DMG MORI

COMPANY LIMITED

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Greenhouse Gas Emissions Report 2024

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February 2025

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Chapters that have been subjected to a limited assurance review by an independent third-party auditor are marked by: \oslash

1. Introduction

Climate change is the greatest societal challenge of our time. The atmosphere is heating up, oceans are getting warmer, the polar caps are melting, and sea levels are rising. The scientific findings are clear: climate change is mainly due to human influence. In particular, the combustion of fossil fuels emits large amounts of carbon dioxide (CO_2) and is causing the concentration of CO_2 in the atmosphere to be higher than ever before. Against this background, DMG MORI COMPANY LIMITED (here-inafter referred to as DMG MORI CO. LTD.) assumes responsibility comprehensively.¹

DMG MORI CO. LTD. has joined the path to Net Zero in 2021 validated by the SBTi. The group avoids emissions in all areas, for example through modern heating, ventilation and cooling concepts. At the same time, DMG MORI companies use self-generated regenerative energies.

DMG MORI takes a holistic approach to its responsibility for resources across the entire value chain – from our suppliers to our product development, production and the operation of our machines at the customer's site, as well

as the reconditioning or recycling of our machines. This is why we take a 360° approach – our goal is to minimize our climate and environmental footprint. We optimize our processes, consistently reduce emissions and maximize the benefit of the resources we use, and our energy and environmental policy reflects our commitment to these goals. Since 2022, DMG MORI has been in contact with suppliers and customers to take action on reducing emissions by using scrap iron and green electricity. Our innovative products and services ensure high resource efficiency when later used by our customers. Here, we also focus on energy and emissions in all stages of a machine's life cycle. To follow these efforts, we installed a CO₂ management software tool over the past 18 months at all sides. Furthermore, we use the tool to interact with our suppliers and customers to collect primary data to constantly improve our data quality.

This document describes the basic conditions underlying the concept of the balance sheet calculation. *Chapter 2* describes the chosen organizational and operational limits for reporting, based on the Green House Gas



1 The statements in this document refer exclusively to DMG MORI COMPANY LIMITED. However, the same approach is applied by DMG MORI AKTIENGESELLSCHAFT.

Protocol. Building on this, *Chapter 3* presents the emissions for the reference year 2024. *Chapter 4* summarizes the most important measures for the reduction of emissions at DMG MORI CO. LTD. Finally, *Chapter 5* contains the corresponding note of an independent auditor on the assurance engagement of selected greenhouse gas information.

2. Methodology

The calculation and reporting of the carbon footprint of DMG MORI is based on the guidelines of the Green House Gas Protocol (GHG Protocol) of the World Resources Institute (WIR) and World Business Council for Sustainable Development (WBCSD). The GHG Protocol is the most widespread standard for the preparation of greenhouse gas balances on an international level and uses a similar approach as ISO14064-1. Analogous to accounting, the following principles are taken into account:

- 1. Relevance
- 2. Completeness
- 3. Consistency
- 4. Transparency
- 5. Accuracy

For comparison purposes, all emissions are converted into so-called CO_2 equivalents (CO_2e). In addition to nitrogen trifluoride (NF₂), the GHG Protocol takes into account the six main greenhouse gases according to the Kyoto Protocol: carbon dioxide (CO₂), methane (CH_{λ}) , nitrous oxide $(N_{2}O)$, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF₄). For reasons of simplification, however, this document refers exclusively to CO₂ emissions. Conversion into CO₂ equivalents is performed using recognized conversion factors, including the Department for Environment, Food & Rural Affairs (DEFRA), the Federal Office of Economics and Export Control (BAFA), official Japanese government factor information, the International Energy Agency (IEA), the Association of Issuing Bodies (AIB), EcoTransIT or the Global Emissions Model for Integrated Systems (GEMIS) of the International Institute for Sustainability Analyses and Strategies. The calculation of emissions is carried out in our CO, management software. In some cases, separate calculation bases outside the tool are used for the Scope 3 categories, as this allows a more

detailed calculation. These are described in the individual categories concerned in this report. In exceptional cases other databases are consulted. These are explicitly noted at the relevant places.

2.1 Organizational boundaries

The business activities of DMG MORI CO. LTD. differ in their legal and organizational structure. In addition to wholly owned subsidiaries, these include, for example, minority holdings or joint ventures. For the calculation of the carbon footprint, DMG MORI CO. LTD. applies the *operational control approach*, according to which it is responsible for 100% of the greenhouse gas emissions from operations and activities over which it has control.

The only exception is DMG MORI AG and its subsidiaries, whose emissions are dealt with in a separate report and which are deliberately excluded here. Emissions from operations and activities in which only a minority interest exists are not included on the balance sheet. Accordingly, the CO_2 balance sheet of DMG MORI CO. LTD. thus includes fourteen production plants, sixty-five Sales & Service offices, four R&D units, two Marketing companies, and one hotel with a total of about 6,139 employees (as of December 31, 2024).

In collecting consumption data, DMG MORI CO. LTD. follows a location-based approach, in which all locations are recorded by means of queries. The largest production and system solution plants of DMG MORI CO. LTD. have already been running an environmental management system according to ISO 14001 for several years, namely in Iga campus and Nara campus. Such management systems make reliable data tracking possible. For the great majority of DMG MORI CO. LTD. locations worldwide the data tracking for Scope 1 & 2 is based on invoices received by the specific energy supplier. This way we can track our complete consumption data in Scope 1 and 2. However, a very small number of sales and service locations do not have access to such invoices due to their rental state. In these cases, DMG MORI CO. LTD. used square meters to extrapolate the heat and electricity consumption using average energy consumption factors.

2.2 Operational limits

The GHG protocol distinguishes between scope 1, 2 and 3 with respect to the operational boundaries (cf. figure 1). Scope 1 covers all direct emissions of DMG MORI CO.

² For example, emissions associated with capital goods are not reported, as they do not make a significant contribution to the total emissions of DMG MORI CO. LTD.

LTD., which are generated e.g. during the generation of electricity, heat or steam based on combustion processes. Scopes 2 and 3, however, refer to indirect emissions. Emissions from the purchase of electricity and thermal energy are assigned to Scope 2. All other relevant indirect emission sources are summarized in the corresponding Scope 3 Categories.²

The emissions from *downstream* activities are under the control of the customers of DMG MORI and are significantly influenced by their individual usage behavior. Accordingly, DMG MORI cannot directly influence these. However, since DMG MORI machines are mainly operated with electrical energy and energy efficiency is an essential criterion already in the development process, the low-emission use of the machines is already possible today.

In the following, the specific composition of the different scopes as well as the underlying calculation approaches and assumptions are described in detail.

Scope 1

The direct consumption of DMG MORI CO. LTD. from energy and production processes is entered into the CO_2 management software by the responsible data collector at each location. The data collection is controlled and reviewed centrally by the central data collector.

The data quality is double-checked at each location. In addition, plausibility checks are carried out using central parameters such as headcount, revenues and data from previous years. The reported data is reviewed in three stages. First, the data collector at each site checks the quality and plausibility of the data. Second, the central data collector reviews the data provided by each location. In a third stage, the data is verified by an independent consultant. As mentioned in section 2.1, some locations were not able to provide specific consumption data as these offices are rented and no information on energy consumption is available. However, this is only the case for a few offices, which have a minor impact on the overall emissions results. For those offices, energy consumption was approximated by the square meters of the respective office and multiplied by an average factor for all European countries in 2013 (cf. European Union, Energy Use in Buildings, 2013). Since the consumption varies greatly among European countries it can be assumed that those factors are applicable to all DMG MORI CO. LTD. locations throughout the world. Most offices that were evaluated in this way are located in the US and hence, similarity is given.

In terms of time, the data query covers the year from January to November in order to meet the deadlines for reporting. December is extrapolated in the evaluation.

01 // OPERATIONAL LIMITS ACCORDING TO THE GHG PROTOCOL (Source: Own representation based on the GHG protocol)

CO2	CH4	N ₂ 0	SF_{6}	HFCs	PFCs	NF ₃
SCOP	E 2	SCOPE 3		SCOPE 1	scol	PE 3
» Purchase of e thermal energ	lectricity and ly	 » Purchase of production materials » Capital goods » Fuel and energy-related activities » Upstream transports » Waste produced in the company » Business trips of employees » Commute of the employees » Leasing of goods* 	25	Energy and Process emissions of DMG MORI	 » Disposal and of products » Outgoing tran products 	recycling nsports of
Upstream Activities				DMG MORI	Downstream	m Activities

* For DMG MORI considered in Scope 1 and Scope 2

The following direct emission sources are particularly relevant for DMG MORI CO. LTD.: Fuels for heat generation and production energy. Auxiliary materials such as cleaning agents, adhesives or oils are excluded and not considered in the balance sheet. Scope 1 also includes emissions caused by the fuel consumption of company cars. DMG MORI CO. LTD. applied different methods to record this fuel data.

Wherever possible, liters were used to calculate emissions. This approach was applied to 61% of all locations. An exception in this regard is DMG MORI CO. LTD. Japan, DMG MORI USA, Davis factory, DMG MORI Mexico, Hotel and SAKI Japan in total.

Scope 2

The direct consumption of DMG MORI CO. LTD. from energy is entered into the CO_2 management software by the responsible data collector at each location. The recording and controlling of indirect emissions from secondary energy sources follows the procedure already described for Scope 1. In terms of time, the data query covers the year from January to November in order to meet the deadlines for reporting. December is extrapolated in the evaluation. The methodology is the same as the Scope 1 extrapolation (see explanation under Scope 1).

For all locations, the relevant emission grid factors were applied to calculate emissions as specifically as possible. Green electricity is considered as zero emissions in Scope 2. This applies to both green electricity and electricity generated in-house.

The related indirect emissions are calculated in Scope 3 based on the kWh determined or derived from all locations from DMG MORI CO. LTD. The accounting is therefore carried out in close accordance with the GHG Protocol.

Scope 3

Scope 3 focuses on the reporting of upstream emissions from the relevant upstream categories at DMG MORI CO. LTD. Specifically, these are the following emission sources:

- » Category 1: Purchased goods and services
- » Category 3: Fuel- and energy-related activities
- » Category 4: Upstream transportation and distribution
- » Category 5: Waste generated in operations
- » Category 6: Business travel
- » Category 7: Employee commuting

In addition to the upstream categories, the following downstream emission sources of the downstream categories are relevant:

- » Category 9: Downstream transportation and distribution
- » Category 11: Use of sold products
- » Category 12: End-of-life treatment of sold products

Category 2 (capital goods) and category 15 (Investments) are not explicitly reported, since emissions in this categories do not account for a significant share of the total emissions of DMG MORI CO. LTD. Category 8 (leasing of goods), which also belongs to the upstream categories, is reported under Scope 1 and Scope 2 at DMG MORI CO. LTD. due to its high significance for the business activities (see business travel with own vehicles, pool/ leasing). Categories 10 (processing of sold products), 13 (Downstream leased assets) and 14 (franchises) are not applicable.

Category 1: Purchased goods and services

For the first time, we have initiated the collection of primary data from our suppliers. In line with the 80/20 principle, we selected suppliers that provide the heaviest components for our machines. The materials used in our production are categorized into three main groups: Casting (65%), Sheet Metal (15%), and Other Materials (20%). Specifically, Sheet Metal and Casting Iron are key components within these categories.

In the previous year, we collaborated with these initially selected suppliers to gather data, and set up reduction measures such as use of green electricity or use of recycling material. We possess the complete monetary value of purchased materials for all our suppliers. For the queried suppliers, we obtained the weight of the purchased materials. Where necessary, we extrapolated the weight based on assumptions regarding the distribution among our suppliers.

Our inquiry to suppliers yielded a response rate of 89% for primary data from Casting suppliers and 11% from Sheet Metal suppliers. The remaining data was extrapolated based on the share for the material and the share on the casting and sheet metal. The share was derived from six representative machines we analyzed as a valid average of our existing product portfolio. A safety margin of 15% was also taken into account in this extrapolation. In the future, we will continue and expand our supplier inquiry to further enhance the accuracy and scope of our emissions reporting.

In addition to the purchased goods, we directly track our paper consumption within our software. This year, we are also incorporating the services of cloud servers into this category, as their outsourcing now makes them relevant for consideration here.

Category 3: Fuel- and energy-related activities

The calculation of emissions in this category is based on the energy consumption figures documented in Scope 1 (natural gas, heating oil, liquid gas, diesel, petrol) and Scope 2 (supply chain of purchased electricity, including conventional electricity, green electricity and selfgenerated electricity). The consumption data is collected as described in Scope 1 and Scope 2 in our CO_2 management software. The tool automatically assigns the most accurate supply chain emission factors and calculates the emissions.

Category 4: Upstream transportation and distribution

The transportation and distribution purchased by DMG MORI is calculated through compiled comprehensive data, including the number of machines produced during the year, the total monetary amount spent on purchasing materials to build these machines, and the total weight of these materials in tons.

We categorize the materials used in our production into three main groups: Casting (65%), Sheet Metal (15%), and Other Materials (20%). This allocation is based on the assumption that casting typically makes up the largest portion of the total weight.

We obtain the monetary value of purchases from each supplier and calculate their share based on the total purchasing amount. This share is then used to allocate the calculated weight among suppliers in each category. For example, the 65% weight allocated to casting is distributed among casting suppliers according to their purchasing volume. This process allows us to determine the weight of materials purchased from each supplier.

For our two main locations, we list all suppliers in these categories and determine the distances from their addresses to our sites and divide the weight shares among suppliers based on their sales volume. With these distances and calculated weights, we calculate the ton-kilometers (tkm) per supplier. The tkm is a measure of the weight of goods transported multiplied by the distance traveled. The result is the tkm for Casting, Sheet Metal, and Other Materials for both locations, providing a total tkm for each location. Using the total weight for 2024, the weight of the two locations, and the calculated tkm for these locations, we can extrapolate the remaining tkm for other locations.

We then use this data in the $\mathrm{CO}_{\rm 2}$ management software to calculate emissions.

Category 5: Waste generated in operations

The quantities of waste from the respective disposal systems are queried from each location the same way as for scope 1 and 2 consumption data, as described in section 2.1. As mentioned in section 2, also for *category 5* some locations were not able to provide specific consumption data as these offices are rented and no specific information on waste or wastewater is available. In these cases, the amount of waste produced and water consumed was extrapolated given the square meter, head count or expenses. In order to derive reasonable quantities, we relied on the waste calculators from waste companies and water consumption per capita from the German Sustainable Building Council (DGNB). The calculation is based on the CO₂ factors of DEFRA (2023) and Ecoinvent.

The data collection and data controlling process follows the same procedure as described in scope 1 and 2.

Category 6: Business travel

This category especially includes air travel, rental cars, and trains. Business trips with company vehicles are reported in Scope 1. The emissions were calculated by travel type and respective distance data where available or expense. The data was provided by travel agencies or the person in charge from each location. The travel agencies provided evaluations regarding the selected flight class as well as the distance covered per flight. For those locations that have no booking recordings provided by such an agency, the calculation was done based on average distance data or expense data calculated through the CO₂ management software.

Category 7: Employee commuting

At DMG MORI CO. LTD., for US employees, a survey has been conducted which asked for travel distance, number of commuting days as well as transport mode chosen. Similar information is available for all employees in Japan. All Japanese employees have announced their commuting behavior in an application sheet before they started to work at DMG MORI. This means that specific information on commuting behavior is available for roughly 3,800 employees. Hence, it covers 63% of total employees at DMG MORI CO. LTD. worldwide. For all other locations, reasonable assumptions have been derived in order to calculate the commuting emissions. The calculation was done in the CO_2 management software.

Category 9: Downstream transportation and distribution

All transport and modes of transport used to deliver the respective machine to the customer are taken into account and calculated with the well-to-wheel consumption (actual fuel and energy consumption incl. the upstream chain (supply of fuel/energy)).

The town/city of the corresponding production location (Iga Japan, Nara Japan, Tianjin China, Davis USA, Taiyo Koki Japan) is always assumed to be the place of departure so that on average both the land routes and the sea routes are taken into account with reasonable effort. Distances from DMG MORI CO. LTD. factories to seaports or domestic customers were derived from DMG MORI's logistics department. Distances for additional overseas shipments were approximated using the searates.com calculation tool, giving port of departure and the capital city of the respective customer's country as data input. The resulting distances were multiplied by the weight of goods shipped to the respective regions to gain a ton-kilometer value. This value was multiplied by the respective carbon emission factors for transportation by truck and ship provided by EcoTransIT.

The calculation basis from EcoTransIT is based on the DIN EN 16258 standard ("Method for calculating and declaring the energy consumption and greenhouse gas emissions from transport services") and the GLEC Framework and is therefore in line with the requirements of the Greenhouse Gas Protocol.

Category 11: Use of sold products

For a reliable determination of the total downstream emissions of the entire DMG MORI CO. LTD. portfolio, a detailed analysis was carried out for six selected and representative machine types from the DMG MORI CO. LTD. portfolio.

Annual energy consumption is calculated using a representative assumption of the customer's usage behavior. This usage behavior is the result from an extrapolation of data from DMG MORI CO. LTD.'s remote monitoring system "MORINET". The power values in the operating modes assumption on the usage behavior allow a classification into four energy consumption classes so that an average annual energy consumption is formed as a simplification. Therefore, an energy consumption class can be assigned and an average value can be formed on this basis.

The machines sold are determined per sales region and per energy consumption class. Their average, combined with the country and year-specific CO_2 equivalence factors, results in the country-specific energy consumption for all the machines sold. This constitutes a representative sample of all the machines sold for the respective customer countries.

Category 12: End-of-life treatment of sold products

The emissions generated during the disposal phase are calculated using the main materials of the six selected machine types. The processes necessary for the disposal or recycling of the materials are defined for the main materials, which are representative of all the materials in the machines, steel and cast iron and electronics. The respective machines consist of the main materials steel/ cast iron (97.6%) and electronics (2.4%). It is generally assumed that the machines will be disposed of in the country to which the machine was sold.

The calculation of the total emissions for the disposal phase is based on the extrapolation of an average emission value for all countries to which machines were sold during the period under consideration. Taking into account the specific emissions associated with the disposal are calculated for each country. This calculation results in an emission factor per ton of main material for the respective country.

Based on the weight ratio of the main materials in the total weight of the machines, the emissions associated with the disposal for the respective machines are calculated using the country-specific emission factor per ton of material. The resulting country-specific emissions per machine are offset against the number of machines sold in the respective country during the period under consideration and result in the total emissions for all the machines sold in the respective country. The resulting sum represents the total emissions of all machines sold in all countries.

3. Greenhouse gas emissions \oslash

In 2024, the CO_2e emissions of DMG MORI CO. LTD. amounted to 444,170 t CO_2e . The direct emissions of DMG MORI CO. LTD. are responsible for only 3% of the total emissions. 97% of the total emissions can be assigned to Scope 3, where category 1 (purchased goods and services) and category 11 (use of sold products) account for 86% of the total emissions.

02 // EMISSIONS OF DMG MORI IN 2024 - DETAILED VIEW (SOURCE: OWN PRESENTATION)

Group-wide carbon footprint of DMG MORI CO. LTD. ¹⁾			2024			
Scope	Source of Emission	tCO ₂ e	Share in %	tCO ₂ e	Share in %	
Scope 1 ²⁾						
	Internal combustion	3,966	0.9	0 275	2	
	Business travel with own vehicles	5,409	1.2	7,375	2	
Scope 2 ²⁾						
	External provision of energy	4,252	1.0	4,252	1	
Scope 3						
Category 1:	Purchased goods and services	134,381	30.3			
Category 3:	Fuel- and energy-related activities	5,687	1.3			
Category 4:	Upstream transportation and distribution	8,440	1.9			
Category 5:	Waste generated in operations	945	0.2			
Category 6:	Business travel	13,727	3.1	/30 5/3	97	
Category 7:	Employee commuting	5,585	1.3	450,545	11	
Category 9:	Downstream transportation and distribution	4,773	1.1			
Category 11:	Use of sold products	247,058	55.6			
Category 12:	End-of-life treatment of sold products	9,872	2.2			
Category 15:	Investments	75	0.0			
Total CO ₂ e Footprint		444,170	100	444,170	100	

1] The carbon footprint is based on the principles and requirements of the GHG Protocol, applies an operational control approach and includes all DMG MORI CO. LTD. locations. The carbon footprint considers all greenhouse gases according to the Kyoto Protocol. Scope 3 categories 8, 10, 13 and 14 are not applicable. Scope 3 categories 2 is not reported in the carbon footprint and estimated to account for <5% of total Scope 1, 2 and 3 emissions. 2) Scope 1 and 2 emissions are based of consumption data for the period from December 2023 to November 2024. Consumption figures were partially extrapolated. For market-based Scope 2 emission reporting, supplier-specific emission factors are used. In case no data is available, location-based emission factors are applied. Location-based emissions

4. Greenhouse gas reduction

The active reduction of greenhouse gas emissions is a top priority for DMG MORI CO. LTD. Our direct CO_2 emissions result from the consumption of energy in our production, assembly, sales and service processes. This also applies to our suppliers. Our reduction measures take a comprehensive approach.

To address upstream emissions, we have implemented a $\rm CO_2$ management software, which utilizes primary data from suppliers to calculate $\rm CO_2$ emissions per product. This approach emphasizes the use of low-carbon materials and renewable energy. Since 2022, we expanded this initiative to include Casting and Sheet Metal suppliers, enhancing our ability to track and reduce emissions across our supply chain.

We are also integrating circular economy principles into our operations to optimize resource utilization throughout the product lifecycle. Key initiatives include the Recycling of Scrapped Equipment and Machining Chips. We recycle scrapped equipment and machining chips, which are then reused as raw materials for casting at DMG MORI Castech. This process supports the production of new materials and reduces waste. In 2024, we installed machinery at the Iga factory to press and separate chip oil from machining chips. For 2025, we plan to recycle 1,000 tons annually, which is expected to reduce CO_2 emissions by 1,800 tons. We are collaborating with suppliers to collect these chips efficiently.

Also, our MX initiative aims to enhance customer productivity by integrating processes, automating operations, and leveraging Digital Transformation (DX) in production. This approach helps customers consolidate processes, reduce intermediate inventories, and alleviate operator shortages, ultimately leading to lower greenhouse gas emissions through reduced energy consumption and optimized resource allocation.

5. Independent Practitioner's Limited Assurance Report

DMG MORI CO. LTD. has undergone an external audit for a limited assurance engagement on our Greenhouse Gas Emissions Data. This audit was conducted by an independent third-party auditor.

The audit covered the period from January 1 to December 31, 2024, and was limited to the GHG Emissions Data included in the report. The purpose of this engagement was to provide an independent and objective opinion on the reliability and credibility of our GHG emissions disclosures. The limited assurance engagement involved the auditor expressing a conclusion about whether they were aware of any material modifications that should be made to the GHG Emissions Data for it to be in accordance with relevant disclosure requirements. This level of assurance is less rigorous than a reasonable assurance engagement but still provides a meaningful level of confidence in the accuracy of our GHG statements.

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