2 emissions reduction is one of the evaluation indexes. This year it was based on the following Meeting CO2 Emission reduction targets of the Environmental Action Plan: The targets for manufacturing sites administered by executive officers include reducing CO2 emissions by 1% per annum (per unit of sales).
All employees	reward	Emissions reduction target Energy reduction project	Bonus on the achievement of targets will be presented. This year it was based on the following yearly review of environmental performance against specific objectives in the Environmental Action Plan: Reducing CO2 emissions by 1% per annum (per unit of sales)
All employees	Non- monetary reward	Emissions reduction target Energy reduction project Energy reduction target Efficiency project Efficiency project Efficiency target Behavior change related indicator	Annually, all Brother offices globally have opportunities to complete an application for the internal Brother Group award for environmental performance called the "5R Award". The "5R Award" recognizes efforts by group companies and departments in five different categories. This includes activities at business sites (such as manufacturing facilities and offices), eco-consciousness specs in products, environmental activities conducted in and outside the company (such as employee awareness programs or biodiversity activities conducted for ecosystems, natural communities and habitats among their local communities). From 1999, the Brother Group has been conducting environmental activities based on the "5Rs," which adds "Refuse" and "Reform" to the "Reduce," "Reuse" and "Recycle" 3Rs as the basis for establishing a sound material-cycle society. In particular, "Reform" is Brother's original idea that creates value by incorporating innovative approaches and ideas for changing the state of waste.
All employees	Monetary reward	Behavior change related indicator	Brother Group promotes and provides Employees with the "Brother Eco Point Program". This program awards points to employees for eco-conscious actions by employees such as reuse of cloth bags instead of plastic shopping bags, saving electricity and water, using sustainable alternative travel by to destinations such as walking, bicycle or public transportation, and participating in local clean-up activities. Monetary rewards throughout the year are provided to boost the program, and annual recognition to highest point participants and locations are commended and rewarded. The eco-points collected here will support the funding of biodiversity conservation activities carried out at various locations around the world every year.

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)	1	Comment
Short- term	0		Activities are promoted based on the Brother Group Mid-term Environmental Action Plan (2019-21), which is the plan for the entire group. An annual plan is formulated and implemented to achieve the Medium-Term Environmental Action Plan.
Medium- term	4		The Brother Group established a mid-term target for FY2030 as a milestone at the same time as the Brother Group Environmental Vision 2050. In particular, the mid-term target for FY2030 related to reduction of CO2 emissions set out in this vision has been recognized by the international environmental initiative, Science Based Targets initiative, as a target based on scientific evidence to help achieve the Paris Agreement's goal of limiting global warming to well below 2 degrees Celsius. Mid-term target for FY2030 is "[Scope 1 and 2] Achieve 30% reduction from the FY2015 level, [Scope 3] Categories 1, C11 and C12 Achieve 30% reduction from the FY2015 level."
Long- term	11		In March 2018, the Brother Group formulated the Brother Group Environmental Vision 2050 as a new long-term target of the Brother Group to contribute to resolving global environmental issues under the slogan "Brother Earth." The vision aims to support the Paris Agreement and contribute toward creating a carbon-free society with zero greenhouse gas emissions. By 2050, the Brother Group will actively reduce CO2 emissions from the entire value chain in all business operations and contribute to creating a carbon-free society that the global community aims to achieve.

C2.1b

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

To identify risks related to climate, the Brother group calculates the CO2 emissions of Scope1, 2 and 3, which is the greenhouse gas emissions of the entire value chain every year. Based on the result of the calculation, we identify the process with high CO2 emissions that are considered business risk. Treating CO2 emissions as a risk related to climate change, we set the CO2 reduction target for fiscal 2030 in line with the goal for the Paris Agreement, a global agreement. This goal is certified as Science Based Targets by SBTi. Aiming at achieving this goal, short-term reduction targets are formulated in the environmental action plan of 3-5 years, and progress management is carried out at the environmental committee which board members participate. We are currently studying how to assess the financial impact to our company due to the risk of climate change.

Based on the "Brother Group Environmental Policy," the Brother Group is promoting initiatives for the conservation of the global environment globally throughout the group, and at a strategic meeting composed mainly of representative directors and executive officers with officers, climate change We evaluate and manage the status of environmental efforts, including deliberations and decisions on important issues related to climate change and climate change response. In addition, the Environmental Committee (chaired by the director in charge of the environment) holds regular meetings twice a year as a decision-making body responsible for environmental risks such as climate change and the environmental issues of the Brother Group. Important environmental risks and environmental issues related to climate change raised by the Environmental Committee are reported to the Risk Management Committee, which is headed by the President and CEO, and the most important issues are reported to the Board of Directors. I am instructed and supervised. The Brother Group has set CO2 emission reduction as one of the important items in the "Brother Group Environmental Vision 2050". We recognize that climate change, which is becoming more serious worldwide, is an important social issue, and we regard it as a business risk for the Brother Group, and we are working to resolve it over the long term and continuously. In 2020, based on TCFD recommendations, we assessed the importance of climate-related risks and opportunities that could impact our businesses from now to the future for our major businesses. For each risk and opportunity, "1.5 degree scenario in which global warming countermeasures are progressing and approaching the realization of a carbon-free society" and "The world's global warming countermeasures will not be taken and the temperature will rise further. Based on the 4.0 degree scenario, seven key risks and opportunities were identified and their impact on the company's business and finances was assessed. For the 1.5 degree

The Brother Group has set CO2 emission reduction as one of the important items in the "Brother Group Environmental Vision 2050". Recognizing that climate change, which is becoming more serious worldwide, is an important social issue, and also considering important social issues such as climate change, resource depletion, environmental pollution, and ecosystem destruction as business risks for the Brother Group. The "Brother Group Environmental Vision 2050" clarifies that we will work on solving this problem over the long term and continuously. The Brother Group has established a Risk Management Committee headed by the President and Representative Director, and regularly identifies and evaluates company-wide risks, including environmental risks such as climate change, and gives appropriate response instructions. Furthermore, the Environmental Committee, which is established as a subordinate organization of the Risk Management Committee, identifies important issues such as climate change, determines appropriate measures, and implements them. We also set ambitious goals for climate change and regularly monitor progress.

C2.2

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

Value chain stage(s) covered

Upstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

Annually

Time horizon(s) covered

Medium-term

Description of process

Scope 3 GHG emissions from purchased goods and services, which is the GHG emissions upstream of the value chain, accounts for 45% of the Brother Group's total emissions in FY 2020, and it is subject to the reduction by the Brother Group's CO2 reduction target in FY 2030. Since this contribution rate of GHG emissions to reduction targets is high, there is a risk that this delayed reduction will result in failure to reach the target. Therefore, this GHG emissions are an important component of climate change related risk.

Value chain stage(s) covered

Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

Annually

Time horizon(s) covered

Medium-term

Description of process

The Scope 3 GHG emissions from use of sold products, which is the GHG emissions downstream of the value chain, accounts for 34% of the Brother Group's total emissions in FY 2020, which is the target of the Brother Group's CO2 reduction target in FY 2030. Since this contribution rate of GHG emissions to reduction targets is high, there is a risk that this delayed reduction will result in failure to reach the target. Therefore, this GHG emissions are an important component of climate change related risk.

Value chain stage(s) covered

Direct operations

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

Annually

Time horizon(s) covered

Short-term

Medium-term

Description of process

In Brother, the Environment Committee (Environmental Management Promotion Committee), which is the decision-making body for environmental problems, decides appropriate measures and measures that can be taken with respect to important aspects related to global climate change and environmental laws and regulations. The Environmental Committee is also responsible to collect data and report against the targets outlined in the Environmental Action Plan. We will identify key issues at that committee and set ambitious targets for climate change, environmental laws and regulations. In addition, though the Environmental Issues Review Committee, we draw up and review specific policies and measures for solving environmental issues related to products on monthly basis. The Environmental Committee then presents the final report to the president and board members of the Risk Management Committee.

Value chain stage(s) covered

Direct operations

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

Annually

Time horizon(s) covered

Short-term

Medium-term

Description of process

The Risk Management Committee will cooperate with the environmental management personnel (EMR) in each country/region at the global level. The committee reports risks and opportunities in tackling environmental activities in accordance with the Brother Group's environmental action plan. Prior to the committee, from the management planning department every year, risk assessment sheets are sent to the bases of each country/region. This assessment sheet contains concerns about climate change, environmental law concerns and problems at present, presence of accidents and incidents, compliance with environmental law, and so on. The environmental department reviews this assessment sheet, extracts risks and opportunities, and reports it to the committee. In addition, the environmental department will conduct hearings directly to the sites as necessary.

C2.2a

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	In Japan, Vietnam and China where main factories producing our products are located, there are regulations that oblige to reduce energy consumption, so penalties will be given by the government if we cannot comply. Therefore, current legal regulations must always be considered in assessing the risk of the current climate change.
Emerging regulation	Relevant, always included	In the Asian region where our products are located, the environmental regulations including the emission of greenhouse gases are strengthened. Furthermore, when regulations are strengthened and there is an influence on the operation of the production factory, since financial influence is significant, we always gaze at the latest laws and regulations trends according to our environmental management system trends. These scenarios referred to the IEA, IPCC, Aqueduct (Water Risk Assessment Tool), and more.
Technology	Relevant, always included	To achieve the goal of reducing the CO2 emissions of Scope 1, 2 and Scope 3 set by the Brother group in FY 2030, we must always incorporate new technologies and do not use it for energy saving and resource conservation of facilities and products I believe it will not. Delay in the introduction of new technologies has the risk of relative environmental performance deterioration in the market and the risk of not reaching the CO2 reduction goal, so we must always consider the trend of new technology.
Legal	Relevant, always included	In the Asian region where our products are located, the environmental regulations including the emission of greenhouse gases are strengthened. Furthermore, when regulations are strengthened and there is an influence on the operation of the production factory, since financial influence is significant, we always gaze at the latest laws and regulations trends according to our environmental management system trends.
Market	Relevant, always included	We believe that demand for low-carbon products will increase in the market due to the worldwide interest in climate change. Therefore, we constantly monitor the level of low-carbon products required by the market. To create low-carbon products, the Brother group is committed to the following objectives: Reduce absolute Scope 3 GHG emissions from purchased goods and services, use of sold products and end-of-life treatment of sold products 30% by FY 2030 from a FY 2015 base-year. These scenarios referred to the IEA, IPCC, Aqueduct (Water Risk Assessment Tool), and more.
Reputation	Relevant, always included	Based on the agreement of the Paris Agreement, it is expected that demand for low carbonization to companies will increase worldwide. Therefore, the lack of commitment to low carbon can lead to a loss of stakeholder reputation, and we believe there is a risk that the Brother Group's brand will decrease. As one of the purposes of avoiding this reputation risk, the Brother group has set CO2 reduction targets for FY 2030 and clarifies the attitude to tackle low carbon.
Acute physical	Relevant, always included	To minimize the impact on operations due to intense weather such as typhoons and guerrilla torrential rains and the intensification of floods, we have bases in countries and regions with low risk in our production, procurement from the supply chain, transportation of parts and products. Based on the 1.5 °C and 4.0 °C scenarios, key risks and opportunities were identified and their impact on the company's business and finances was assessed. These scenarios referred to the IEA, IPCC, Aqueduct (Water Risk Assessment Tool), and more.
Chronic physical	Relevant, always included	We are based in countries and regions with low risk of survival due to long-term changes in climate and rainfall patterns that cause sea level rise, drought and heat waves. These scenarios referred to the IEA, IPCC, Aqueduct (Water Risk Assessment Tool), and more.

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

Emerging regulation	Carbon pricing mechanisms
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Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

In 2020, the Government of Japan set new emission reduction targets based on the framework of the Paris Agreement. In the future, as a way to achieve that goal, if it is allocated to each industry and individual company in the form of tax, it may lead to a decrease in Brother's operating income. This is the same overseas. Even in overseas countries and regions where Brother is based, if the government sets new emission reduction targets based on the framework of the Paris Agreement, the government will introduce a program to achieve the reduction targets in the form of carbon tax. It is possible to do.

Time horizon

Long-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)

1000000000

Potential financial impact figure - maximum (currency)

10000000000

Explanation of financial impact figure

In the scenario analysis, we referred to "IEA's World Energy Outlook 2020", "IPCC's Global Warming of 1.5 degree", and others. When calculating the financial impact of the carbon tax, we referred to the figures from 2020 to 2050. If the 2050 carbon tax is not specified, we estimated the 2050 carbon tax using the projected carbon tax figures from 2025 to 2040. The financial impact of the Brother Group's projected CO2 emissions was calculated by multiplying it by a carbon tax that may be levied.

Cost of response to risk

282000000

Description of response and explanation of cost calculation

Brother has set a medium-term target for CO2 emissions in 2030 and is developing systematic reductions in CO2 emissions. Currently, carbon tax is not urgently imposed, but it is very important to monitor future trends. Therefore, this is an activity as part of the environmental management system. Since the cost of watching the carbon tax alone cannot be calculated, the cost related to the environmental management system is shown here. We will quote the "Global Environmental Conservation Costs" in the "Business Area Costs" of the FY2020 environmental accounting disclosed on the environmental web.

Comment

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Market

Changing customer behavior

Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Brother's industrial equipment was developed through our manufacturing of machine tools needed to make key parts of sewing machines in-house. In 1985, Brother released the CNC Tapping Center. It has been well received by our customers because it is compact in size yet offers high productivity and environmental performance for processing parts needed by the automobile and IT industries. After the launch of our next-generation machine tool brand "SPEEDIO" in 2013, we have released models that can process bigger parts, and models that are capable of lathe turning processing, and peripheral devices around "SPEEDIO" machines, such as a rotary table. In this way, we have been exploiting new markets.

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)

1000000000

Potential financial impact figure - maximum (currency)

10000000000

Explanation of financial impact figure

Using the 1.5 degree scenario, we assumed that the shift from vehicles that use internal combustion engines to electric vehicles would reduce the demand for metal processed parts related to internal combustion engines. For scenario analysis, we referred to "Global EV Outlook 2019" and "IEEJ Outlook 2018" regarding the spread of electric vehicles.

Cost of response to risk

5091000000

Description of response and explanation of cost calculation

It will be necessary to pay for the development of machine tool products and functions to increase the number of new machine tools such as electric vehicle-related parts. R & D expenses for these machine tools alone are not disclosed, so the R & D expenses for the entire machinery business including machine tools are shown. Its value is 5,091 million yen. The figures for R & D expenses are stated in the FY2020 Internal Control Report and Securities Report.

Comment

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical Increased severity and frequency of extreme weather events such as cyclones and floods

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

According to the IPCC's Fourth Report, the future forecast is that summer precipitation will increase in floods in densely populated "mega-deltas" areas such as South and East Asia. The IPCC report also predicts that cyclones may grow stronger in Southeast Asia in the future. Brother has a major factory in the region with major businesses and is at risk of floods and cyclones.

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)

1000000000

Potential financial impact figure - maximum (currency)

10000000000

Explanation of financial impact figure

We have assumed flood risk due to the 4 degree scenario for factories in China and Asian factories such as Vietnam and the Philippines. If the flood causes paralysis of logistics and transportation, the impact will lead to the suspension of production at the factory. Normally, parts are kept in a warehouse for a certain number of days, and production can be continued. However, if the operation is stopped for the number of days expected in advance, the production will be stopped. We estimated the loss of business opportunities at this time.

Cost of response to risk

82000000

Description of response and explanation of cost calculation

We have already implemented certain natural disaster countermeasures when the factory is located. In addition, for some models, we are implementing risk management through production at multiple bases. In addition, we are strategically considering parts suppliers and their upstream suppliers, and assume that the risk of production outages due to floods is moderate. Since it is difficult to calculate only the costs related to the procurement of materials and the management of warehouses, we will quote the "upstream / downstream costs" of environmental accounting. This number is in the 2020 environmental accounting disclosed on the environmental web.

Comment

C2.4

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

Yes

C2.4a

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

Identifier

Opp1

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

The creation of low-carbon products is indispensable for the realization of a low-carbon society. Brother is advancing research and development of low-carbon products as a new business. Brother's fuel cell uses a polymer electrolyte fuel cell (PEFC), which has a proven track record in general applications such as being used in fuel cell vehicle FCVs and ENE-FARM. The polymer electrolyte cell (PEFC) has a low operating temperature and a short start-up time, making it suitable for use in applications with many ON / OFF. Spot coolers are also one of the low carbon products. Recently, as the number of heat stroke patients due to the intense heat of summer is increasing, most of the heat stroke that occurs during work is occurring at work sites such as factories. Brother believes that these on-site measures will become even more important in the future, and has developed and released a spot cooler that sends powerful cold air without imposing a burden on the environment. With our unique cooling technology that does not use a refrigerant and compressor, the power consumption is reduced to 180W, which is about 1/4 that of a general spot cooler, and it also contributes to the reduction of energy consumption.

Time horizon

Medium-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)

10000000000

Potential financial impact figure - maximum (currency)

100000000000

Explanation of financial impact figure

We speculate that demand for low-carbon products such as spot coolers and fuel cells will increase as climate change progresses. For the scenario analysis, we used the 1.5 degree scenario to predict the market size in Japan and overseas in 2030.

Cost to realize opportunity

2819000000

Strategy to realize opportunity and explanation of cost calculation

R & D expenses related to this project are not disclosed to the outside. For that reason, we indicate R & D expenses in "other businesses" in the internal control report and securities report. Its value is 2,819 million yen.

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Downstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

Brother's industrial equipment was developed through our manufacturing of machine tools needed to make key parts of sewing machines in-house. In 1985, Brother released the CNC Tapping Center. It has been well received by our customers because it is compact in size yet offers high productivity and environmental performance for processing parts needed by the automobile and IT industries. After the launch of our next-generation machine tool brand "SPEEDIO" in 2013, we have released models that can process bigger parts, and models that are capable of lathe turning processing, and peripheral devices around "SPEEDIO" machines, such as a rotary table. In this way, we have been exploiting new markets.

Time horizon

Medium-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)

1000000000

Potential financial impact figure - maximum (currency)

10000000000

Explanation of financial impact figure

In the scenario analysis in the TCFD recommendation, we assumed that the conversion from vehicles using internal combustion engines to electric vehicles would proceed in the case of the 1.5 degree scenario. Brother's machine tools are compatible with new processed products such as EV-related parts, and we can expect an increase in demand for machine tools. To estimate the market size, we referred to hydrogen prices in Japan's basic hydrogen strategy and hydrogen market forecast data in the EU.

Cost to realize opportunity

5091000000

Strategy to realize opportunity and explanation of cost calculation

R & D expenses for these machine tools alone are not disclosed, so the R & D expenses for the entire machinery business including machine tools are shown. Its value is 5,091 million yen. The figures for R & D expenses are stated in the FY2020 Internal Control Report and Securities Report.

Comment

C3. Business Strategy

C3.1

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

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

C3.1a

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

	Is your low-carbon transition plan a scheduled resolution item at AGMs?	Comment
Row	No, and we do not intend it to	Currently, there are no items related to climate change in the agenda of the general meeting of shareholders, but we are already preparing for a question and answer
1	become a scheduled resolution	session. To prevent COVID-19 virus infection, we held last year's and this year's shareholders' meetings as a compact meeting. There were no questions from
	item within the next two years	shareholders. We plan to accept online participation from next year onwards, when there may be discussions on climate change.

C3.2

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

Yes, qualitative and quantitative

C3.2a

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

related	Details
scenarios	s
and models	
applied	
2DS RCP 2.6	Our inventory follows the GHP Protocol Corporate Standard and the consolidation approach used to calculate is operational control. We commit to reduce absolute Scope1 and 2 GHG emissions 30 % by FY 2030 from a FY 2015 base-year. The primary operations and activities that account for emissions in Scope1 and 2 is –, Scope 1: GHG emissions from liquid solvent for manufacturing and fossil fuel consumption Scope 2: GHG emissions from purchased electricity consumption. We also commit to reduce absolute Scope3 GHG emissions from purchased goods and services, use of sold products and end-of-life treatment of sold products 30 % by FY 2030 from a FY 2015 base-year. We believe that the target value of 30% reduction by 2030 compared with the fiscal 2015 level is a consistent with the ambitious target level of Paris Agreement. The reason is the same setting as the target values of Scope1 and 2 set based on the SDA tool. As we are aggressively pursuing greenhouse gas reduction efforts aiming at achieving the 2 degrees target of the Paris Agreement globally, it is imperative for the Brother Group to carry out business activities in line with that trend, It is supposed to be kept low, and I think that it will be blessed with business opportunities. Based on this scenario, we have analysed the amount of greenhouse gas to be reduced in the business sectors of the Brother group, because we recognize that the scenario with a high possibility to achieve the 2 degrees target is IEA 2DS. We specifically calculated the CO2 equivalent reduction of Scope1 and 2 that should be reduced by FY 2030 using the SDA tool provided by SBTi. As a result, we realized that it is the level required by society to achieve 30% of the fiscal 2015 level. In addition, the Brother group's Scope3 emissions account for more than 90% of the total GHG emissions from purchased goods and services, end of life treatment of sold products. Because these emissions are greatly related to the low carbon performance of products and demand for low-carbon products is expe

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	Impacted. We incorporate low-carbon product creation and line up into annual environmental targets and mid- and long-term plans, and the environmental committee manages the progress situation. Product example; Printers, All-in-Ones, Home Sewing Machines, Industrial Sewing Machines, Machine Tools, Reducers and Gears, etc.
Supply chain and/or value chain	Yes	Impacted for some suppliers, facilities, or product lines. When initiating transactions with the supply chain, or periodically, we are requesting the setting and reporting of voluntary targets for GHG reduction.
Investment in R&D	Yes	Impacted for some suppliers, facilities, or product lines. In 2016, Brother succeeded in developing a fuel cell system by making use of miniaturization technology accumulated through the development of printers and multifunction machines, and power control technology cultivated in machine tools and others. We believe that we can contribute to the development of a low carbon society and a decarbonized society.
Operations	Yes	Impacted. We have incorporated the latest energy-saving facilities in establishing a new factory and building a new building. Even in existing buildings, we have budgeted and introduced devices that compatible with functions and energy saving, such as updating to devices with fewer GHGs. In the office, operational standards are set for air conditioner, lighting and office equipment operation, contributing to energy conservation. At the factory, we reviewed the unnecessary power, updated the equipment, improved the process, contributing to the reduction of GHG.

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	Revenues	Changes in factory production volumes and changes in consumer trends caused by the effects of climate change will have an impact on Brother's financial plan for revenue. Due to
1	Direct costs	the effects of climate change, financial planning concerning Brother's business expenditure, such as product quality control, employee safety and health, and introduction of low GHG emissions equipment, may be affected.

C3.4a

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

i) We formulate the Brother Group Environmental Action Plan based on the Global Charter. The Environmental Promotion Division continuously researches regulatory information and global trends related to climate change from the stage of draft documents. We identify the important issues, set ambitious environmental targets in our Environmental Action Plan and publish it to entire departments in the Head Office and facilities around the world. Based on the tasks under Environmental Action Plan, the Environmental Committee as the decision-making body for environmental affairs, acts to check the progress and performance and utilizes the results in making a new action plan every three to five years.

ii) In order to contribute to solving global environmental problems, Brother creates the "Brother Group Environmental Vision 2050" as an environmental goal of the Brother group, as well as its milestone we have set the "Medium-Term Fiscal 2030 target" as our target. We are aware that this medium-term target for reducing CO2 emissions is appropriate as a reduction target based on the scientific basis for achieving the "2 degrees target" of the Paris Agreement, or "Science Based Targets Initiative" and applied for certification.

Prior to this target setting, we have expanded the boundary of Scope1, 2 and 3 to set tasks, which drive forward the efficient CO2 reduction program to disclose the effect of producing more energy-saving products.

iii) Energy saving activities at each facility, energy efficient performance in our products to meet regulatory requirements and customers' preference change have been influenced on our product development plans and our decisions to develop new technologies.

iv) By identifying global trends and regulatory requirements, we developed the Brother Group midterm environmental action plan 2019-2021 and set the following ambitious targets in respect to the following fields:

- -1. Create eco-conscious products,
- -2. Reduce group CO2 emissions. For example, we develop low carbon products and switch to energy-efficient equipment at each facility.
- v) We developed new Fuel cells. This product does not emit CO2 emissions in its usage and is very useful from CO2 reduction view point.
- vi) We have started a working group and now are considering the future vision.

vii) We conduct product environmental assessments at key stages of development and ensure eco-conscious design by addressing the product life cycle from material procurement, production, products use through to the collection and recycling at the end of life. We conduct an LCA that quantitatively provides numerical data for the "degree of impact on the environment" at each stage of its life cycle. Environmental load characteristics and improvement points are identified, and the improvement effects are confirmed for each product. We conduct an LCA for our core products categories in our business operations and acquire the JEMAI EcoLeaf environmental label on almost all core products. We make our Brother products towards achievement of the top-level energy efficiency in the market.

viii) We will perform forward-looking scenario analyses, including a 2 degrees scenario and aim to utilize the results in setting our long-term business plan and strategies.

C4. Targets and performance

C4.1

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

Absolute target

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number

Abs 1

Year target was set

2018

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Scope 1+2 (market-based)

Base year

2015

Covered emissions in base year (metric tons CO2e)

100008 2

Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)

100

Target year

2030

Targeted reduction from base year (%)

30

Covered emissions in target year (metric tons CO2e) [auto-calculated]

139368.74

Covered emissions in reporting year (metric tons CO2e)

117040.59

% of target achieved [auto-calculated]

137.382139399887

Target status in reporting year

Achieved

Is this a science-based target?

Yes, and this target has been approved by the Science-Based Targets initiative

Target ambition

2°C aligned

Please explain (including target coverage)

In July 2018, Brother Industries, Ltd. announces that its mid-term targets for CO2 emissions reduction set out in the "Brother Group Environmental Vision 2050" have been approved by the international environmental initiative "Science Based Targets initiative" as the science-based reduction targets for achieving the Paris Agreement's goal of limiting global warming to well below "2 degrees Celsius." The Brother Group identifies CO2 emissions reduction as one of the priorities in the "Brother Group Environmental Vision 2050," a long-term environmental vision towards 2050. The mid-term targets for CO2 emissions reduction, which were recognized as science-based targets this time, were set based on the view that worsening worldwide climate change is a serious social challenge and a business risk for the Brother Group that need to be addressed continuously for years. The Group's reduction targets have been expanded to include CO2 emissions from its value chain that account for more than 90% of its total CO2 emissions (Scope 3) in addition to CO2 emissions from office activities (Scope1 and 2), which the Group has already been addressing. Focusing on these scopes, the Brother Group contributes to preventing climate change. Since it is published as a news release on our website, please refer to below. http://www.brother.com/en/news/2018/sbt/index.htm

Target reference number

Abs 2

Year target was set

2018

Target coverage

Company-wide

Scope(s) (or Scope 3 category)

Other, please specify (Product-related Scope 3 (Category 1, 11, 12))

Base year

2015

Covered emissions in base year (metric tons CO2e)

2994366.76

Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)

100

Target year

2030

Targeted reduction from base year (%)

30

Covered emissions in target year (metric tons CO2e) [auto-calculated]

2096056.732

Covered emissions in reporting year (metric tons CO2e)

2520942.54

% of target achieved [auto-calculated]

52.7016514614707

Target status in reporting year

Underway

Is this a science-based target?

Yes, and this target has been approved by the Science-Based Targets initiative

Target ambition

2°C aligned

Please explain (including target coverage)

In July 2018, Brother Industries, Ltd. announces that its mid-term targets for CO2 emissions reduction set out in the "Brother Group Environmental Vision 2050" have been approved by the international environmental initiative "Science Based Targets initiative" as the science-based reduction targets for achieving the Paris Agreement's goal of limiting global warming to well below "2 degrees Celsius." The Brother Group identifies CO2 emissions reduction as one of the priorities in the "Brother Group Environmental Vision 2050," a long-term environmental vision towards 2050. The mid-term targets for CO2 emissions reduction, which were recognized as science-based targets this time, were set based on the view that worsening worldwide climate change is a serious social challenge and a business risk for the Brother Group that need to be addressed continuously for years. The Group's reduction targets have been expanded to include CO2 emissions from its value chain that account for more than 90% of its total CO2 emissions (Scope3) in addition to CO2 emissions from office activities (Scope1 and 2), which the Group has already been addressing. Focusing on these scopes, the Brother Group contributes to preventing climate change. Since it is published as a news release on our website, please refer to below. http://www.brother.com/en/news/2018/sbt/index.htm

C4.2

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

No other climate-related targets

C4.3

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

Yes

C4.3a

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

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	0
To be implemented*	14	66.52
Implementation commenced*	31	1252.08
Implemented*	33	1042.47
Not to be implemented	24	601.67

C4.3b

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

Initiative category & Initiative type

Energy efficiency in production processes

Machine/equipment replacement

Estimated annual CO2e savings (metric tonnes CO2e)

542.15

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

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

12500000

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

182000000

Payback period

11-15 years

Estimated lifetime of the initiative

<1 year

Comment

We have reduced energy consumption by updating production equipment, air conditioners and humidifiers. This activity planned for the year was completed in FY2020.

Initiative category & Initiative type

Energy efficiency in buildings

Estimated annual CO2e savings (metric tonnes CO2e)

76 58

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Mandatory

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

461000

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

21200000

Payback period

>25 years

Estimated lifetime of the initiative

<1 year

Comment

We have reduced energy consumption by replacing fluorescent lamps with LEDs. This activity planned for the year was completed in FY2020.

Initiative category & Initiative type

Energy efficiency in production processes Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

328.39

Scope(s)

Scope 1

Scope 2 (location-based)

Voluntary/Mandatory

Mandatory

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

4230000

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

107000

Payback period

<1 year

Estimated lifetime of the initiative

<1 year

Comment

At production factories, we have turned off lights during employee's break time and factory holidays and have reduced energy by stopping the machine in process waiting time. We attached timers and controllers as needed. We have reduced energy consumption by patrolling leaks on air piping and maintaining proper condition by periodic cleaning of air conditioning equipment. This activity planned for the year was completed in FY2020.

Initiative category & Initiative type

Low-carbon energy generation Solar PV

Estimated annual CO2e savings (metric tonnes CO2e)

9.85

Scope(s)

Scope 2 (location-based)

Voluntary/Mandatory

Mandatory

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

6470000

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

31700000

Payback period

4-10 years

Estimated lifetime of the initiative

<1 year

Comment

BROTHER INDUSTRIES (SLOVAKIA) s.r.o. have installed the solar power generation system on the roof of the factory and have introduced an air conditioning system that uses geothermal heat in 2020. BROTHER INDUSTRIES (SLOVAKIA) s.r.o. purchases 100% renewable sources (water, wind, solar, geothermal, biomass, biogas, etc.) and has received the certificate for the power that is insufficient even if these systems are used.

C4.3c

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

Method	Comment
Compliance with regulatory requirements/standards	We invested in outside consultants for energy efficiencies to meet regulatory requirements.
Dedicated budget for energy efficiency	Implementation for energy reduction projects within facilities.
Internal incentives/recognition programs	Donations from the amount of Eco-point Brother Environmental Programs to external environmental charities.
Internal finance mechanisms	Additional investments as required/needed for potential reduction activities.
Dedicated budget for low- carbon product R&D	We set energy-saving performance targets in each business segment and decide investment in developing new products.
Employee engagement	First place finish in the Drive Less Somerset Employer Challenge Event for 2016 sponsored by NPO "Ride Wise" in the USA. The challenge issued was to see which Somerset Employer could reduce traffic and decrease the most amount of carbon emissions through choosing sustainable transportation options.

C4.5

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

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation

Group of products

Description of product/Group of products

Period: Compliance rate of imaging equipment * placed on the European market from Jan 2020 to Dec 2020 Equipment using inkjet technologies: 100% Equipment using laser technologies: 98% *Copiers, printers, fax machines and multifunction devices using laser, inkjet and solid ink technologies

Are these low-carbon product(s) or do they enable avoided emissions?

Low-carbon product

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Evaluating the carbon-reducing impacts of ICT

% revenue from low carbon product(s) in the reporting year

52.95

% of total portfolio value

<Not Applicable>

Asset classes/ product types

<Not Applicable>

Comment

The Brother group produced more energy efficient products compared with the previous equivalent models based on our own Product Environmental Assessment Check Sheet.

C5. Emissions methodology

C5.1

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

Scope 1

Base year start

April 1 2015

Base year end

March 31 2016

Base year emissions (metric tons CO2e)

75333.15

Comment

To apply to SBTi and to expand the boundary, we tried again to calculate the base year as 2015. This data has been revalidated by external verification agencies.

Scope 2 (location-based)

Base year start

April 1 2015

Base year end

March 31 2016

Base year emissions (metric tons CO2e)

122766.05

Comment

To apply to SBTi and to expand the boundary, we tried again to calculate the base year as 2015. This data has been revalidated by external verification agencies.

Scope 2 (market-based)

Base year start

April 1 2015

Base year end

March 31 2016

Base year emissions (metric tons CO2e)

125092.7

Comment

To apply to SBTi and to expand the boundary, we tried again to calculate the base year as 2015. This data has been revalidated by external verification agencies.

C5.2

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

Act on the Rational Use of Energy

IEA CO2 Emissions from Fuel Combustion

ISO 14064-1

Japan Ministry of the Environment, Law Concerning the Promotion of the Measures to Cope with Global Warming, Superceded by Revision of the Act on Promotion of Global Warming Countermeasures (2005 Amendment)

New Zealand - Guidance for Voluntary, Corporate Greenhouse Gas Reporting

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

The Greenhouse Gas Protocol: Scope 2 Guidance

Toitū carbonzero programme

US EPA Emissions & Generation Resource Integrated Database (eGRID)

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)

18355.544

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

This figure has been verified by a third-party external verifier.

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

Dow 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

To apply to SBTi and to expand the boundary, we tried again to calculate the base year as 2015. This data has been revalidated by external verification agencies.

C6.3

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

Reporting year

Scope 2, location-based

98507.912

Scope 2, market-based (if applicable)

98685.045

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

This figure has been verified by a third-party external verifier.

C6.4

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

Yes

C6.4a

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

Source

Group of DOMINO PRINTING SCIENCE is headquartered in the United Kingdom and joined the brother group in FY2015.

Relevance of Scope 1 emissions from this source

Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source

Emissions are not relevant

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

Emissions are not relevant

Explain why this source is excluded

We are currently in the process of incorporating the Domino Printing Sciences group into our environmental management system. We have tried to collect and calculate GHG data since 2020, and succeeded in including it in the calculation within the range of 62.6% of Domino's sales. We will continue our efforts to include the remaining subsidiaries in the total. The ratio of the remaining subsidiaries in Scope 1 and 2 is estimated to be about 4.1% of the entire Brother Group.

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

Metric tonnes CO2e

1302661.117

Emissions calculation methodology

Regarding some products of each business area in FY 2020, LCA data will be used for determining emissions for goods and services purchased or acquired by the reporting company. CO2 emissions = Σ ((total sales by products) x (emission factor)). We have changed the emission factor from Ecoleaf or EasyLCA to IDEA ver 2.3 in the product-related categories (category 1, 11 and 12) of Scope3. At the same time, we changed the calculation method for GHG emissions of reduction gears and gear motors from the input-output table base based on the sales amount to the stacking base.

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

0

Please explain

We have not calculated emissions using data from suppliers or value chain partners.

Capital goods

Evaluation status

Relevant, calculated

Metric tonnes CO2e

75896.518

Emissions calculation methodology

To calculate CO2 emissions by multiplying the purchased price and the emission factor based on assert types (buildings, vehicles, machinery, tools, dies, fixtures and equipment, intangible) in FY 2020. CO2 emissions = Σ ((acquisition cost of fixed assets) x (emission factor)).

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

0

Please explain

We have not calculated emissions using data from suppliers or value chain partners.

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

Evaluation status

Relevant, calculated

Metric tonnes CO2e

10987.079

Emissions calculation methodology

Fuels: The amounts of each fuels (Scope1 reported amounts) are multiplied by emissions unit values from the stage of resource extraction to the transportation stage in FY2020. Electricity and Heat: The amounts of electricity and heat (Scope2 reported amounts) are multiplied by average emissions unit values for resource extraction, production, and transportation of fuel for all power sources in FY 2020. CO2 emissions = Σ ((amount of energy consumption) x (emission factor)).

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

0

Please explain

We have not calculated emissions using data from suppliers or value chain partners.

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

103147.517

Emissions calculation methodology

Ton-kilometer method will be used for determining emissions for Transportation and delivery in FY 2020. CO2 emissions = Σ ((ton-kilometers transported) x (emissions factor by mode such as truck, railroads, ships and aircrafts)). Domestic BIL (BROTHER INDUSTRIES, LTD.) will use the data of transport emissions report in FY 2020 which are provided by domestic/overseas offices and the factories. CO2 emissions = Σ ((transport distance) x (transport weight) x (emission factor)).

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

26

Please explain

We use some data from value chain partners such as shipping companies to calculate.

Waste generated in operations

Evaluation status

Relevant, calculated

Metric tonnes CO2e

4138.217

Emissions calculation methodology

Emissions are estimated by multiplying amounts consigned to waste disposal/recycling companies by emissions unit values "tCO2e/t" based on standard scenarios for each type of waste in FY 2020. CO2 emissions = Σ ((acceptance amount of processed, recycled waste) x (emission factor)).

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

0

Please explain

We have not calculated emissions using data from suppliers or value chain partners.

Business travel

Evaluation status

Relevant, calculated

Metric tonnes CO2e

1557.928

Emissions calculation methodology

In the use of public transportation, the emission in FY 2020 has been calculated in multiplying the expenses of each transport mode and the emission factor. If the transportation expense is unknown, the transport mode percentage will be set by the inspection of sampling. CO2 emission = Σ ((amount of travel expenses) x (emission factor)). There is a method to simply calculate the emission amount from the number of employees at the end of 2020 when each site cannot grasp the transportation allowance. Emissions can be calculated using the formula below. CO2 emission = Σ ((employee numbers) x (emission factor)).

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

0

Please explain

We have not calculated emissions using data from suppliers or value chain partners.

Employee commuting

Evaluation status

Relevant, calculated

Metric tonnes CO2e

14698.118

Emissions calculation methodology

In the use of public transportation, the emission in FY 2020 has been calculated in multiplying the expenses of each transport mode and the emission factor. If the transportation expense is unknown, the transport mode percentage will be set by the inspection of sampling. CO2 emission = Σ ((amount of travel expenses) x (emission factor)). Calculate based on fuel economy method: CO2 emissions = Σ ((moving distance/fuel consumption) x (emission factor)). If we cannot know the data such as transportation expenses payments, travel distance, fuel usage, use the way to calculate based on the numbers of employee and working days in FY 2020. Emissions can be calculated using the formula below. CO2 emissions = Σ ((employee numbers) x (working days) x (emission factor)).

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

0

Please explain

We have not calculated emissions using data from suppliers or value chain partners.

Upstream leased assets

Evaluation status

Relevant, calculated

Metric tonnes CO2e

4642.354

Emissions calculation methodology

The emission in FY 2020 has been calculated in multiplying the energy consumption of leased assets which are not included in Scope1 and 2 and the emission factor. If the company has rented a part of whole property, the energy consumption should be calculated using the ration of office area, etc. CO2 emission = Σ ((leased asset energy consumption) x (emission factor)). If we cannot know energy consumption of leased assets, only when leased asset is building, the emission in FY 2020 has been calculated in multiplying total floor space of leased assets and the emission factor. CO2 emissions = Σ ((floor space of leased building) x (emission factor)).

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

0

Please explain

We have not calculated emissions using data from suppliers or value chain partners.

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

14671.148

Emissions calculation methodology

The emission in FY 2020 is calculated based on ton-kilometer method. We define that transport distance is uniformly 100 km by PCRs ("Product Category Rule" s) of the JEMAI EcoLeaf Environment Label. CO2 emissions = Σ ((100km) x (transport weight) x (emission factor)).

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

0

Please explain

We have not calculated emissions using data from suppliers or value chain partners. For downstream transportation and logistics, the transportation distance is calculated as 100 km uniformly.

Processing of sold products

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

О

Emissions calculation methodology

Emissions from the processing of sold products in FY 2020 are calculated from the following formula. CO2 emissions = (CO2 emissions from customers [Scope1+2]) x (Sales amount of intermediate products/sales amount of sales destination)

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

Λ

Please explain

Not relevant, as we do not sell any intermediate product.

Use of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

968174.469

Emissions calculation methodology

Emissions in FY2020 are calculated based on LCA. LCA data will be used for determining emissions for goods and services purchased or acquired by the reporting company. We have changed the emission factor from Ecoleaf or EasyLCA to IDEA ver 2.3 in the product-related categories (category 1, 11 and 12) of Scope3. At the same time, we changed the calculation method for GHG emissions of reduction gears and gear motors from the input-output table base based on the sales amount to the stacking base.

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

0

Please explain

We have not calculated emissions using data from suppliers or value chain partners.

End of life treatment of sold products

Evaluation status

Relevant, calculated

Metric tonnes CO2e

250106.957

Emissions calculation methodology

Emissions in FY2020 are calculated based on LCA. LCA data will be used for determining emissions for goods and services purchased or acquired by the reporting company. We have changed the emission factor from Ecoleaf or EasyLCA to IDEA ver 2.3 in the product-related categories (category 1, 11 and 12) of Scope3. At the same time, we changed the calculation method for GHG emissions of reduction gears and gear motors from the input-output table base based on the sales amount to the stacking base.

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

0

Please explain

We have not calculated emissions using data from suppliers or value chain partners.

Downstream leased assets

Evaluation status

Relevant, calculated

Metric tonnes CO2e

1885.886

Emissions calculation methodology

The emission in FY 2020 has been calculated in multiplying the energy consumption of leased assets which are not included in Scope1and 2 and the emission factor. If the company has rented a part of whole property, the energy consumption should be calculated using the ration of office area, etc. CO2 emission = Σ ((leased asset energy consumption) x (emission factor)). If we cannot know energy consumption of leased assets, only when leased asset is building, the emission in FY 2019 has been calculated in multiplying total floor space of leased assets and the emission factor. CO2 emissions = Σ ((floor space of leased building) x (emission factor)).

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

0

Please explain

We have not calculated emissions using data from suppliers or value chain partners.

Franchises

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

0

Emissions calculation methodology

We collect Scope1 and 2 of the franchises and the calculation method in the Accounting and Reporting System in FY 2020. CO2 emissions = Σ ((energy consumption of franchises) x (emission factor)).

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

0

Please explain

Not relevant, as we do not have any franchises.

Investments

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

0

Emissions calculation methodology

Emissions in FY 2020 from investment can be obtained by the following two methods. 1. Method to obtain from the holding ratio to the total number of issued shares of the investee: CO2 emissions = Σ {(Emissions from each stock investee) x (Emission factor)} 2. Method to obtain from debt ratio to total capital of investee: CO2 emissions = Σ {(Emissions from each bond investment) x (Emission factor)}.

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

0

Please explain

Not relevant, as business investment is not our major business operations.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Brother has no other relevant activity, so this term does not apply.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

Please explain

Brother has no other relevant activity, so this term does not apply.

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

No

C6.10

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

Intensity figure

1.852e-7

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

117040.6

Metric denominator

unit total revenue

Metric denominator: Unit total

631812000000

Scope 2 figure used

Market-based

% change from previous year

5.29

Direction of change

Decreased

Reason for change

There are two main reasons for this change. The first is the reduction of scope 1. A decrease in the amount of HFC in the solvent is the main reason for the decrease in Scope 1. The second reason is that the increase in telecommuting to prevent infection with the coronavirus has reduced energy use within the company and restricted sales activities.

Intensity figure

1.85e-7

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

116863.47

Metric denominator

unit total revenue

Metric denominator: Unit total

631812000000

Scope 2 figure used

Location-based

% change from previous year

5.85

Direction of change

Decreased

Reason for change

There are two main reasons for this change. The first is the reduction of scope 1. A decrease in the amount of HFC in the solvent is the main reason for the decrease in Scope 1. The second reason is that the increase in telecommuting to prevent infection with the coronavirus has reduced energy use within the company and restricted sales activities.

C7. Emissions breakdowns

C7.1

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

Ye

C7.1a

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

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	17945.605	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	49.044	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	23.562	IPCC Fourth Assessment Report (AR4 - 100 year)
HFCs	159.683	IPCC Fourth Assessment Report (AR4 - 100 year)
PFCs	177.663	IPCC Fourth Assessment Report (AR4 - 100 year)
SF6	0	IPCC Fourth Assessment Report (AR4 - 100 year)
NF3	0	IPCC Fourth Assessment Report (AR4 - 100 year)

C7.2

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

Country/Region	Scope 1 emissions (metric tons CO2e)
Japan	7846.141
China	1144.423
United States of America	4184.341
United Kingdom of Great Britain and Northern Ireland	1100.182
Taiwan, Greater China	17.952
Philippines	364.96
Viet Nam	652.437
Other, please specify (Rest of world)	3045.122

C7.3

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

C7.3b

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

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
BROTHER INDUSTRIES, LTD.	1585.577	35.118372	136.921982
NISSEI CORPORATION	3344.751	34.920154	137.049682
BROTHER TECHNOLOGY (SHENZHEN) LTD.	718.055	22.6058	114.141051
BROTHER INDUSTRIES (VIETNAM) LTD.	445.183	20.90872	106.393478
ZHUHAI BROTHER INDUSTRIES, CO., LTD.	10.585	22.232624	113.529373
TAIWAN BROTHER INDUSTRIES, LTD.	17.952	23.010871	120.666004
BROTHER MACHINERY XIAN CO., LTD.	281.95	34.341568	108.940175
BROTHER INDUSTRIES SAIGON, LTD.	2.487	10.957413	106.842687
BROTHER INDUSTRIES (PHILIPPINES), INC.	346.003	14.13857	121.112322
BROTHER MACHINERY VIETNAM CO, LTD.	204.766	20.947949	106.22868
Rest of world	11398.248		

C7.5

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

Country/Region	Scope 2, location-based (metric tons CO2e)	· ·	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
Japan	45271.509	39954.815	87055	381.21
China	16138.94	16121.542	25917.68	0
United States of America	4762.257	4762.257	10124.56	0
United Kingdom of Great Britain and Northern Ireland	1270.05	1659.213	5177.54	685.29
Taiwan, Greater China	946.599	809.072	1517.96	0
Philippines	15498.586	20944.411	23173.72	0
Viet Nam	12985.476	12985.476	36040.73	0
Other, please specify (Rest of world)	1634.495	1448.26	5885.29	3230.67

C7.6

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

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)
BROTHER INDUSTRIES, LTD.	19095.408	16710.67
NISSEI CORPORATION	12805.5	11204.5
BROTHER TECHNOLOGY (SHENZHEN) LTD.	10053.112	10053.112
BROTHER INDUSTRIES (VIETNAM) LTD.	10631.861	10631.861
ZHUHAI BROTHER INDUSTRIES, CO., LTD.	1482.228	1482.228
TAIWAN BROTHER INDUSTRIES, LTD.	919.186	785.642
BROTHER MACHINERY XIAN CO., LTD.	3783.762	3783.762
BROTHER INDUSTRIES SAIGON, LTD.	1645.711	1645.711
BROTHER INDUSTRIES (PHILIPPINES), INC.	15434.563	20857.892
BROTHER MACHINERY VIETNAM CO, LTD.	695.086	695.086
Rest of world	21961.494	20834.575

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)		Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	4.11	Decreased	0.05	BROTHER INDUSTRIES (SLOVAKIA) s.r.o. introduced a solar power generation system in 2020, and the obtained power is consumed in-house as the factory power.
Other emissions reduction activities	1055.82	Decreased	12.67	The Brother Group's CO2 emissions are primarily due to the use of electricity and fuel at the plant. The Brother Group continuously implements energy saving measures. In addition to this activity, continuing from last year, in fiscal 2020, we succeeded in drastically reducing the HFCs and PFCs used in our plants by process improvement. These improvements are estimated 1,055.82t-CO2e. The rate is calculated 12.67% for Scope1 and 2 reductions. The formula is 1,055.82t/ (125,195.19 -116,863.46) =12.67%. 125,195.19and 116,863.46 are subtotals of Scope 1 and 2 of FY2019 and FY2020 respectively.
Divestment	0	No change	0	
Acquisitions	0	No change	0	
Mergers	0	No change	0	
Change in output	1623.39	Decreased	19.48	GHG emissions related to production decreased due to a decrease in production of machine tools. Change in emission at the two major plants is estimated 1,623.39 t-CO2. The rate is calculated 15.72%. The formula is 1,623.39 / (125,195.19-116,863.46) =19.48%. 125,195.19and 116,863.46 are subtotals of Scope 1 and 2 of FY2019 and FY2020 respectively.
Change in methodology	0	No change	0	
Change in boundary	0	No change	0	
Change in physical operating conditions	2582.9	Decreased	31	To prevent the transmission of the COVID-19 virus, we have implemented suspension of operations or restrictions on employee attendance at overseas factories. As a result, the operating rate of the factory decreased, and the energy consumption decreased accordingly. Change in emission at the two major plants is estimated 2,582.90 t-CO2. The rate is calculated 15.72%. The formula is 2,582.90 / (125,195.19-116,863.46) =31.00%. 125,195.19and 116,863.46 are subtotals of Scope 1 and 2 of FY2019 and FY2020 respectively.
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 0% but less than or equal to 5%

C8.2

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

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

C8.2a

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

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	81314.54	81314.54
Consumption of purchased or acquired electricity	<not applicable=""></not>	4572.54	190106.74	194272.35
Consumption of purchased or acquired heat	<not applicable=""></not>	0	213.21	213.21
Consumption of purchased or acquired steam	<not applicable=""></not>	<not applicable=""></not>	<not applicable=""></not>	<not applicable=""></not>
Consumption of purchased or acquired cooling	<not applicable=""></not>	<not applicable=""></not>	<not applicable=""></not>	<not applicable=""></not>
Consumption of self-generated non-fuel renewable energy	<not applicable=""></not>	<not applicable=""></not>	<not applicable=""></not>	<not applicable=""></not>
Total energy consumption	<not applicable=""></not>	4572.54	271634.5	276207.04

C8.2b

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

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

C8.2c

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

Fuels (excluding feedstocks)

Motor Gasoline

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

20044.41

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

<Not Applicable>

Emission factor

2.8585

Unit

kg CO2e per liter

Emissions factor source

GHG Protocol - Calculation tools / Emission Factors from Cross-Sector Tools / Stationary combustion

Commen

All gasoline is used as fuel for cars and forklifts.

Fuels (excluding feedstocks)

Kerosene

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

117.63

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

<Not Applicable>

Emission factor

2.5344

Unit

kg CO2e per liter

Emissions factor source

GHG Protocol - Calculation tools / Emission Factors from Cross-Sector Tools / Stationary combustion

Comment

All kerosene is used as fuel for heating the facility.

Fuels (excluding feedstocks)

Diesel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

7395.08

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

<Not Applicable>

Emission factor

2.69198

Unit

kg CO2e per liter

Emissions factor source

GHG Protocol - Calculation tools / Emission Factors from Cross-Sector Tools / Stationary combustion

Comment

Almost all diesel oil is used as fuel for vehicles and forklifts, and a very small amount is used for test operation of emergency generators.

Fuels (excluding feedstocks)

Fuel Oil Number 2

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

95.06

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

<Not Applicable>

Emission factor

2.95563

Unit

kg CO2e per liter

Emissions factor source

GHG Protocol - Calculation tools / Emission Factors from Cross-Sector Tools / Stationary combustion

Comment

All the fuel oil No.2 is used as fuel for heating the facility.

Fuels (excluding feedstocks)

Liquefied Petroleum Gas (LPG)

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

2970.24

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

<Not Applicable>

Emission factor

2 99195

Unit

metric tons CO2e per metric ton

Emissions factor source

GHG Protocol - Calculation tools / Emission Factors from Cross-Sector Tools / Stationary combustion

Commen

LPG is primarily used for facility heating and hot water generation, drying and metal quenching processes in production plants.

Fuels (excluding feedstocks)

Town Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

50692.13

MWh fuel consumed for self-generation of electricity <Not Applicable>

110t7 (ppilotable)

MWh fuel consumed for self-generation of heat

<Not Applicable>

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self-cogeneration or self-trigeneration

<Not Applicable>

Emission factor

1.89016

Unit

metric tons CO2e per m3

Emissions factor source

GHG Protocol - Calculation tools / Emission Factors from Cross-Sector Tools / Stationary combustion

Commen

City gas is mainly used for heating facilities and drying processes in production plants.

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero emission factor in the market-based Scope 2 figure reported in C6.3.

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, supported by energy attribute certificates

Low-carbon technology type

Low-carbon energy mix

Country/area of consumption of low-carbon electricity, heat, steam or cooling

Slovakia

MWh consumed accounted for at a zero emission factor

590

Comment

BROTHER INDUSTRIES (SLOVAKIA) s.r.o. purchases 100% renewable sources (water, wind, solar, geothermal, biomass, biogas, etc.) and has received the certificate.

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, supported by energy attribute certificates

Low-carbon technology type

Low-carbon energy mix

Country/area of consumption of low-carbon electricity, heat, steam or cooling

Austria

MWh consumed accounted for at a zero emission factor

86.95

Comment

BROTHER CENTRAL AND EASTERN EUROPE GmbH's Austrian headquarter and BROTHER INTERNATIONAL GmbH's Austrian branch office purchase 100% hydroelectric power and have received the certificate.

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, supported by energy attribute certificates

Low-carbon technology type

Hydropower

Country/area of consumption of low-carbon electricity, heat, steam or cooling

Canada

MWh consumed accounted for at a zero emission factor

1282.13

Comment

BROTHER INTERNATIONAL CORPORATION (CANADA) purchases 100% hydroelectric power and has received the certificate.

Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, supported by energy attribute certificates

Low-carbon technology type

Low-carbon energy mix

Country/area of consumption of low-carbon electricity, heat, steam or cooling

United Kingdom of Great Britain and Northern Ireland

MWh consumed accounted for at a zero emission factor

1859.16

Comment

BROTHER INDUSTRIES (U.K.) LTD., BROTHER INTERNATIONAL EUROPE LTD. and BROTHER U.K. LTD. purchase 100% renewable sources (solar, wind, biomass, wave, etc.) and has received the certificate.

C9. Additional metrics

C9.1

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

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

Limited assurance

Attach the statement

AssuranceStatement_Brother2020_1_JP_FINAL.pdf

Page/ section reference

page 3

Relevant standard

ISO14064-3

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

Limited assurance

Attach the statement

AssuranceStatement_Brother2020_1_JP_FINAL.pdf

Page/ section reference

page 3

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 2 approach

Scope 2 market-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

AssuranceStatement_Brother2020_1_JP_FINAL.pdf

Page/ section reference

page 3

Relevant standard

ISO14064-3

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

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

 $Assurance Statement_Brother 2020_1_JP_FINAL.pdf$

Page/section reference

page 3

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Capital goods

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

AssuranceStatement_Brother2020_1_JP_FINAL.pdf

Page/section reference

page 3

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

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

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

 $Assurance Statement_Brother 2020_1_JP_FINAL.pdf$

Page/section reference

page 3

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Upstream transportation and distribution

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

AssuranceStatement_Brother2020_1_JP_FINAL.pdf

Page/section reference

page 3

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Waste generated in operations

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

AssuranceStatement_Brother2020_1_JP_FINAL.pdf

Page/section reference

page 3

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Business travel

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

AssuranceStatement_Brother2020_1_JP_FINAL.pdf

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Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Employee commuting

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

AssuranceStatement_Brother2020_1_JP_FINAL.pdf

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Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Upstream leased assets

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

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Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

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

Limited assurance

Attach the statement

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Relevant standard

ISO14064-3

100

Scope 3 category

Scope 3: Use of sold products

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

AssuranceStatement_Brother2020_1_JP_FINAL.pdf

Page/section reference

page 3

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: End-of-life treatment of sold products

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

AssuranceStatement_Brother2020_1_JP_FINAL.pdf

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page 3

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

Scope 3 category

Scope 3: Downstream leased assets

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

AssuranceStatement_Brother2020_1_JP_FINAL.pdf

Page/section reference

page 3

Relevant standard

ISO14064-3

Proportion of reported emissions verified (%)

100

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5? 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		Verification standard	Please explain
C8. Energy	Energy consumption		Energy consumption was verified by a third party in compliance with the international standard ISAE 3000 at the same time as the verification of GHG emissions. The coordination between GHG emissions and energy consumption is consistent. Since energy consumption is one of the important performance indicators in external ESG evaluations such as FTSE, we have been conducting third-party verification of energy consumption since FY2019.

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)? Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

Shenzhen pilot ETS

C11.1b

(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.

Shenzhen pilot ETS

% of Scope 1 emissions covered by the ETS

100

% of Scope 2 emissions covered by the ETS

100

Period start date

April 1 2020

Period end date

March 31 2021

Allowances allocated

10618

Allowances purchased

3974

Verified Scope 1 emissions in metric tons CO2e

718.05

Verified Scope 2 emissions in metric tons CO2e

10053.112

Details of ownership

Facilities we own and operate

Comment

Due to a shortage of 3,974 tons-CO2 in FY2020, Brother Shenzhen factory will purchase emission credits in FY2021.

C11.1d

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

Brother's Shenzhen plant utilizes Shenzhen emissions trading rights trading. The Shenzhen plant receives the carbon strength target of the year from the Shenzhen government. If the factory's CO2 emissions for this year exceed the target (upper limit), we purchase emissions credits from the Shenzhen carbon emissions trading market exceeding the factory, and if the current year's CO2 emissions are the target (upper limit) If less, we will sell the surplus.

C11.2

Yes

C11.2a

(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

Credit origination or credit purchase

Credit purchase

Project type

Forests

Project identification

A J-VER project to promote thinning of a subdivision of forest by the Gifu Pref Forest Owners Association, called "Gifu Seiryu No Kuni-zukuri Project (Gifu making land of clear stream project)"

Verified to which standard

VCS (Verified Carbon Standard)

Number of credits (metric tonnes CO2e)

10

Number of credits (metric tonnes CO2e): Risk adjusted volume

10

Credits cancelled

Yes

Purpose, e.g. compliance

Voluntary Offsetting

C11.3

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

Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Objective for implementing an internal carbon price

Drive energy efficiency

Drive low-carbon investment

GHG Scope

Scope 1

Scope 2

Application

It is an index for the GHG reduction policy for a single year or multiple years at Brother's headquarters in Japan. It can be a criterion for GHG reduction through process improvement, building accessories such as air conditioners and introduction of new energy.

Actual price(s) used (Currency /metric ton)

1000000

Variance of price(s) used

When utilizing carbon offsets, 1,000 yen per 1 ton-CO2e or more, when investing in purchasing equipment for energy conservation, 1,000,000 yen per 1 ton-CO2e is a standard by assuming that it is depreciated in one year (if it is depreciated in 4 years, it will be 250,000 yen).

Type of internal carbon price

Internal fee

Impact & implication

To achieve GHG reduction targets for a single year and multiple years, investment to reduce energy used as self-help effort is indispensable. However, if the return on investment is not too rational, it is expected that the investment will be postponed and switched to another investment. Or, we need to achieve our goal by utilizing carbon credits. For that reason, it will be the common judgment standard within the company.

C12. Engagement

C12.1

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

Yes, our suppliers

Yes, our customers

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

Climate change performance is featured in supplier awards scheme

% of suppliers by number

C

% total procurement spend (direct and indirect)

0

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

0

Rationale for the coverage of your engagement

In 2015, Brother's three factories producing industrial sewing machines and other products for the Machinery business, including domestic Kariya Factory, BROTHER MACHINERY XIAN CO., LTD., and BROTHER MACHINERY VIETNAM CO., LTD., launched an awards program to recognize excellent CSR activities with the aim of further promoting CSR activities among their suppliers. This awards program involves investigation over two years. In the first year, it conducts a questionnaire survey and an on-site inspection of suppliers on seven categories, such as compliance, environment-friendliness, and safety. In the second year, it invites these suppliers to present their CSR activities, and then recognizes excellent suppliers among them. This time, the program received entries from more than 30 companies. Among these entries, the most excellent CSR company and three excellent CSR companies were chosen after the evaluation by the representatives of the three Brother factories, from various perspectives, such as environment-friendliness, safety, and continuity. The awards ceremonies were held in March 2017, at Aiden Vietnam Ltd., the company that won the best CSR award, and at the social event for suppliers held in China for the companies which received CSR excellence awards. Brother also presented testimonials to all suppliers who joined this program. This CSR awards program helped Brother know its suppliers' stances toward CSR and their activities, receiving many reports on CSR activities addressed by respective suppliers, including the improvement of working environment, the reduction of waste, and the acquisition of the ISO 14001 certificate and efforts made based on it. The factories intend to continue this program, which reportedly contributed to increasing motivation among the employees of some suppliers by giving them recognition. The three Brother factories will promote expanding and enhancing its suppliers' CSR awareness and their activities through this awards program. The Brother Group will strive to foster relations of

Impact of engagement, including measures of success

The Brother Group puts its "Procurement Policy" and "CSR Procurement Standards" on the website to share its CSR procurement concept with parts and materials suppliers. In addition to green procurement practices which give priority to purchasing environmentally friendly parts and materials, these policy and standards also cover a wide range of fields, from human rights and labour, employees' safety and health, fair trade and ethics, product quality and safety, information security, to social contribution. The Brother Group remains committed to promoting CSR activities together with its suppliers. "Procurement policy" describes the commitment of "promoting green procurement considering the global environment and reducing the environmental impact through product life cycle" and "CSR procurement standards" includes transactions I'm asking you to work positively on "considering the global environment" first.

Commen

The ratio to the number of suppliers, the ratio of total procurement costs, and the ratio to Scope3 emissions have not been known.

C12.1b

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

Type of engagement

Education/information sharing

Details of engagement

Share information about your products and relevant certification schemes (i.e. Energy STAR)

% of customers by number

n

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

0

Portfolio coverage (total or outstanding)

<Not Applicable>

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

The Brother Group is committed to reducing environmental impact at all stages of the life cycle of its products. This is the guiding principle of the group's manufacturing activities. The Brother Group Environmental Action Plan 2021 (2019-2021) set ever-higher targets for each of these stages to accelerate efforts. Specific activities included enhancing eco-conscious design processes and green procurement, continuous reduction in environmental impact at manufacturing facilities (such as CO2 emissions and water consumption), reduction in CO2 emissions in logistics (for example, by optimizing packaging), further improvements in energy saving performance during product use, and enhancement in the reusability, recyclability, and collection system for either products or consumables. We conduct various product lifecycle activities such as product design to improve environmental performance, disclosure of environmental label acquisition products, packaging downsizing, collection and recycling of used products and expendable items, along with video on our website It is open to the public. But the ratio to the number of customers and the ratio to Scope3 emissions have not been known

Impact of engagement, including measures of success

EPEAT is an environmental rating for electronic products that is managed and administered by the Green Electronics Council (a non-profit organization). The environmental criteria underlying the EPEAT system are based on the full product lifecycle, from design and production to energy use and recycling. EPEAT criteria consist of required and optional ones; products are ranked Gold, Silver, or Bronze depending on the level of conformity with the optional criteria. In August 2016, the MFC-8950DW was registered as a Bronze product. In December 2017, 9 models including MFC-L2750DWXL were registered as "silver" for the first time as laser products. As of January 2021, 64 models (26 models as "silver", 38 models as "bronze") have been registered in EPEAT.

C12.1d

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

The Brother Group has been reviewing delivery routes and adjusting the delivery service frequency, etc. as necessary to increase the efficiency of logistics in Japan. The logistics network was rearranged to unload products shipped from manufacturing facilities outside Japan (including those in China and ASEAN countries) at the Port of Tokyo and the Port of Osaka, which are closely located to large market areas, instead of the Port of Nagoya, which had been used before. In addition, some products are unloaded at the Port of Yokohama, which is close to customers and the group also delivers products from warehouses in Yokohama. Truck transportation was reduced, and delivery distances were significantly reduced by increasing warehousing facilities. As a result of these measures, CO2 emissions were cut by about 38% per shipped weight. The Brother Group has successfully kept CO2 emissions low ever since. Since 2013, a modal shift has been introduced for some product shipments to large customers by switching from trucks to railroad. As a result, CO2 emissions in FY2016 were reduced by 22 tons. Meanwhile, six external warehouses that had been used to store service parts were integrated into one factory, and the logistics and reverse logistics facilities for some products were consolidated to eliminate the need for transport between warehouses. In total logistics, this measure reduced the volume of transport by about 10%. 3PL (third party logistics) is also used in the sales logistics of Brother products. It is noteworthy that sales logistics are undertaken by companies that are committed to reducing CO2 emissions (e.g., use of small hybrid delivery trucks).

C12.3

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

C12.3b

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

C12.3c

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

Trade association

JBMIA (Japan Business Machine and Information System Industries Association)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

We are engaged in activities such as collecting information on climate change policies and regulations, suggesting opinions, following up on industry activities such as "Low Carbon Society Implementation Plan", reviewing industry long-term efforts, and are participating as a member of the specialized technical committee.

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

We are participating as a committee member since the establishment of the 2002 Energy Conservation Council Liaison Committee, the predecessor of the current climate change response expert committee, and we strive to share information on social trends, release our own GHG reduction activities, etc.

Trade association

EuroVAPrint

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

EuroVAPrint is a non-profit association grouping all major manufactures of imaging equipment that operate in Europe. The association promotes ErP Lot4 that is an industry voluntary agreement among EU Ecodesign Directive to improve the environmental performance by setting eco-design requirements of imaging equipment. For example, promoting eco-designs related to ENERGY STAR® such as duplex printing and energy consumption requirements, educating users on best practices for environmental printing such as using recycled paper and to secure better energy efficiency. These activities lead to develop and promote more eco-friendly products.

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

The Manager in Brother International Europe is a board member and plays a governance role actively. (http://www.eurovaprint.eu/pages/our-mission/) As a board member, he attends the Steering Committee and gave an overview presentation of how the VA has been delivering tangible energy savings.

(http://www.eurovaprint.eu/fileadmin/eurovaprint_files/pdfs/Infographic_2015.pdf) He also participated to set further targets for Tier 3 of the VA and will start discussions on the future of the VA and its environmental improvements from 2020 onwards.

Trade association

DIGITAL EUROPE

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

DIGITAL EUROPE is committed to reducing our industry's GHG emissions because it is good for the planet and it makes good business sense. As the voice of the digital industry in Europe, we work closely with EU policymakers to advocate for these views. DIGITALEUROPE is a recognised stakeholder in the Eco Design regulatory process. We also regularly meet with EU stakeholders to provide industry insight on the latest ICT products and services.

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

Brother International Europe is the member of this association and we actively participate in activities for chemical and environmental design of products.

C12.3f

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

When the JBMIA (Japan Business Machine and Information System Industries Association) submits recommendations to the Nippon Keidanren, the policy committee of this industry requires the process of determining the institution as a process. The Board of Directors of the Company participates in this policy committee as a committee member. For important decisions, reports are made to the directors from within the company's subordinate committee members in advance, and the opinions as individual companies are unified. The Group's CO2 reduction activities are reported by the Environment Committee and its risk management committee, and decisions are made at each meeting body.

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, in line with the CDSB framework (as amended to incorporate the TCFD recommendations)

Status

Complete

Attach the document

2020 Securities Report and Internal Control Report.pdf

Page/Section reference

p.19; Initiatives for ESG (including expressed support for TCFD recommendations)/ p.24; Environmental risk content, possibility, timing, degree of impact, countermeasures/ p.p.57-60; Corporate governance

Content elements

Governance

Strategy

Risks & opportunities

Comment

We do not issue an English version of the securities report, so we will attach the Japanese version.

Publication

In voluntary sustainability report

Status

Underway - previous year attached

Attach the document

eco-2020-all.pdf

Page/Section reference

pp.3-4; Message from the Management (Environment)/ pp.5-13; Environmental Policy and Management Structure/ pp.14-17; Environmental Action Plan/ pp.21-24; "Environmental Vision 2050" Reduction of CO2 Emissions/ p.25; Response to TCFD Recommendations

Content elements

Governance

Strategy

Emissions figures

Emission targets

Comment

This year's report is currently in production, so we attached last year's version.

C15. Signoff

C-FI

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

Nothing in particular

C15.1

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

	Job title	Corresponding job category
Row 1	The COO is a Managing Executive Officer overseeing the environmental programs at Brother.	Chief Operating Officer (COO)