



TASK FORCE ON  
CLIMATE-RELATED  
FINANCIAL DISCLOSURE  
(TCFD) REPORT 2022

# MERCEDES-BENZ GROUP AG TCFD REFERENCE INDEX

Mercedes-Benz Group AG is one of the world's most successful automotive companies. With Mercedes-Benz AG, the Group is one of the leading global suppliers of premium and luxury cars and vans. Mercedes-Benz Mobility AG offers financing, leasing, car subscription and car rental, fleet management, digital services for charging and payment, insurance brokerage, as well as innovative mobility services.

The company is listed on the Frankfurt and Stuttgart stock exchanges (ticker symbol MBG). In 2022, the Group had a workforce of around 170,000 and sold 2.5 million vehicles. Group revenues amounted to €150.0 billion and Group EBIT to €20.5 billion.

## TCFD Recommendations

Key element	Recommendation	Page
<b>Governance</b> Disclose the organization's governance around climate-related risks and opportunities.	a) Describe the board's oversight of climate-related risks and opportunities	2
	b) Describe management's role in assessing and managing climate-related risks and opportunities.	2
<b>Strategy</b> Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	4
	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	5
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	9
<b>Risk Management</b> Disclose how the organization identifies, assesses, and manages climate-related risks.	a) Describe the organization's processes for identifying and assessing climate-related risks.	11
	b) Describe the organization's processes for managing climate-related risks.	12
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	13
<b>Metrics &amp; Targets</b> Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	14
	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	17
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	21

All data in this TCFD report is as of, or for the year-ended December 31, 2022 unless otherwise noted. References to the CDP Climate Change Questionnaire are related to the 2022's version.

## Governance

### Disclose the organization's governance around climate-related risks and opportunities.

#### a) Describe the board's oversight of climate-related risks and opportunities

The Group's own governance structure consists of the Board of Management and the Supervisory Board and corresponds to the dual management structure required for a joint stock company under German law. The Board of Management manages the Mercedes-Benz Group, while the Supervisory Board monitors and advises the Board of Management. The two bodies work together very closely in the interests of the well-being of the Group.

The Supervisory Board's monitoring and advisory activities relate in particular to sustainability issues associated with the ESG dimensions (environmental, social and governance factors). At regular intervals, the Supervisory Board obtains reports from the Board of Management on the status of implementation of the integrated sustainable corporate strategy and also examines the risks and opportunities for the Company that result from social and environmental factors and, increasingly, the ecological and social effects of the Group's business activities.

It is therefore important that the Supervisory Board and its committees are adequately informed about the sustainability issues related to the environment, society or corporate governance (ESG). To ensure this, ESG topics are regularly addressed at the Supervisory Board meetings. ESG experts from different departments are consulted for this purpose. ESG-related topics were also discussed during the strategy meeting of the Supervisory Board. In addition, the members of the management and supervisory bodies regularly discuss the progress made in implementing the sustainable business strategy with the Advisory Board for Integrity and Sustainability. On the Supervisory Board, Dame Polly Courtice in particular contributes her extensive expertise in the area of sustainability at various points. Dr Martin Brudermüller, Ben van Beurden and Timotheus Höttges in particular contribute to the Supervisory Board their knowledge of and experience with environmental (E) issues. All of them deal extensively with sustainability issues (in particular those relating to climate protection and

decarbonization) at the companies in which they serve as chairman of the board of management.

The Supervisory Board also addresses sustainability reporting in the form of the Non-Financial Declaration in the Combined Management Report.

In the reporting year the Supervisory Board also dealt in detail with the ESG and sustainability issues relevant to Mercedes-Benz and their embedding in the company. The Board of Management reported on the ongoing integration of internal reporting, risk management and decision-making processes, compliance and integrity, and remuneration, among other things.

In its meeting in June 2022, the Audit Committee of the Supervisory Board discussed aspects of the risk management system and particularly addressed the further integration of ESG topics and the accompanying training measures to increase ESG awareness. Methods, processes and adjustments to the internal control system were also discussed. With regard to the compliance management system, methods for more extensive integration of social compliance aspects were presented, among other things. The meeting also focused on the report on ESG and sustainability reporting activities, including the requirements of the EU taxonomy and the measures taken to ensure these requirements are met.

#### References:

CDP Climate Change Questionnaire: C1.1b  
Annual Report 2022 p. 15, 165, 175, 186ff  
(qualification matrix of the Supervisory Board)  
Sustainability Report 2022 p. 25f

#### b) Describe management's role in assessing and managing climate-related risks and opportunities.

The Group Sustainability Board (GSB) is the central management body for all sustainability topics and reports to the Board of Management.

The GSB is chaired jointly by Renata Jungo Brüngger (the Board of Management member responsible for Integrity and Legal Affairs) and Markus Schäfer (the Board of Management member responsible for Development and Procurement, who is also the Chief Technology Officer). The Chairman of the Board of Management and all other Board of Management members, as well as the managers of all relevant functions and departments, are

members of the GSB – for example Finance, Investor Relations, External Affairs, Marketing & Communications and Human Resources.

The management processes with cross-divisional and functional relevance in relation to sustainability are covered by this governance structure in order to regularly review and improve the Mercedes-Benz Group's performance.

The GSB decides on relevant sustainability issues and assigns tasks to the respective areas of responsibility. The GSB regularly submits progress reports and proposals for decisions to the Board of Management regarding the action fields included in the Group's sustainable business strategy.

The Board of Management of the Mercedes-Benz Group AG is responsible for setting strategic goals, including targets for reducing the CO<sub>2</sub> emissions, and for monitoring the progress made in achieving these goals.

The Product Steering Board (PSB) is responsible for monitoring the development of the CO<sub>2</sub> emissions of the car fleet in markets in which such emissions are regulated. It is also responsible for providing forecasts. In its evaluations, the PSB takes into account a variety of factors, including the increasing degree of vehicle electrification and the changes that have been made to legal requirements, for example those related to the introduction of the WLTP certification procedure. The PSB is assigned to the Committee for Model Policy and Product Planning (AMP).

The Product Strategy unit ensures compliance with the CO<sub>2</sub> fleet emission limits for vans and reports on this regularly to the Van Executive Committee.

The Committee for Model Policy and Product Planning and the Van Executive Committee both inform the Board of Management of Mercedes-Benz Group AG. The Board of Management then decides which measures need to be implemented. On the market side of the equation, price and volume control measures can also affect our ability to achieve our CO<sub>2</sub> targets over the short term. For this reason, such measures are also discussed with the Board of Management within the framework of regular reporting on the current state of CO<sub>2</sub> fleet compliance.

The responsibility for ensuring that the climate protection targets are implemented is distributed across several corporate units and Board of Management members: the development units of the vehicle divisions are responsible at the vehicle level.

For cars and vans, these are the "Drive Systems Product Group" development unit, the product groups of the vehicles and Mercedes-Benz Vans Development. In each current year, the sales unit manages the achievement of the CO<sub>2</sub> target.

At the level of the production plants and the company's own-retail outlets, the respective Board of Management member for Mercedes-Benz Cars and Mercedes-Benz Vans is responsible.

Mercedes-Benz Group AG monitors the implementation at Group management level.

**References:**

CDP Climate Change Questionnaire: C1.2 / C1.2a  
Annual Report 2022 p. 86, 90  
Sustainability Report 2022 p. 26, 94

## Strategy

### **Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.**

#### **a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.**

The Mercedes-Benz Group is exposed to a large number of risks that are directly linked with the business activities of Mercedes-Benz Group AG and its subsidiaries or that result from external influences. The Group understands a risk as the danger that events, developments or actions will prevent the Group or one of its segments from achieving its targets. This includes monetary and non-monetary risks. At the same time, it is important to identify opportunities in order to safeguard and enhance the competitiveness of the Mercedes-Benz Group. The Group defines an opportunity as the possibility, due to events, developments or actions, of safeguarding or surpassing the planned targets of the Group or of a segment.

In order to identify business risks and opportunities at an early stage and to assess and manage them actively, the Board of Management applies appropriate and effective management and control systems, which have been brought together in an overall risk and opportunity management system. Risks and opportunities are not offset.

In identifying sustainability-related risks and opportunities, Mercedes-Benz Group AG is guided by the topics identified by the materiality analysis and thus includes the areas of action of the sustainable business strategy, for which concrete goals have been assigned. Sustainability-related risks and opportunities are understood to be conditions, events or developments involving environmental, social or governance factors (ESG), the occurrence of which may have an actual or potential impact on the Mercedes-Benz Group's profitability, cash flows and financial position, as well as on its reputation. ESG-related risks associated with business activities, business relationships and products and services, and which are very likely to have a serious negative impact on non-financial aspects in

accordance with Section 289c of the German Commercial Code (HGB), are not currently apparent.

Sustainability aspects — as they relate to the environment — include, among other things, the effects of climate conditions and changes, as well as the impact of the Group's transformation process as a result of changed political conditions, technological developments and changing markets.

Climate-related risks and opportunities in connection with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) are part of the environment area and are thus also identified and assessed as part of the risk management process.

#### **General market risks and opportunities**

A lower-than-expected market acceptance of electric vehicles can lead to risks in the development of unit sales and have a negative impact on earnings. This could also endanger the achievement of specific CO<sub>2</sub> targets.

The discontinuation or reduction of government subsidies for electric vehicles can also negatively affect their pricing and cut profit margins.

#### **Risks and opportunities relating to the legal and political framework**

Legal limits on the fuel consumption and/or CO<sub>2</sub> emissions of car fleets exist in many markets, although the target values differ from market to market. Non-compliance with regulations applicable in the various markets might result in significant penalties and reputational harm, and might even mean that vehicles with conventional drive systems could not or could no longer be registered in the relevant markets. The Mercedes-Benz Group counteracts these risks through the transformation towards electric mobility and the associated realignment of its products.

Mercedes-Benz Cars and Mercedes-Benz Vans face the described risks with respect to regulations concerning mandatory targets for the average fleet fuel consumption and CO<sub>2</sub> emissions of new vehicles especially in the markets of China, Europe and the United States. The Mercedes-Benz Group gives these targets due consideration in its product and sales planning. We assume that the ambitious statutory targets can be met. In some

markets, the modalities for target achievement granted by law, including the acquisition of external credits, will have to be utilized. The market success of alternative drive systems is greatly influenced not only by customer acceptance but also by regional market conditions such as the battery-charging infrastructure, state support and tax conditions.

### **Procurement-market risks and opportunities**

Intense competition for specific raw materials in the course of the introduction of new technologies can lead to increasing costs or possible shortages in the supply chain. Moreover, raw-material markets can be impacted by uncertainties and political crises - combined with possible supply bottlenecks - as well as by volatile demand for specific raw materials.

### **Risks and opportunities from research and development**

The transformation towards electric mobility and comprehensive digitalization of vehicles has resulted in ambitious development targets and the market launch of new technologies. In addition to the resulting opportunities, decisions in favour of certain technologies and the continuously growing scope of emission, consumption and safety requirements to be met are associated with risks.

### **Production risks and opportunities**

For the launch of new products — especially in the course of the transformation toward electric mobility and the integration of new technologies — the necessary components and equipment scopes as well as the required production capacities must be available. To reduce the attendant risks, the related processes are continuously evaluated and improved.

### **Risks and opportunities from purchasing and logistics**

Due to the transformation to electric mobility and the increasing outsourcing of important components, there is also a risk that these will not be available on time in the planned quantity and required quality, thus delaying the start of production of new series. This could have negative effects on profitability.

Interruptions in global supply chains, especially those caused by bottlenecks for electronic components

and other important intermediate goods, as well as possible failures in supply by energy providers, can cause bottlenecks at Mercedes-Benz Cars and Mercedes-Benz Vans. To avoid such bottleneck situations for intermediate goods, capacity bottlenecks are countered by planning ahead. Supplier management is undertaken for the prevention of risks with the aim of ensuring the quantity and quality of the components required to produce the vehicles. Lack of availability and quality problems with certain vehicle parts can lead to production downtimes and cause costs that result in negative effects on profitability.

### **Regulatory risks**

The automotive industry is subject to extensive governmental regulations worldwide. Laws in various jurisdictions govern occupant safety and the environmental impact of vehicles, including emissions levels, fuel economy and noise, as well as the emissions of the plants where vehicles or parts thereof are produced. In case regulations applicable in the different regions are not complied with, this could result in significant penalties and reputational harm or the inability to certify vehicles in the relevant markets. The cost of compliance with these regulations is considerable, and in this context, Mercedes-Benz continues to expect a significant level of costs.

### **References:**

CDP Climate Change Questionnaire:  
C2.1a / C2.3 / C2.3a / C2.4 / C2.4a  
Annual Report 2022 p. 140ff  
Sustainability Report 2022 p. 27f

### **b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.**

The automotive industry is currently undergoing a profound process of change, which the Mercedes-Benz Group would like to actively shape. In doing so, the Group considers the entire value chain. This encompasses the complete life cycle of the vehicle – from development to its recycling after the use phase. It aims to avoid or minimise the negative impacts of its business activities as far as possible, and to create sustainable value – economically, ecologically and socially.

One of the most important transformation goals at the Mercedes-Benz Group is decarbonisation, which the

Group has made a firm component of its sustainable business strategy. The Mercedes-Benz Group believes that the complete electrification of its product range is the most important lever for making its entire new vehicle fleet net carbon-neutral across all stages of the value chain by 2039. This is reflected in “Ambition 2039” and the “Electric Only” approach. By the end of this decade, Mercedes-Benz intends to be all-electric wherever market conditions allow.

In order to achieve this goal, the Mercedes-Benz Group is transforming the products and services that are at the heart of its business activities. The Group also takes into account climate change mitigation in all of the life cycle phases of its automobiles — from the supply chain and its own manufacturing operations to the use and disposal of the vehicles.

Its commitment to research and development work is correspondingly great. Altogether, the Mercedes-Benz Group wants to invest more than €60 billion between 2022 and 2026 for the transformation towards an all-electric and software-driven future. Investments into combustion engines and plug-in hybrid technologies will drop by 80% between 2019 and 2026.

As early as November 2021, the Mercedes-Benz Group underscored its commitment to this transformation during the COP26 UN Climate Change Conference. In the “COP26 declaration on accelerating the transition to 100% zero-emission cars and vans”, the Mercedes-Benz Group undertakes to work together with other companies, cities and governments to achieve net carbon-neutral transport for the future. The Group is convinced that the electrification of vehicles will be instrumental in accelerating the transformation.

However, CO<sub>2</sub> emissions are not only produced during the manufacture of components for purely battery-electric vehicles, but also during the generation of the charging current. Against this background, the “Green Charging” initiative is a further step on the road to net carbon-neutral mobility: with this, the Mercedes-Benz Group enables its customers to charge their vehicles with green electricity. Through the use of certificates of origin, it is ensured that an equivalent amount of electricity from renewable sources is fed into the power grid for the charging processes.

In the Mercedes-Benz Cars and Mercedes-Benz Vans divisions, the Group is continuously working on private and commercial charging solutions for the home, the workplace and public spaces. The ultimate goal is to offer customers the best charging experience in the industry in terms of reliability, convenience, sustainability and value retention.

The Mercedes me Charge digital charging service offers the Group’s customers access to one of the largest charging networks in the world. Mercedes me Charge is growing. At the end of 2022, more than 1,000,000 AC and DC charging points had been integrated around the world, including more than 350,000 in Europe. In Europe alone, there are over 850 different operators of public charging stations to whose charging points Mercedes me Charge customers have access.

In addition to making charging as easy and convenient as possible for customers, Mercedes me Charge also enables green electricity to be charged at public charging points in Europe, the USA and Canada. Energy Attribute Certificates (EACs) ensure that the corresponding amount of green energy is fed into the grid after each charging process. This green electricity bears the EKOenergie eco-label and is provided by certified energy generation plants.

Green electricity, in other words electricity from renewable energy sources, is a significant factor in the life cycle of an electric car in order to avoid CO<sub>2</sub> emissions. This is because around 50% of the CO<sub>2</sub> footprint of a battery electric vehicle – given the current EU electricity mix – is generated in the use phase, in charging processes that generate CO<sub>2</sub>. But whether a public charging point draws green power or power from non-renewable sources is often not known. The supply of the charging current is the responsibility of the charging point’s operator. To counteract this lack of transparency and promote the use of electricity from renewable sources, the Mercedes-Benz Group has made green charging an integral part of Mercedes me Charge.

In addition, green charging creates incentives for investments in further renewable energy plants. Moreover, the system shows how the respective charging behaviour affects the personal CO<sub>2</sub> footprint. The Mercedes-Benz Group was the first automobile manufacturer to offer this

service. The public response to green charging is positive. Since the market launch in Europe in March 2021, the monthly green charging volume has increased steadily.

The Mercedes-Benz Group has announced far-reaching plans for the creation of a global high-power charging network in North America, Europe, China and other key markets. Construction of the first charging park will begin in 2023. The aim is to have put in place the complete network of more than 2000 charging hubs, with more than 10,000 charging points, by 2027. In the USA, the Group is planning more than 400 charging hubs with more than 2500 charging points. The network is explicitly designed to be available to compatible vehicles of any brand, with the ambition of encouraging the rapid expansion of electric mobility on a global basis.

Green charging will be achieved primarily by means of green energy supply contracts or through the use of Energy Attribute Certificates (EACs) from accredited issuers. Certain Mercedes-Benz charging stations will also include photovoltaic systems designed to meet the electricity requirements for lighting, video monitoring and suchlike.

With “Ambition 2039”, the Mercedes-Benz Group not only wants to contribute to a net carbon-neutral world – the group also wants to inspire its customers to welcome this net carbon-neutral future. For many of them, it is important that products they use do not cause any damage to the environment and that to achieve this they do not have to make any compromises in their everyday lives. With its product range, the Group aims to meet both customer demands.

Mercedes-Benz Mobility supports the transformation towards electric mobility with the Green Mapping concept: since the end of 2020, customers who have leased or financed their Mercedes through Mercedes-Benz Mobility AG can switch from a combustion engine to a hybrid or electric vehicle for the same monthly instalment.

Efficient driving and charging reduces the lifecycle CO<sub>2</sub> footprint – and is therefore a key lever for achieving the climate protection targets of the Mercedes-Benz Group. For this reason, the Group focuses right from the early development phase on making all its vehicle concepts

energy-efficient and takes all relevant areas into account: aerodynamics, powertrain, rolling resistance, weight, thermal management and onboard power network. It strives to achieve what is technically possible in the premium segment and consistently takes actual customer operation as a benchmark.

With the VISION EQXX concept car, Mercedes-Benz provides a preview of what will be possible in the future in terms of efficiency and electric range. On its first journey in April 2022, the vehicle covered over 1000 km in real everyday traffic on a single battery charge. The drive took place with a sealed charging socket and was accompanied by an independent expert from TÜV SÜD. The technical findings are being incorporated into the series development. The EQS also enables energy-efficient driving with a Cd value of 0.20 – especially at higher speeds.

Mercedes-Benz Vans is also setting the course for an all-electric future: Mercedes-Benz Vans is developing a fundamentally new, modular and purely electric vehicle architecture for this purpose, under the name VAN.EA. This means that from 2025, all newly developed vans will be exclusively electric. Mercedes-Benz is convinced of the ecological and economic advantages of all-electric vans and has firmly anchored its claim to leadership in electric mobility in its strategy. As a result, all of its model series are to be systematically electrified. Even today, body manufacturers and customers can already choose from a number of battery electric vans for both commercial and private use.

CO<sub>2</sub> emissions arising from Mercedes-Benz’ production operations and the energy supply of the brand’s plants will be consistently reduced or, wherever possible, completely eliminated. In order to accomplish this, Mercedes-Benz is relying on the purchase of green electricity, the expansion of other renewable energy sources at its locations and the implementation of a sustainable heating supply system.

Production at all manufacturing locations operated by the Mercedes-Benz Group has been net carbon-neutral regarding Scope 1 und Scope 2 since the reporting year. Since early 2022, all CO<sub>2</sub> emissions (Scope 1 and Scope 2) at production facilities operated by the Mercedes-Benz Group that have been as yet



unavoidable have been offset by means of carbon offsets from qualified climate change mitigation projects.

Since 2022, all the Mercedes-Benz Group's own production plants worldwide have obtained 100% of their external electricity from renewable sources. For the procurement of green electricity, the Mercedes-Benz Group in Germany currently relies on a mix of solar, wind and hydroelectric power for external electricity purchases. In order to continue to cover the energy requirements in production with renewable energies, the Mercedes-Benz Group is, among other things, planning to expand solar and wind energy at its own locations, and to conclude corresponding power purchase agreements.

The Mercedes-Benz Group is also reducing CO<sub>2</sub> emissions arising from the plants' heat supply. Among other things, biomethane and geothermal energy are to be used, and heat pumps powered by green electricity are to be put into operation.

The supplier network plays a decisive role in achieving the climate targets: for example, the production of an all-electric vehicle is about twice as CO<sub>2</sub>-intensive as for a conventional combustion engine model, mainly owing to the lithium-ion batteries.

In order to reduce CO<sub>2</sub> emissions in the supply chain, Mercedes-Benz Cars and Mercedes-Benz Vans are actively promoting the transformation of their suppliers. For this, they use three levers: through the "Ambition Letter", which applies in the case of the award of any new contract, suppliers pledge to the segments that only net carbon-neutral products will be procured from 2039 on.

In addition, they have integrated target values for CO<sub>2</sub> emissions into their criteria for award processes – the focus is on components that are produced in a CO<sub>2</sub>-intensive manner. These targets not only concern the direct supplier, but are also valid for the upstream production of raw materials and components.

As a third lever, both segments work together with selected partners. The aim is to reduce CO<sub>2</sub> emissions in the supply chain – especially in the production of important components such as battery cells or body-in-white components – through innovative technologies.

Mercedes-Benz Cars and Mercedes-Benz Vans have placed the focus on materials and components that have high CO<sub>2</sub> emissions in production. These include steel, aluminium, certain plastics and batteries.

The Mercedes-Benz Group is in the midst of a transformation towards locally emission-free and networked mobility. This transformation affects not only products, technologies and business models. It also affects the corporate culture and the entire workforce: Working processes and structures are changing just as fundamentally as employee tasks, job profiles and cooperation within the Mercedes-Benz Group.

The Mercedes-Benz Group's goal here is to shape the necessary changes for its employees in a responsible, socially acceptable and future-oriented way.

The Mercedes-Benz Group therefore also invests continuously in qualification measures for its employees and recruits new staff whose qualification profiles will be needed in the future. In order to attract such employees and retain them for the long term, the Mercedes-Benz Group takes measures to create an attractive and future-oriented working environment for its employees, among other ways by offering them modern and flexible forms of work that it continuously enhances.

For the transformation to be successful, it needs to have a final destination and a roadmap for getting there. For this reason, the various sites (currently the major component and assembly plants) are developing goals for the transformation process. The sites are also identifying key topics that will then be translated into specific measures and subsequently implemented. Examples of such measures include qualification and retraining programmes.

#### References:

CDP Climate Change Questionnaire:  
C2.3a / C2.4a / C3.1 / C3.2a / C3.2b / C3.3 / C3.4  
Annual Report 2022 p. 84, 90, 92ff  
Sustainability Report 2022 p. 14, 19, 91, 93, 95ff, 107f, 111f, 155, 158  
[Mercedes-Benz Strategy Update: electric drive.](#)  
[Mercedes-Benz plans to build wind farm at its test track in Papenburg, northern Germany](#)

**c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.**

The Mercedes-Benz Group uses various future scenarios to assess the robustness of its climate-related activities and the associated risks and opportunities. In doing so, it distinguishes between different types of risks when identifying climate-related risks within the scope of a scenario analysis: Transitory climate risks are related to the transition to a low-carbon economy and result from changes in political parameters, technological developments and changing markets. To obtain a well-founded basis for its analyses, the Mercedes-Benz Group examines generally recognised scenarios such as the "Net Zero Emissions by 2050 Scenario" (NZE) and the "Sustainable Development Scenario" (SDS) of the International Energy Agency (IEA). The scenarios are analysed, broken down and used as a reference for comparison with company-specific reduction paths, among other things.

Moreover, it is important for the Mercedes-Benz Group to know the long-term physical climate risks to its business operations. This refers to the impact of risks associated with the increasing intensity of extreme weather events as well as changes in climatic conditions – for example storms, floods, heavy precipitation and temperature rises. A climate risk assessment was conducted for relevant production sites in order to analyse physical climate risks on the basis of significant climate-related hazards. Adaptation measures were then evaluated on the basis of the identified risk exposure. The analysis took into account recognized scenarios from the Intergovernmental Panel on Climate Change (IPCC), including one scenario that depicts the biggest physical impact. Various time horizons (e.g. 2040) and a trend analysis were examined.

**Consideration of sustainability related aspects in connection with the recognition and measurement of assets and liabilities**

With "Ambition 2039" the Mercedes-Benz Group has set itself the target of net carbon neutrality for the new vehicle fleet by 2039 in its business strategy. With the strategic step to "Electric only", the Mercedes-Benz Group is accelerating its transformation into an all-electric and software-driven future. Recognition and measurement of the Group's assets and liabilities take

into account climate-related risks and developments associated with the transformation, which also include the climate targets set in the Paris Climate Agreement. Accounting estimates and management judgments in connection with sustainability-related aspects are taken into consideration in particular in the accounting of assets and liabilities described below:

The determination and review of the useful lives of the capitalized development costs are based on the expected product life cycle. Changes in the originally envisaged product life cycles can result from the transformation to all-electric vehicles. Due to the resolutions regarding the accelerated transformation new developments in the area of conventional powertrains are reduced and already capitalized development expenditure will partly be used for longer. For this reason the useful lives of specific development expenditures have been extended with effect from 1 January 2022, which resulted in a positive effect on EBIT in the amount of €0.2 billion for 2022. An effect in the same amount is expected for 2023.

In the same way, the useful lives of property, plant and equipment assets are regularly reviewed in the light of the transformation to all-electric vehicles. This did not require any material adjustments of the useful lives up to the reporting date as the production facilities of the Group are basically flexible in use.

In the context of controlling and further developing the production network, efforts are also being made to compensate for potential effects of the transformation at affected sites. No significant obligations to dismantle or remove production facilities and plants that would give rise to a provision existed on the reporting date.

The residual value of leased vehicles that are classified as operating leases is determined by the value that could be achieved for an asset that possesses the expected conditions of the leased asset at the end of the leasing period on the reporting date. Only developments that can be observed up to the reporting date are considered. Due to the transformation to all-electric vehicles, changes to the residual value of both conventionally powered and all-electric vehicles due to changing customer behaviour, new regulatory requirements and further technological development can result over time.

The development of the residual values did not give rise to any indications that the transformation had a negative effect on the residual values during the financial year. The expected proceeds from the disposal of vehicles pledged as collateral were taken into account in the determination of expected credit losses for receivables from financial services. The expected proceeds from the disposal were based on an estimate of the market value at the expected time of a possible default. There were no indications of a reduction of these estimated market values that could be traced to effects of climate change or of changing customer behaviour as of the reporting date.

As of the reporting date, there were no material provisions for payments to authorities that could result from exceeding local regulations regarding vehicle emission limits.

The impairment test on the level of the cash-generating units is based on the corporate planning of the Mercedes-Benz Group. The “Electric only” strategy of the Group taken account of herein provides for a step by step substitution of vehicles with combustion engines by electric vehicles. For the purposes of the impairment test, further sales risks and risks regarding the availability and the future price of components and raw materials were also taken into account. Additional corporate planning parameters in connection with the transformation affect the investment requirements and the currently higher variable costs of all-electric vehicles in comparison with vehicles with conventional powertrains. The simultaneous development, model refinement and production of electric and conventionally powered vehicles results in a higher investment requirement, particularly in the detail planning period until 2027, in comparison with focussing on conventionally powered vehicles. No growth was assumed in the derivation of the terminal value, due in part to the not yet completely predictable effects of the competitive situation and customer behaviour in the course of the transition to electric mobility. The impairment test carried out taking account of the transformation effects described did not result in any impairment requirement for the cash-generating units.

**References:**

CDP Climate Change Questionnaire:  
C3.2 / C3.2a / C3.2b  
Annual Report 2022 p. 228f  
Sustainability Report 2022 p. 92

## Risk Management

### Disclose how the organization identifies, assesses, and manages climate-related risks.

#### a) Describe the organization's processes for identifying and assessing climate-related risks.

The Mercedes-Benz Group has appropriate and effective internal control, risk and compliance management systems in place that are commensurate with the size and global presence of the Group, the scope of its business operations, and its risk situation, and are geared towards the continuous and systematic management of entrepreneurial risks and opportunities. These systems also take risks and opportunities associated with social and environmental factors into account.

In identifying sustainability-related risks and opportunities, Mercedes-Benz Group AG is guided by the topics identified by the materiality analysis and thus includes the areas of action of the sustainable business strategy, for which concrete goals have been assigned. Sustainability-related data are systematically recorded and social and environmental impacts of the Group's activities are identified and assessed as part of thematic risk assessments, for example in life cycle assessments along the entire life cycle of vehicles or in the Human Rights Respect System.

The risk management system is part of the overall planning, control and reporting process. This is to ensure that the executive management recognizes significant risks at an early stage and can initiate countermeasures in a timely fashion. Internal Audit monitors compliance with legal framework conditions and corporate standards by means of targeted audits and initiates appropriate measures where necessary.

Climate-related risks and opportunities in connection with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) are part of the environment area and are thus also identified and assessed as part of the risk management process. In addition to the accounting-related internal control system, the internal control system also includes in particular the Compliance Management System as well as an independent assessment of the structure and processes of the internal control system by Internal Auditing.

The aim of the Compliance Management System (CMS) is to promote compliance with legislation and policies within the Group and among its employees, to prevent misconduct and to systematically minimize compliance risks on the basis of the culture of integrity.

At least once a year, the Audit Committee of the Supervisory Board of Mercedes-Benz Group AG discusses the effectiveness and functionality of the internal control and risk management system, the internal auditing system, and the Compliance Management System with the Board of Management. In each case, these systems and processes or similar ones are also examined with regard to the sustainability risks and opportunities they address, taking into account the areas of action of the sustainable business strategy as well as the ecological and social impact of the business activities conducted by Mercedes-Benz Group AG and the Group.

The chairman of the Audit Committee shall report back to the Supervisory Board about the work of the committee at the latest at the next meeting of the Supervisory Board.

The Supervisory Board also deals with the risk management system on the occasion of the audit of the Group and Consolidated Financial Statements. The Chairman of the Supervisory Board maintains contact with the Board of Management between meetings of the Supervisory Board, in particular with the Chairman of the Board of Management, in order to discuss issues of risk management and compliance, in addition to the strategy and business development of the Group.

In addition, the Board of Management regularly informs the Audit Committee and the Supervisory Board about significant risks to the Company and the Group. The Legal Affairs Committee of the Supervisory Board supports the Supervisory Board in the performance of its duties with regard to the complex emissions and antitrust-related proceedings with which Mercedes-Benz Group AG and its subsidiaries are confronted.

#### References:

CDP Climate Change Questionnaire: C2.1 / C2.2 / C2.2a  
Annual Report 2022 p. 87, 141, 170  
Sustainability Report 2022 p. 27f

**b) Describe the organization's processes for managing climate-related risks.**

Risk and opportunity management is a firm component of the Group-wide planning, controlling and reporting process. It is designed to support the sustained achievement of the corporate targets and to ensure risk awareness at the Mercedes-Benz Group. In identifying sustainability-related risks and opportunities, Mercedes-Benz Group is guided by the topics identified by the materiality analysis and thus includes the areas of action of the sustainable business strategy, for which concrete goals have been assigned. Sustainability-related data are systematically recorded and social and environmental impacts of the Group's activities are identified and assessed as part of thematic risk assessments, for example in life cycle assessments along the entire life cycle of vehicles.

The risk management system is part of the overall planning, control and reporting process. This is to ensure that the executive management recognizes significant risks at an early stage and can initiate countermeasures in a timely fashion. Internal Audit monitors compliance with legal framework conditions and corporate standards by means of targeted audits and initiates appropriate measures where necessary.

Risks and opportunities from the legal and political framework have a considerable influence on the Mercedes-Benz Group's future business success. Regulations concerning vehicles' emissions, fuel consumption, safety and certification, as well as tariff aspects and taxes in connection with the sale or purchase of vehicles or vehicle parts, play an important role.

The Mercedes-Benz Group constantly monitors the development of the legal and political framework and attempts to anticipate foreseeable requirements and long-term objectives at an early stage in the product development process. In particular, changes in the legal and political framework at short notice can be associated with additional costs or higher investments.

For Mercedes-Benz Cars and Mercedes-Benz Vans, there are legal regulations covering binding targets for the average fleet consumption and CO<sub>2</sub> emissions for new vehicle fleets. The high-volume markets in China, Europe and the USA are particularly regulated.

However, such fleet regulations should not be seen as stand-alone solutions. Instead, they are an important part of a broader regulatory environment, because of the following general rule: effective and ambitious fleet regulations must be complemented by coherent policy measures such as promoting the development of the charging infrastructure and the expansion of renewable energies.

Legal limits on the fuel consumption and/or CO<sub>2</sub> emissions of car fleets and light truck fleets also exist in many other markets, although the target values differ from market to market. This concerns major sales markets for Mercedes-Benz products such as Switzerland, Canada, Japan, South Korea, Brazil, India and Saudi Arabia. The Mercedes-Benz Group also takes these target values into account in the further development of its portfolio.

An interdisciplinary team of environmental experts and specialists in procurement, development, logistics, production, strategy and sales is working at the Mercedes-Benz Group to make the Group's fleet of new cars net carbon-neutral by 2039. It monitors CO<sub>2</sub> emissions and controls reduction measures.

Suppliers of production materials to Mercedes-Benz Cars and Mercedes-Benz Vans are expected to operate with an environmental management system that is certified according to ISO 14001 or EMAS. Depending on the specific risks, this also applies to suppliers of nonproduction materials and services. If a supplier does not have a certified environmental management system, the supplier is given two years to set up such a system and have it certified. If this is not done, the supplier may be excluded from receiving new orders.

The transformation of the economy creates challenging tasks for companies. Constructive partnerships between the workforce and the management, as well as between the corporate management and the employee representative body are important, because this is the only way that viable solutions can be found. With this in mind, the Mercedes-Benz Group and the employee representative body succeeded in reaching long-term agreements in 2022. Among other things, the new production setup that was agreed on provides for various assembly plants throughout Europe to begin manufacturing products with new

technologies. This will safeguard the future of the sites in question as well as the jobs they offer.

**References:**

CDP Climate Change Questionnaire: C2.1 / C2.2  
Annual Report 2022 p. 86, 92, 97, 146, 170  
Sustainability Report 2022 p. 93, 106, 109, 163

**c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.**

In order to identify business risks and opportunities at an early stage and to assess and manage them actively, the Board of Management applies appropriate and effective management and control systems, which have been brought together in an overall risk and opportunity management system.

The risk management system is intended to systematically and continually identify, assess, control, monitor and report on risks threatening the Mercedes-Benz Group's existence and other material risks jeopardizing the Group's success, in order to support the achievement of corporate targets and to enhance risk awareness at the Group. This also includes risks and opportunities involving environmental, social and governance factors (ESG).

The organisational embedding of risk and opportunity management is carried out by the risk management organisation established at the Group. The responsibility for operational risk management and for the risk management processes is borne by the divisions, corporate functions, organisational units and companies. They report on the concrete risks and opportunities at regular intervals to their superordinate units. Unexpectedly occurring material risks must be promptly reported. The information for reporting to the Board of Management, Audit Committee and Supervisory Board is passed on to corporate risk management by the business divisions.

The Group Risk Management Committee (GRMC) is responsible for ensuring the continuous improvement and evaluating the efficiency and effectiveness of the risk management system. The GRMC is composed of representatives from the Accounting & Financial Reporting, Legal Affairs, Compliance and Group Security units, as well as the members of the Board of Management of Mercedes-Benz Group AG, Mercedes-Benz AG and

Mercedes-Benz Mobility AG responsible for Finance, and is chaired by the members of the Board of Management of Mercedes-Benz Group AG responsible for Finance & Controlling, Mercedes-Benz Mobility, and Integrity and Legal Affairs. Corporate Audit contributes significant findings through the internal controlling and risk management system.

Progress on climate change mitigation in the supply chain is reported at regular intervals in the Group Sustainability Board (GSB).

**References:**

CDP Climate Change Questionnaire: C2.1 / C2.2  
Annual Report 2022 p. 92  
Sustainability Report 2022 p. 109f

## Metrics & Targets

**Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.**

**a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.**

### Climate protection in vehicles and services

Electrified vehicles (xEV) at Mercedes-Benz Cars accounted for 16% of the Group's worldwide unit sales in the year under review. Battery electric models accounted for 4% of unit sales at Mercedes-Benz Vans.

### Alternative drive systems Mercedes-Benz Cars

		<b>2022</b>
Worldwide	Alternative drive systems (total)	333,490
	Plug-in hybrid	184,263
	Electric drive	149,227
	<b>MBC unit sales (total)<sup>1</sup></b>	<b>2,040,719</b>
Europe <sup>2</sup>	Alternative drive systems (total)	236,678
	Plug-in hybrid	142,022
	Electric drive	94,656
	<b>MBC unit sales (total)<sup>1</sup></b>	<b>618,904</b>

1 Group sales Mercedes-Benz Cars (incl. smart)

2 Europe: European Union, United Kingdom, Switzerland and Norway

### Alternative drive systems at Mercedes-Benz Vans

		<b>2022</b>
Worldwide	Electric drive	15,003
	<b>MBV unit sales (total)<sup>1</sup></b>	<b>415,344</b>
Europe <sup>2</sup>	Electric drive	14,847
	<b>MBV unit sales (total)<sup>1</sup></b>	<b>259,436</b>

1 Group Sales Mercedes-Benz Vans (commercial)

2 Europe: European Union, United Kingdom, Switzerland and Norway

### Development of CO<sub>2</sub> emissions in Europe

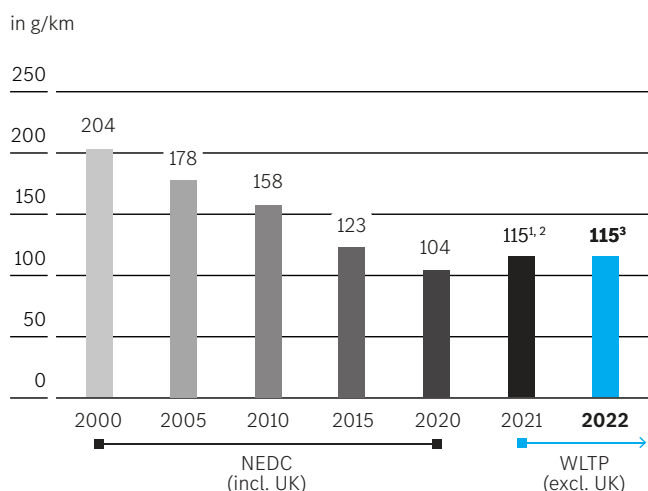
The Mercedes-Benz Group has defined the CO<sub>2</sub> emissions of its total new passenger car fleet in Europe as one of its significant non-financial performance indicators.

In 2022, the average CO<sub>2</sub> emissions of the Mercedes-Benz passenger new car fleet in Europe (European Union, Norway and Iceland), applying the statutory regulations, are expected to amount to 115 g/km (including vans registered as passenger cars) and

were thus at the same level as in the previous year. This means that the figures for Mercedes-Benz achieved the CO<sub>2</sub> targets in Europe in 2022.

For 2023, the Group expects that the Mercedes-Benz fleet average in Europe (European Union, Norway and Iceland) will continue to fall. This development is particularly favoured by the continuing increase in sales of all-electric and plug-in vehicles as a proportion of total passenger car sales.

### Development of the average CO<sub>2</sub> emissions of the Mercedes-Benz passenger car fleet in Europe

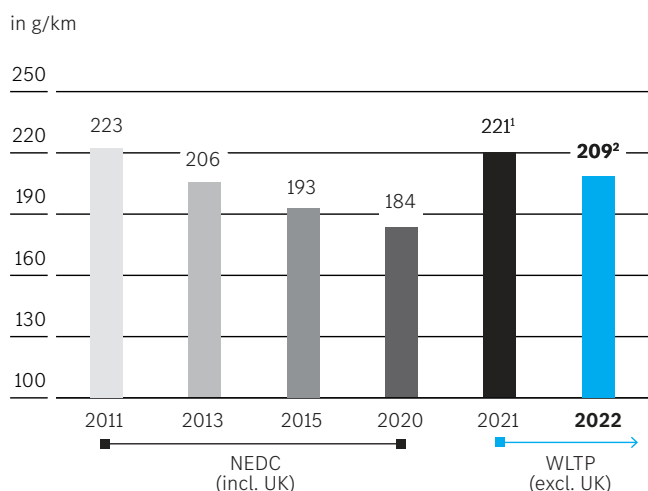


- 1 Including vans registered as M1 vehicles – all other years without vans.
- 2 Preliminary EU data.
- 3 Projection.

In the reporting year, the average CO<sub>2</sub> emissions of vehicle category N1 light trucks in Europe (European Union, Norway and Iceland) as measured on the basis of the legal regulations are expected to amount to 209 g/km. This means that the figures for Mercedes-Benz will be below the CO<sub>2</sub> target.

For 2023 the Group expects a further reduction in CO<sub>2</sub> emissions due to rising sales of battery-electric vehicles.

### Development of the average CO<sub>2</sub> emissions of the Mercedes-Benz van fleet in Europe

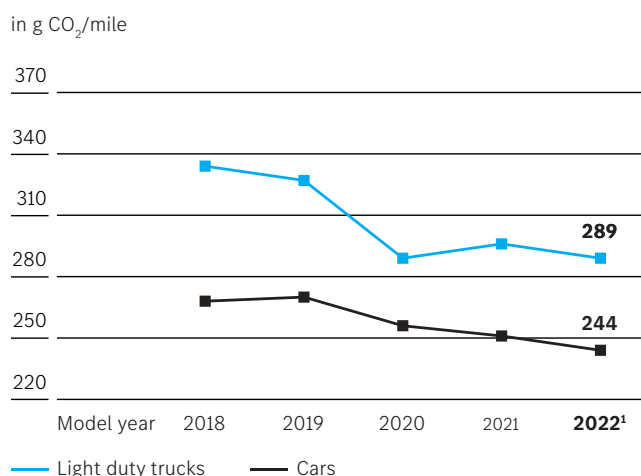


- 1 Preliminary EU data
- 2 Projection

### Development of CO<sub>2</sub> emissions in the USA

In the United States, fleet values are regulated by two separate federal standards for limiting greenhouse gases and fuel consumption in vehicle fleets: the Greenhouse Gas Protocol (GHG) and the Corporate Average Fuel Economy (CAFE) standard. For the 2022 model year, the GHG fleet figure is 244 g CO<sub>2</sub>/mi for the car fleet and 289 g CO<sub>2</sub>/mi for the fleet of vans and SUVs registered as light trucks (on the basis of the most recent forecast). Because the portfolio of electrified vehicles (xEV) in the United States is still in an early stage of development, the Mercedes-Benz Group was not able to achieve its average fleet targets of 195 g CO<sub>2</sub>/mi for the car fleet and 256 g CO<sub>2</sub>/mi for the fleet of vans and SUVs registered as light trucks. However, the Mercedes-Benz Group was able to offset the remaining difference through the purchase of external credits.

### Mercedes-Benz GHG values for passenger cars and light duty trucks in the USA



- 1 Projection

The models of the Mercedes-Benz Sprinter are subject to the GHG regulation for Classes 2b/3. The CO<sub>2</sub> targets in these classes depend on the payload, the towing capacity and the drive type of the vehicles. Data on CO<sub>2</sub> emissions from Mercedes-Benz vehicles were not yet available at the time of publication of this report.

### Development of CO<sub>2</sub> emissions in China

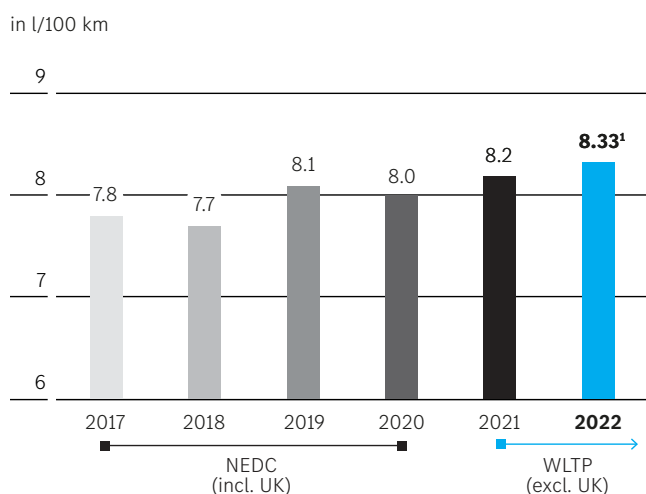
In China, domestic and imported cars are reported separately and according to fleet consumption values, unlike in Europe and the United States. This means the figures for the imported fleet are the relevant figures for our



wholly owned subsidiary Mercedes-Benz China (MBCL). The target was 7.01 l/100 km; the figure that was actually achieved was 8,33 l/100 km (8.17 l/100 km including off-cycle technologies). MBCL plans to purchase external credits in order to close consumption gaps in the fleet's target achievement at short notice.

The aim of the Mercedes-Benz Group with regard to the portfolio expansion for all-electric vehicles and plug-in hybrids is to achieve the emission targets in China in the medium term, together with the joint-venture partner Beijing Benz Automotive (BBAC).

### Mercedes-Benz fleet consumption passenger cars in China



1 Preliminary value without off-cycle technologies

The V-Class and Vito models are produced by the joint venture Fujian Benz Automotive Co., Ltd. (FBAC) and constitute a local fleet (domestic). A value of 9.29 l/100 km was achieved (without off-cycle technology); the target value is 7.9 l/100 km. At present, the fleet balance can be offset by means of a credit transfer. This situation is not likely to change until 2026, because the fleet consists of only a single vehicle model. Legal limits on the fuel consumption and/or CO<sub>2</sub> emissions of car fleets and light truck fleets also exist in many other markets, although the target values differ from market to market. This concerns major sales markets for Mercedes-Benz products such as Switzerland, Canada, Japan, South Korea, Brazil, India and Saudi Arabia. The Mercedes-Benz Group also takes these target values into account in the further development of its portfolio.

### Climate protection in the supply chain

The Mercedes-Benz Group implements various projects and measures in order to avoid and reduce CO<sub>2</sub> emissions in its supply chains for services as well as for production and non-production materials. In future, the Group wants to work only with partners who share its understanding of sustainability in terms of climate, environment and human rights. For this reason, in 2020, Mercedes-Benz Cars and Mercedes-Benz Vans already sent out to suppliers of production materials the ambition letter, a declaration of intent on net carbon-neutral products and established approval as a prerequisite for awarding contracts. By signing this document, they commit themselves to supply Mercedes-Benz AG only with products that are net carbon-neutral by 2039 at the latest - and thus to the Mercedes-Benz Group's "Ambition 2039".

Approximately 86% of all suppliers of production material for Mercedes-Benz Cars and Mercedes-Benz Vans registered in the system (as measured on the basis of annual planning procurement volume that, in turn, is based on target figures updated bi-weekly) have signed the ambition letter. Net carbon neutrality is incorporated into the terms of contract, and the ambition letter is a key criterion for the awarding of contracts. This means that a supplier who does not sign the "Ambition Letter" will not be considered in any new contract tendering process.

In addition, Mercedes-Benz Cars and Mercedes-Benz Vans have developed requirements in the form of interim CO<sub>2</sub> targets for components whose production generates a large amount of CO<sub>2</sub> emissions. These targets are included as criteria during the contract award process and affect a major share of the supply chain emissions of future vehicles. The CO<sub>2</sub>-intensive materials and components include steel, aluminium, certain plastics and also the battery.

In 2022, the suppliers of Mercedes-Benz Cars and Mercedes-Benz Vans gave assurances that they would meet the Group's targets for the components across all model series. This means that they will continuously reduce CO<sub>2</sub> emissions, especially for materials and components with high CO<sub>2</sub> emissions, and increase the share of secondary materials.

### Climate protection in production

Production at all manufacturing locations operated by the Mercedes-Benz Group has been net carbon-neutral regarding Scope 1 and Scope 2 since 2022. Since early 2022, all CO<sub>2</sub> emissions (Scope 1 and Scope 2) at production facilities operated by the Mercedes-Benz Group that have been as yet unavoidable have been offset by means of carbon offsets from qualified climate change mitigation projects.

### Fulfilment of a substantial contribution to the climate change mitigation environmental objective of the EU Taxonomy

In the EU Taxonomy related sections in the Group's Annual Report 2022 (pages 118ff) and Sustainability Report 2022 (pages 34ff) information on the proportion of revenue, capital expenditure and operating expenditure accounted for by environmentally sustainable economic activities at the Mercedes-Benz Group is presented in detail.

According to the delegated act for the taxonomy regulation, all vehicles complying with the limit value of 50g CO<sub>2</sub>/km per vehicle (in accordance with the WLTP) as defined in the technical screening criteria make a substantial contribution to the climate change mitigation environmental objective. At Mercedes-Benz Group all electric vehicles as well as the majority of plug-in hybrid vehicles are below this threshold.

### CO<sub>2</sub> targets in remuneration

The remuneration for the Board of Management and Level 1-3 executives, as well as for Level 4 managers in some cases, includes both financial and sustainability targets in the form of the variable components of the company bonus. These consist primarily of transformation targets including those involving CO<sub>2</sub> emissions, due diligence obligations in raw material procurement, and traffic safety in addition to further non-financial targets. These targets relate to the topics of customers, integrity and employee commitment and diversity. In addition, the Mercedes-Benz Group defines further criteria in the areas of the environment, social concerns and governance in order to determine the annual bonus for the Board of Management and senior executives. Since 2020, this has also included the achievement of CO<sub>2</sub> fleet targets.

[Remuneration Report 2022](#)

#### References:

CDP Climate Change Questionnaire:  
C4.2 / C4.2a / C4.2b / C9.1  
Annual Report 2022 p. 118ff, 141  
Sustainability Report 2022 p. 34ff, 101, 104ff, 107f, 110f

### b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.

To evaluate how environmentally compatible a vehicle is, the Mercedes-Benz Group conducts ecological assessments: the Group systematically analyses the generated CO<sub>2</sub> emissions and other environmental impacts along the entire value chain of a vehicle – from raw material extraction through production and use to recycling. Among other things, these analyses have shown that as more and more vehicles are electrified, the focus is shifting towards other factors such as production of the high-voltage battery and generation of the electricity for charging the battery. Since the launch of the EQS, battery cells have been produced with electricity that is net carbon-neutral, while the Group continues to drive forward efforts to promote battery charging with electricity from sustainable sources.

The Mercedes-Benz Group collates and publishes the key figures needed for the ecological assessment of vehicles in accordance with the principles of ISO 14040/44. At the corporate level, the Greenhouse Gas (GHG) Protocol provides the framework.

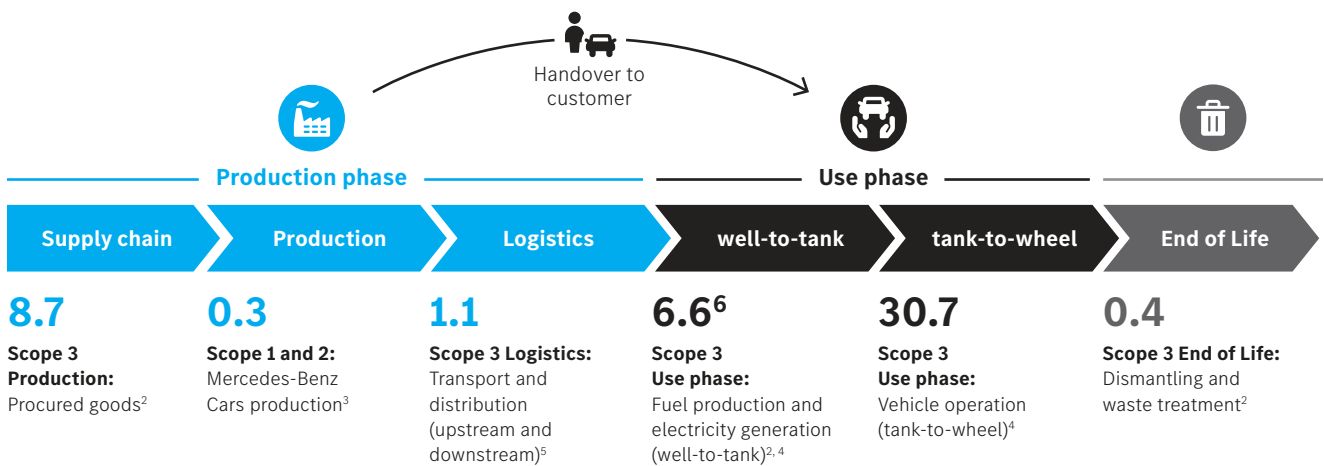
The Mercedes-Benz Group differentiates its greenhouse gas emissions according to three categories – the so-called Greenhouse Gas Scopes. Scope 1 includes all emissions that the Group itself produces when it burns energy media at its production sites – for example, when it generates electricity and heat in the Group's own power plants. Scope 2 includes all emissions caused by external providers from whom energy is purchased in forms such as electricity and district heating. Scope 3 includes all the emissions that are generated before (upstream of) or after (downstream of) business operations. For example, Scope 3 includes the CO<sub>2</sub> emissions that arise in the supply chain (purchased goods and services), through the vehicles' operation in customers' hands (the use phase, including the production of fuel and electricity), and in the recycling phase of the vehicles.

The GHG Protocol specifies a total of 15 categories of Scope 3 emissions. The emissions are determined on the basis of comprehensive methodological considerations and complex calculations. The reported Scope 3 categories are selected after a review of relevance and data availability. At 78%, the majority of the Scope 3 emissions reported for the Mercedes-Benz Group occur in the utilisation phase, in other words during fuel and electricity production (well-to-tank) and the operation of its products (tank-to-wheel). Around 17% of indirect Scope 3 emissions are attributable to the supply chains that provide the Group with goods and services.

The Group determines the CO<sub>2</sub> emissions in the utilisation phase of Mercedes-Benz vehicles on the basis of its worldwide sales figures and the average, standardised CO<sub>2</sub> fleet value. An annual mileage of 20,000 km is assumed for each vehicle, for an assumed usage period of ten years. In total, the mileage therefore amounts to 200,000 km per vehicle.

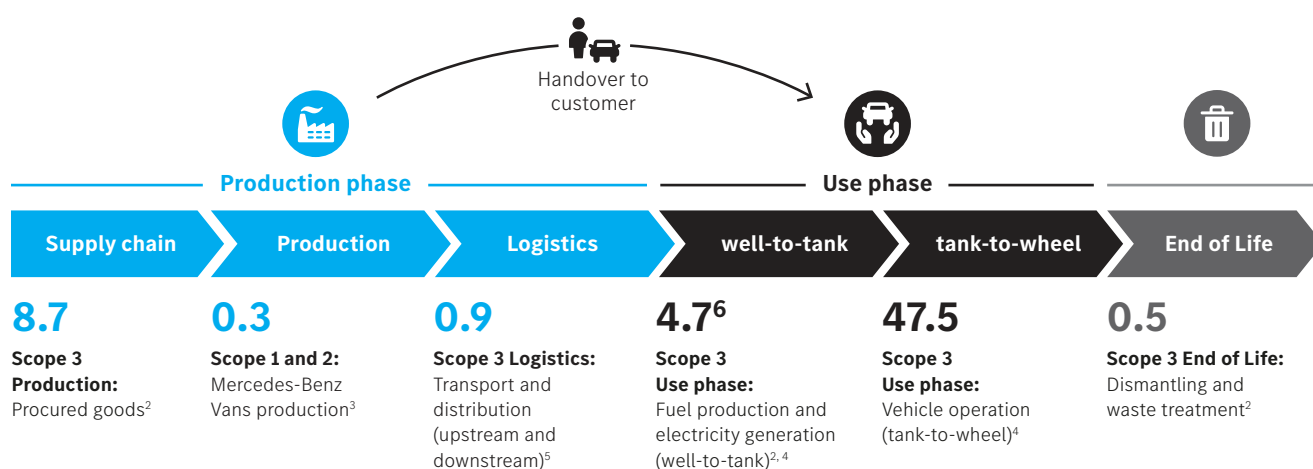
This resulted in an average CO<sub>2</sub> value of 47.9 t per vehicle for Mercedes-Benz Cars for the year 2022, and an average CO<sub>2</sub> value of 62.7 t per vehicle for Mercedes-Benz Vans. 52.2 t is accounted for by the use phase, which is dominated by commercial goods transport with vans in the 3.5 t-5 t segment.

**Scope 1, 2 and selected Scope 3 CO<sub>2</sub> emissions in t per vehicle, Mercedes-Benz Cars 2022<sup>1,7</sup>**



1 For calculation basis see appendix [Calculation and documentation of CO<sub>2</sub> emissions](#) and chapter [CO<sub>2</sub> emissions along the entire value chain](#)  
2 See [Life cycle assessments of vehicles](#) and internal life cycle assessment studies  
3 See [key figures environment](#). Since early 2022, all CO<sub>2</sub> emissions (Scope 1 and Scope 2) at production facilities operated by the Mercedes-Benz Group that have been as yet unavoidable have been offset by means of carbon offsets from qualified climate change mitigation projects.  
4 Driving emissions of Mercedes-Benz Cars fleet (EU, China, USA and RoW) standardised, mileage: 200,000 km, for data basis see chapter [Development of CO<sub>2</sub> emissions](#)  
5 Forecast value  
6 Incl. Green Charging: Contribution per vehicle -0.08 t CO<sub>2</sub>  
7 The key figures were audited in order to obtain limited assurance

## Scope 1, 2 and selected Scope 3 CO<sub>2</sub> emissions in t per vehicle, Mercedes-Benz Vans 2022<sup>1,7</sup>



- For calculation basis see appendix [Calculation and documentation of CO<sub>2</sub> emissions](#) and chapter [CO<sub>2</sub> emissions along the entire value chain](#)
- Internal life cycle assessment studies
- See [key figures environment](#). Since early 2022, all CO<sub>2</sub> emissions (Scope 1 and Scope 2) at production facilities operated by the Mercedes-Benz Group that have been as yet unavoidable have been offset by means of carbon offsets from qualified climate change mitigation projects.
- Driving emissions of Mercedes-Benz Cars fleet (EU, China, USA and RoW) standardised, mileage: 200,000 km, for data basis see chapter [Development of CO<sub>2</sub> emissions](#)
- Forecast value
- Incl. Green Charging: Contribution per vehicle -0.03 t CO<sub>2</sub>
- The key figures were audited in order to obtain limited assurance.

## Scope 1, 2 and 3 emissions, Mercedes-Benz Cars worldwide<sup>1, 5, 8</sup>

	2020		2021		2022	
	Specific CO <sub>2</sub> in t/car	Absolute CO <sub>2</sub> in million t <sup>4</sup>	Specific CO <sub>2</sub> in t/car	Absolute CO <sub>2</sub> in million t <sup>4</sup>	Specific CO <sub>2</sub> in t/car	Absolute CO <sub>2</sub> in million t <sup>4</sup>
<b>Scope 3</b>						
Procured goods <sup>6</sup>	8.1	17.0	8.4	17.0	8.7	17.7
Logistics	1.0 <sup>2</sup>	2.1 <sup>2</sup>	1.1 <sup>2</sup>	2.2 <sup>2</sup>	1.1 <sup>2</sup>	2.2 <sup>2</sup>
Business travel	0.006	0.012	0.009	0.019	0.028 <sup>7</sup>	0.057 <sup>7</sup>
Employee traffic	0.060	0.125	0.053	0.107	0.052	0.107
Use phase of our products (well-to-tank)	5.6	11.8	6.3 <sup>3</sup>	12.7 <sup>3</sup>	6.6 <sup>3</sup>	13.6 <sup>3</sup>
Use phase of our products (tank-to-wheel)	33.7	70.4	32.2	65.5	30.7	62.7
Dismantling and waste treatment <sup>6</sup>	0.4	0.8	0.4	0.8	0.4	0.8
<b>Scope 1 and 2</b>						
Manufacture	0.8	0.9 <sup>4</sup>	0.7	0.7 <sup>4</sup>	0.3	0.4 <sup>4</sup>
<b>Total</b>	<b>49.7</b>	<b>103.2</b>	<b>49.1</b>	<b>99.2</b>	<b>47.9</b>	<b>97.8</b>

- Values are rounded
- Forecast value
- Incl. Green Charging: Contribution per vehicle -0.08 t CO<sub>2</sub>
- Absolute Scope 3 emissions relate to retail sales (2020: 2,087,200; 2021: 2,032,663; 2022: 2,041,705; unaudited). Absolute Scope 1 and 2 emissions relate to vehicles produced from fully consolidated locations, excluding third-party products (2020: 1,230,733; 2021: 1,132,213; 2022: 1,261,106; unaudited)
- For calculation basis see appendix [Calculation and documentation of CO<sub>2</sub> emissions](#) and chapter [CO<sub>2</sub> emissions along the entire value chain](#)
- See [Life cycle assessments of vehicles](#) and internal life cycle assessment studies
- Business trips by air plane, rental car and domestic train services
- The key figures were audited in order to obtain limited assurance

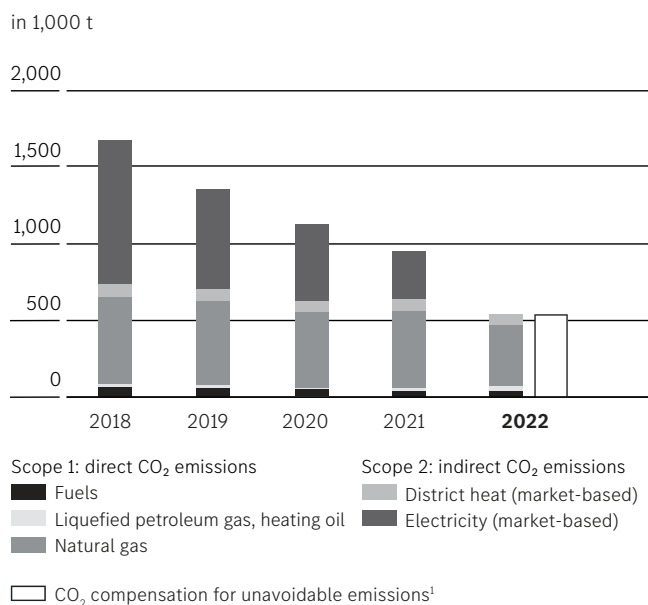
### Scope 1, 2 and 3 emissions, Mercedes-Benz Vans worldwide<sup>1, 5, 8</sup>

Scope	2021		2022	
	Specific CO <sub>2</sub> in t/van	Absolute CO <sub>2</sub> in million t <sup>4</sup>	Specific CO <sub>2</sub> in t/van	Absolute CO <sub>2</sub> in million t <sup>4</sup>
<b>Scope 3</b>				
Procured goods <sup>6</sup>	8.6	<b>3.4</b>	8.7	<b>3.6</b>
Logistics	0.9 <sup>2</sup>	<b>0.4<sup>2</sup></b>	0.9 <sup>2</sup>	<b>0.4<sup>2</sup></b>
Business travel	0.007	<b>0.003</b>	0.008 <sup>7</sup>	<b>0.003<sup>7</sup></b>
Employee traffic	0.039	<b>0.015</b>	0.038	<b>0.016</b>
Use phase of our products (well-to-tank)	4.9	<b>1.9</b>	4.7 <sup>3</sup>	<b>2.0<sup>3</sup></b>
Use phase of our products (tank-to-wheel)	47.8	<b>18.9</b>	47.5	<b>19.7</b>
Dismantling und waste treatment <sup>6</sup>	0.5	<b>0.2</b>	0.5	<b>0.2</b>
<b>Scope 1 and 2</b>				
Manufacture	0.5	<b>0.2</b>	0.3 <sup>4</sup>	<b>0.1<sup>4</sup></b>
<b>Total</b>	<b>63.3</b>	<b>25.0</b>	<b>62.7</b>	<b>26.0</b>

- 1 Values are rounded
- 2 Forecast value
- 3 Incl. Green charging: contribution per vehicle -0.03 t CO<sub>2</sub>
- 4 Absolute Scope 3 emissions relate to retail sales (2021: 394,978; 2022: 415,335; unaudited). Absolute Scope 1 and 2 emissions relate to vehicles produced from fully consolidated locations, excluding third-party products (2021: 336,847; 2022: 360,874; unaudited)
- 5 For calculation basis see appendix [Calculation and documentation of CO<sub>2</sub> emissions](#) and chapter [CO<sub>2</sub> emissions along the entire value chain](#)
- 6 Internal life cycle assessment studies
- 7 Business trips by air plane, rental car and domestic train services
- 8 The key figures were audited in order to obtain limited assurance.

During the reporting year, Mercedes-Benz Cars and Mercedes-Benz Vans employed a bundle of measures that enabled them to reduce CO<sub>2</sub> emissions in production (Scope 1 and Scope 2) from 946,038 t in 2021 to 537,821 t in the year under review, and thus by 43% compared to the previous year. In the reporting year, the Mercedes-Benz Group already achieved its target of reducing CO<sub>2</sub> emissions at its own plants (Scope 1 and Scope 2) by 50% by 2030 compared to 2018. This target was confirmed by SBTi (in 2018, Scope 1 emissions comprised 650,000 t CO<sub>2</sub> and Scope 2 emissions 1,040,000 t CO<sub>2</sub>) and is also being pursued beyond the production sites for the central functions considered.

### Scope 1 (direct) and Scope 2 (indirect) CO<sub>2</sub> emissions in production



1 Compensation amounts up to 2021 are not shown. These are small quantities.

**References:**  
 CDP Climate Change Questionnaire:  
 C6.1 / C6.3 / C6.5 / C6.5a  
 Annual Report 2022 p. 93  
 Sustainability Report 2022 p. 95, 103, 104, 244f

**c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.**

## Materiality and goals

Targets	Target horizon	Status as of 2022
<b>Climate protection in vehicles and services</b>		
Mercedes-Benz offers battery-electric vehicles (BEVs) in all segments where the brand is represented	2022	13 models
Increase the share of plug-in hybrids and all-electric vehicles to up to 50% <sup>1</sup>	By mid-decade	Cars 16% Vans 4%
All new vehicle architectures are electric	2025	According to plan
There is an all-electric alternative for every model offered by Mercedes-Benz	2025	According to plan
Mercedes-Benz is all-electric — wherever market conditions allow	By the end of the decade	According to plan
Reduction of the CO <sub>2</sub> emissions per car in the new vehicle fleet by at least 50% along all stages of the value chain <sup>2</sup>	By the end of the decade	According to plan
A fleet of new Mercedes-Benz vehicles that are net carbon-neutral along all stages of the value chain	2039	According to plan
<b>Climate protection in the supply chain</b>		
Mercedes-Benz plans to procure only net carbon-neutral production materials	2039	86% of suppliers <sup>3</sup>
<b>Climate protection in production</b>		
Net carbon-neutral production in company-owned Mercedes-Benz production plants worldwide	2022	Achieved
Reduce CO <sub>2</sub> emissions in the Mercedes-Benz plants (Scope 1 and 2) by 50% <sup>4</sup>	2030	Achieved
Increase the share of the energy requirement in own Mercedes-Benz production plants which is met through renewable energies: – Cars 70% – Vans 80%	2030	According to plan

1 When market conditions allow.

2 Compared to 2020, based on the entire value chain.

3 Measured on the basis of the annual procurement volume and assured by signature.

4 Compared to 2018.

The Mercedes-Benz Group sets itself ambitious targets for CO<sub>2</sub> reduction in the individual phases and systematically analyses the resulting CO<sub>2</sub> emissions and other environmental impacts along its entire value chain.

The Group's goal is to cut by at least half the CO<sub>2</sub> emissions per passenger car along the entire value chain by the end of this decade, compared to 2020, when market conditions allow. The most important levers for this are electrification of the vehicle fleet, charging with green electricity, improving the battery technology, the decarbonisation of the supply chain and extensive use of renewable energies in production.

Moreover, the goal of reducing the CO<sub>2</sub> emissions of the Mercedes-Benz new vehicle fleet by more than 40% compared to 2018 in relation to the use phase (well-to-wheel) has been confirmed by the Science Based Targets initiative (SBTi). Regarding Scope 1 and 2 emissions, the Mercedes-Benz Group already achieved its target of reducing CO<sub>2</sub> emissions at its own plants by 50% by 2030 compared to 2018. This target was likewise confirmed by the SBTi and is also being pursued beyond the production sites for the central functions considered.

The Mercedes-Benz Group confirmed its corporate goal of improving the framework conditions for

decarbonizing the economy and society worldwide by joining the initiatives “The Climate Pledge” and “Transform to Net Zero” in 2020.

The Mercedes-Benz Group’s goal is to accelerate the pace of expansion of its range of electric vehicles. The Group aims to increase the share of plug-in hybrids and all-electric vehicles to up to 50% by mid-decade, when market conditions allow. By 2025 there is an all-electric alternative for every model offered by Mercedes-Benz and all new vehicle architectures are electric.

Its commitment to research and development work is correspondingly great. Altogether, the Mercedes-Benz Group wants to invest more than €60 billion between 2022 and 2026 for the transformation towards an all-electric and software-driven future. Investments into combustion engines and plug-in hybrid technologies will drop by 80% between 2019 and 2026.

The Mercedes-Benz Group has defined the CO<sub>2</sub> emissions of its new passenger car fleet in Europe as one of its most significant non-financial key performance indicators. Its further assessment of the development of CO<sub>2</sub> fleet consumption for passenger cars in Europe in 2023 can be found in the forecast.

In the reporting year, the average CO<sub>2</sub> emissions of the Mercedes-Benz passenger new car fleet in Europe (European Union, Norway and Iceland), applying the statutory regulations, are expected to amount to 115 g/km (including vans registered as passenger cars) and were thus at the same level as in the previous year. This means that the figures for Mercedes-Benz achieved the CO<sub>2</sub> targets in Europe in 2022.

For 2023, the Group expects that the Mercedes-Benz fleet average in Europe (European Union, Norway and Iceland) will continue to fall. This development is particularly favoured by the continuing increase in sales of all-electric and plug-in vehicles as a proportion of total passenger car sales.

Another important pillar of net carbon-neutral production for the Mercedes-Benz Group is the expansion of renewable energies at its locations. Since 2022, all the Mercedes-Benz Group’s own production plants worldwide have obtained 100% of their external electricity

from renewable sources. The aim is to cover more than 70% (cars) and 80% (vans) of the energy requirement in production with renewable energy sources by 2030.

The Mercedes-Benz Group continuously reviews the progress it is making towards its 2039 ambition for passenger cars: since 2020, the “Mercedes-Benz Cars Purchasing and Supplier Quality” procurement unit has been measuring, among other things, the number of suppliers who agree to the “Ambition 2039” statement of intent. By signing, the suppliers agree that, by 2039 at the latest, they will only supply products to the Group that are net carbon-neutral. The results show that the supplier network of Mercedes-Benz Cars and Mercedes-Benz Vans has largely agreed to the climate targets of the Mercedes-Benz Group, which are formulated in “Ambition 2039”.

Approximately 86% of all suppliers of production material for Mercedes-Benz Cars and Mercedes-Benz Vans registered in the system (as measured on the basis of annual planning procurement volume that, in turn, is based on target figures updated bi-weekly) have signed the ambition letter. Net carbon neutrality is incorporated into the terms of contract, and the ambition letter is a key criterion for the awarding of contracts.

The goal of the Mercedes-Benz Group is to bring more climate-friendly materials and products into its vehicles as quickly as possible. It is already setting the course for this today and relying among other things on CO<sub>2</sub>-free steel. Compared to conventional steel production, the use of almost 100% scrap saves more than 60% of CO<sub>2</sub> emissions.

**References:**

CDP Climate Change Questionnaire:

C4.1 / C4.1a / C4.1b / C4.2 / C4.2a / C4.2b

Annual Report 2022 p. 90, 92

Sustainability Report 2022 p. 91, 95, 110, 112, 115

🌐 <https://group.mercedes-benz.com/company/strategy/mercedes-benz-strategy-update-electric-drive.html>

This document contains forward-looking statements that reflect our current views about future events. The words “anticipate,” “assume,” “believe,” “estimate,” “expect,” “intend,” “may,” “can,” “could,” “plan,” “project,” “should” and similar expressions are used to identify forward-looking statements. These statements are subject to many risks and uncertainties, including an adverse development of global economic conditions, in particular a decline of demand in our most important markets; a deterioration of our refinancing possibilities on the credit and financial markets; events of force majeure including natural disasters, pandemics, acts of terrorism, political unrest, armed conflicts, industrial accidents and their effects on our sales, purchasing, production or financial services activities; changes in currency exchange rates, customs and foreign trade provisions; a shift in consumer preferences towards smaller, lower-margin vehicles; a possible lack of acceptance of our products or services which limits our ability to achieve prices and adequately utilize our production capacities; price increases for fuel or raw materials; disruption of production due to shortages of materials or energy, labour strikes or supplier insolvencies; a decline in resale prices of used vehicles; the effective implementation of cost-reduction and efficiency-optimization measures; the business outlook for companies in which we hold a significant equity interest; the successful implementation of strategic cooperations and joint ventures; changes in laws, regulations and government policies, particularly those relating to vehicle emissions, fuel economy and safety; the resolution of pending governmental investigations or of investigations requested by governments and the outcome of pending or threatened future legal proceedings; and other risks and uncertainties, some of which are described under the heading “Risk and Opportunity Report” in the current Annual Report or in the current Interim Report. If any of these risks and uncertainties materializes or if the assumptions underlying any of our forward-looking statements prove to be incorrect, the actual results may be materially different from those we express or imply by such statements. We do not intend or assume any obligation to update these forward-looking statements since they are based solely on the circumstances at the date of publication.