

# Climate Transition Action Plan

Mercedes-Benz Group



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Dealing with climate change is one of the greatest challenges in human history. Today, the transformation to increased sustainability is no longer about whether it will be achieved, but how. With the Ambition 2039, Mercedes-Benz already set the course towards net carbon neutrality for the entire company in 2019. Mercedes-Benz wants to channel the history of mobility in a positive direction, actively shape the sustainable transformation process and be part of the solution.

Mercedes-Benz Group AG hereby publishes its first action plan for decarbonisation in 2023. The Mercedes-Benz Climate Transition Action Plan outlines the steps to achieve the set short-term and long-term goals on the road to net carbon-neutrality – the Ambition 2039. It describes how the company's strategy, organisation, assets and processes are geared towards the challenges of the transformation and the goals of the Paris Climate Agreement.

Mercedes-Benz is committed to a high degree of transparency. The Climate Transition Action Plan presents a comprehensive yet compact overview of the sustainable transformation of the Mercedes-Benz Group. Many more details on the planned as well as already implemented measures, goals and initiatives can be found in the following sources:

- [📄 Sustainability Report](#)
- [Climate Policy Report](#)
- [Website Mercedes-Benz Group](#)





# The ambition

As a player in the transport sector, the Mercedes-Benz Group supports the Paris Climate Agreement: It is convinced of the goals of the agreement. Around one fifth of greenhouse gas emissions in Europe are produced as a result of the transport of people and good on streets and roads. The Mercedes-Benz Group is taking deliberate measures to counteract this trend and has made climate change migration a core element of its business strategy. The Group's ambition is to make the entire Mercedes-Benz new vehicle fleet net carbon-neutral across all stages of the value chain by 2039.

The necessary transformation to a climate-neutral society requires the transformation of entire industries. The Mercedes-Benz Group wants to actively shape the transformation of the automotive industry and is transforming its products and the services that are at the heart of its business. The focus is on the complete electrification of the vehicles: Mercedes-Benz aims to be fully electric by 2030 wherever market conditions allow. This strategic step to "Electric only" will accelerate the transformation to an all-electric and software-driven future. The company also takes into account climate change mitigation in all life cycle phases of its automobiles – from the supply chain and its own production to the use and disposal of the vehicles.



# Emissions reduction throughout the value chain

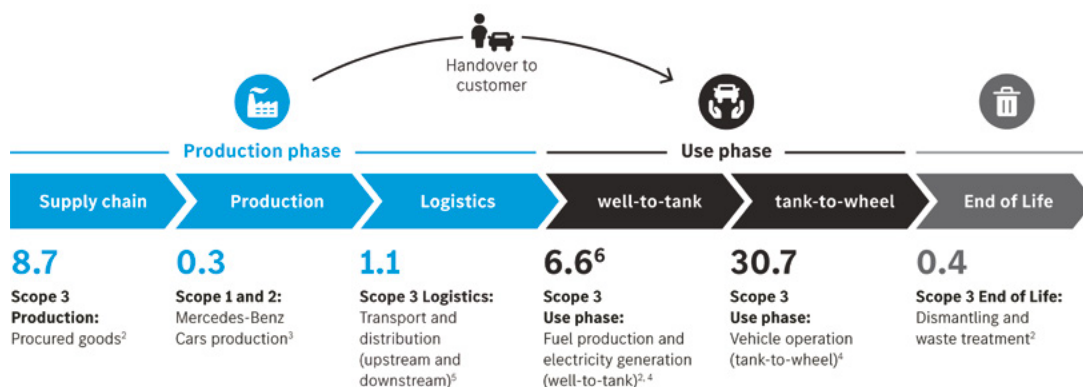
The Mercedes-Benz Group sets itself ambitious targets for CO<sub>2</sub> reduction in the individual life cycle phases and systematically analyses the resulting CO<sub>2</sub> emissions and other environmental impacts along its entire value chain.

For the entire life cycle of the Mercedes-Benz Cars fleet and the Mercedes-Benz Vans fleet worldwide, Mercedes-Benz calculates emissions in accordance with the requirements of the Corporate Accounting and Reporting Standard 2004 of the Greenhouse Gas Protocol Initiative.

At 78 %, the majority of the Scope 3 emissions reported for the Mercedes-Benz Group occur in the use phase, in other words during fuel and electricity production (well-to-tank) and the operation of its products (tank-to-wheel). Consequently, the most important levers for the transformation are the electrification of the vehicle fleet, charging with green electricity and improving the battery technology. But decarbonisation of the supply chain and wide use of renewable energies in production are also among the most important measures.

\* Status 2022

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



<sup>1</sup> For calculation basis see [Sustainability Report](#) chapter climate protection and appendix Calculation and documentation of CO<sub>2</sub> emissions.

<sup>2</sup> See [Life cycle assessments of vehicles](#) and internal life cycle assessment studies

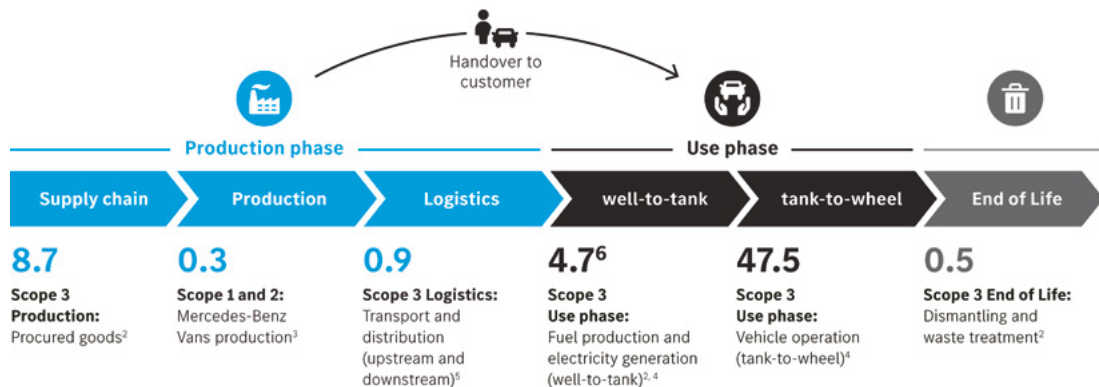
<sup>3</sup> See [key figures environment](#). Since 2022, all CO<sub>2</sub> emissions (Scope 1 and Scope 2) at production facilities operated by the Mercedes-Benz Group that have been as yet unavoidable have been offset by means of carbon offsets from qualified climate change mitigation projects.

<sup>4</sup> Driving emissions of Mercedes-Benz Cars fleet (EU, China, USA and RoW) standardised, mileage: 200,000 km, for data basis see [Sustainability Report](#) Development of CO<sub>2</sub> emissions

<sup>5</sup> Forecast value

<sup>6</sup> Incl. Green Charging: Contribution per vehicle -0.08 t CO<sub>2</sub>

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



<sup>1</sup> For calculation basis see [Sustainability Report](#) chapter climate protection and appendix Calculation and documentation of CO<sub>2</sub> emissions.

<sup>2</sup> Internal life cycle assessment studies

<sup>3</sup> See [key figures environment](#). Since 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.

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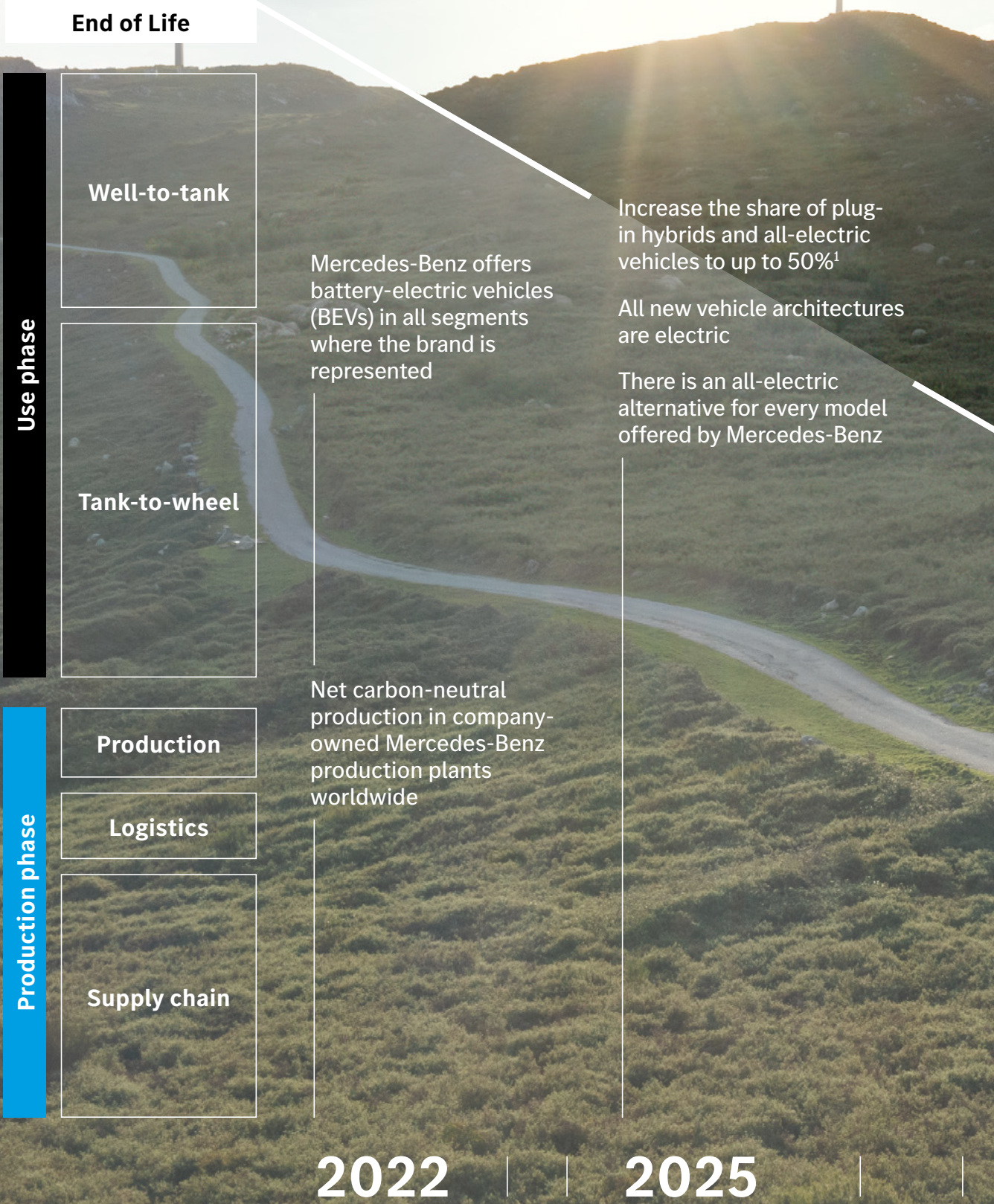
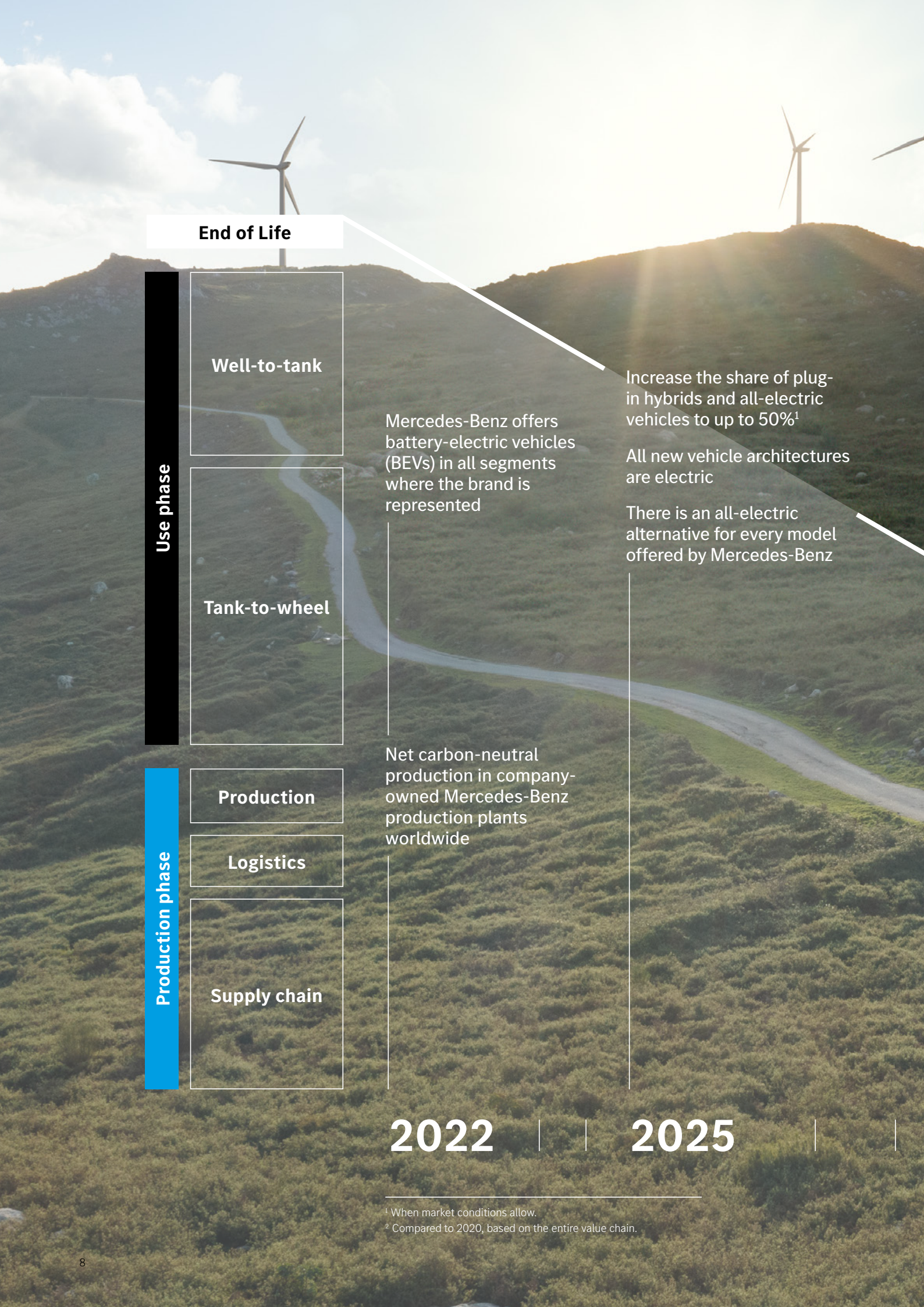
<sup>5</sup> Forecast value

# The Mercedes-Benz Climate Transition Action Plan at a glance

With its “Ambition 2039”, the Mercedes-Benz Group aims for a fleet of new vehicles that is **net carbon-neutral along the entire value chain** in less than 20 years. A central point here is the electrification of the vehicles.

On the way to Ambition 2039, Mercedes-Benz Cars has defined a challenging interim target in 2022 that is in line with the requirements of the Paris Climate Agreement in order to reduce its greenhouse gas emissions along the entire value chain. The target is based on, among other things, the latest climate research findings. The goal of Mercedes-Benz Cars is to cut **CO<sub>2</sub> emissions of the new car fleet across the entire value chain by at least half per passenger car by the end of this decade, compared to 2020**. The focus is on avoiding and reducing CO<sub>2</sub> emissions, which is to be achieved primarily with the transformation towards an all-electric product range and technological innovation in all life cycle phases.





<sup>1</sup> When market conditions allow.  
<sup>2</sup> Compared to 2020, based on the entire value chain.



## Reduction $\geq$ 50%

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>1,2</sup>

Mercedes-Benz is all-electric – wherever market conditions allow

Increase the share of the energy requirement in own Mercedes-Benz production plants which is met through renewable energies: Cars 70%, Vans 80%

Reduce CO<sub>2</sub> emissions in the Mercedes-Benz plants (Scope 1 and 2) by 80% compared to 2018

## Ambition 2039

A fleet of new Mercedes-Benz vehicles that are net carbon-neutral along all stages of the value chain

2030

2039



Mercedes-Benz has defined further goals for its own production operations: At its own production sites, Mercedes-Benz aims to reduce CO<sub>2</sub> emissions by 80 % by 2030, compared to 2018. The share of renewable energies is to be expanded significantly and cover more than 70 % of the energy demand in production by 2030.

Other corporate divisions are also continuously working on decarbonising their own remits. In the supply chain, the company has integrated target values into the criteria for award processes in order to reduce CO<sub>2</sub> emissions, especially for components that are produced in a carbon-intensive manner. The sales organisation also has a roadmap to support sales partners worldwide in the transformation to net carbon-neutrality. Transport logistics focuses, among other things, on logistics network optimisation and cooperation with transport service providers in order to find innovative and climate-compatible transport alternatives.

## External validation of targets

The scope 1 and 2 as well as scope 3 mid-term emission reduction targets of Mercedes-Benz AG were externally approved by the Science Based Targets initiative (SBTi) in 2019. With these targets Mercedes-Benz AG committed to reducing absolute scope 1 and 2 GHG emissions 50 % by 2030 from a 2018 base year and to reduce scope 3 GHG emissions from use of sold products 42 % per vehicle kilometer by 2030 from a 2018 base year.

The SBTi has temporarily paused target validations and updates for automobile manufacturers until a 1.5°C scope 3 pathway for use-phase emissions from new road vehicles is developed (status 03/2023). Mercedes-Benz has already committed to more ambitious mid-term targets (see chapter 2) and plans to have them validated when this becomes possible.







# How the transformation succeeds

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# 2.1 Use phase

A large proportion of the CO<sub>2</sub> emissions of cars with internal combustion engines is generated during driving. The Mercedes-Benz Group is convinced that the transformation of road transport will lead to the complete electrification of vehicles. The company has set itself the goal of contributing to the electrification of individual mobility worldwide.

However, there are still obstacles to overcome that require efforts on the part of the business community: For example, the charging infrastructure must not be allowed to lag behind the demand. The growth rate of renewable energies may also be too slow. The Mercedes-Benz Group therefore strongly favours a political and regulatory framework that regulates the transition to a CO<sub>2</sub>-neutral mobility. However, the Group itself is also continuously working on private and commercial charging solutions for the home, the workplace and public spaces.

The transformation can succeed if customers are enthusiastic about the electrified and digital future. For many of them, it is important that products they use do not cause any damage to the environment and that they do not have to make any compromises in their everyday lives. With its product range, the Mercedes-Benz Group aims to meet both of these customer demands and thus accelerate the transformation.

## Electric only - All-electric future of vehicles

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. By the end of the decade, the company wants to be all-electric wherever market conditions allow. With this strategic step to “Electric only”, Mercedes-Benz is accelerating its transformation into a software-driven and all-electric future.

The Mercedes-Benz Group already confirmed its intention to accelerate the transition to electric mobility at the UN Climate Change Conference COP26 in November 2021. 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 CO<sub>2</sub>-neutral transport for the future. The company is convinced that the electrification of vehicles will be instrumental in accelerating the transformation.



### **EQ models: Future-oriented and battery-electric**

Since 2018, Mercedes-Benz AG has been offering battery-electric vehicles under the Mercedes-EQ brand – and is continuously expanding the portfolio with additional models. Already today, Mercedes-Benz has reached an important strategic milestone and has been offering an all-electric alternative for every segment in which the brand is active since 2022. From 2025, all newly launched vehicle architectures of Mercedes-Benz Cars and Mercedes-Benz Vans will be purely electric. These important interim targets pave the way for an all-electric future by the end of the decade, wherever market conditions allow.

### **Plug-in hybrids**

On the road to the all-electric future, plug-in hybrids represent an important transitional technology. Mercedes-Benz offers an efficient drive-system package for this purpose: since 2021, customers have been able to choose between more than 20 model variants. This combination of an electric drive system and combustion engine enables locally emission-free driving in electric driving mode. The drive system, which consists of an electric motor and a high-voltage battery, can enable all-electric operating ranges that are sufficient for the majority of daily trips.



# Efficient vehicle concept

Efficient driving and charging reduces the life-cycle 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 company 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 on-board 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.

# Green Charging for Mercedes me Charge

The goal of the Mercedes-Benz Group is to drive forward the transformation to sustainable, emission-free mobility. For this reason, it promotes the use of electricity from renewable sources: As an integral part of Mercedes me Charge, Green Charging has enabled customers to charge green at public charging stations in Europe, Canada and the USA since 2021.

The so-called Green Charging uses green electricity certificates to subsequently ensure that an equivalent amount of electricity from renewable energy sources is fed into the grid for the charging processes. They certify the origin of the energy and serve as a kind of birth certificate for electricity from renewable sources. The green electricity from certified energy production plants is labelled with the EKOenergy ecolabel, which creates further incentives to invest in renewable energy production plants.



## Charging infrastructure

The demand for electric vehicles with the three-pointed star is steadily increasing and the path is clear: Mercedes-Benz aims to be fully electric wherever market conditions allow. To this end, a comprehensive charging infrastructure is a decisive success factor. Today, customers can already charge their vehicles with Mercedes me Charge at more than 1,1 million charging points worldwide. In addition, Mercedes-Benz plans to establish a fast-charging network in North America, Europe, China and other core markets. Construction will start still in 2023 – beginning in North America, followed by Europe and China and other key markets. The goal is to build the entire network of 10,000 charging points by the end of the decade.

The fast-charging network will primarily be aimed at Mercedes-Benz customers. In principle, however, the Mercedes-Benz charging parks will also be open to all other vehicle brands with compatible technology. In line with its sustainable business strategy “Ambition 2039”, Mercedes-Benz wants to enable its customers to charge green electricity. This is ensured preferably via green power supply contracts or by using green electricity certificates from accredited suppliers. Selected Mercedes-Benz charging parks will also be equipped with photovoltaic systems to cover the electricity requirements for lighting and video surveillance etc.

## Services

The Mercedes-Benz Group wants to support the users of its vehicles in adopting an environmentally responsible driving style and in making purchasing decisions in favour of electric vehicles. To this end, it offers a wide range of service solutions.

### **App facilitates decision for e-mobility**

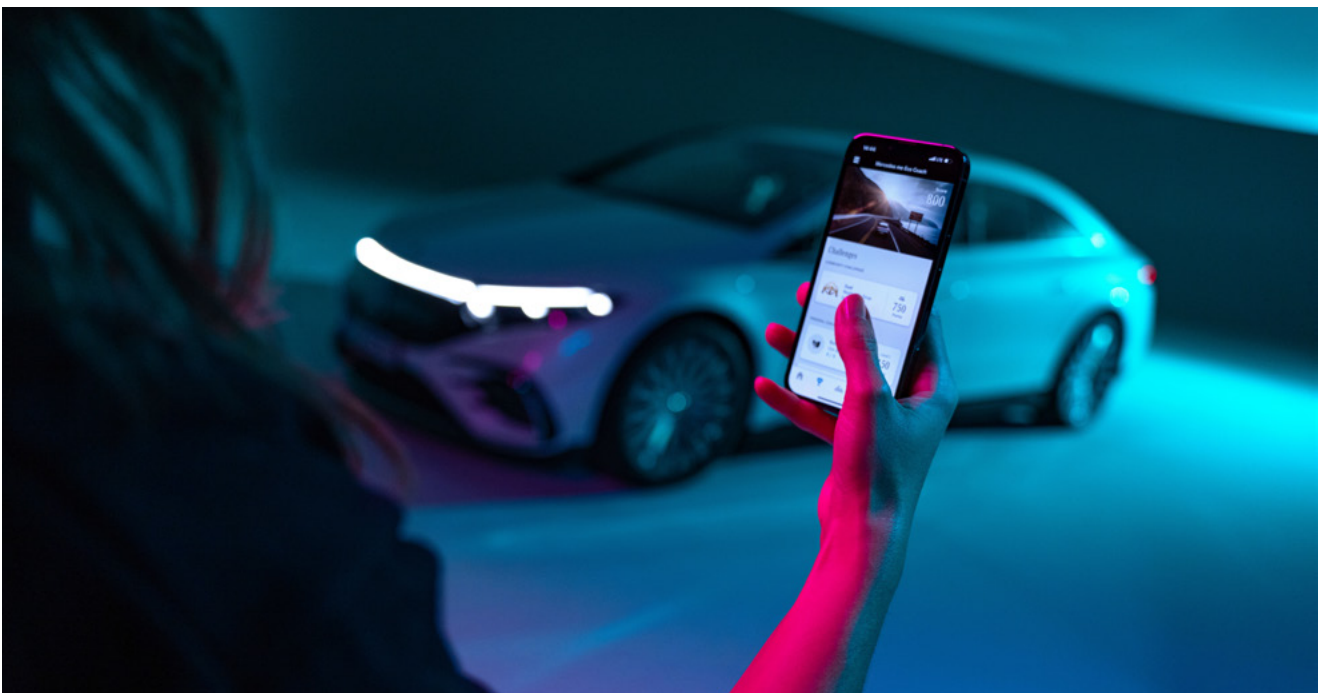
The Mercedes-Benz “Electric Ready App” supports drivers in determining whether a switch would be practicable by analysing individual driving behaviour. The users receive a lot of useful information relating to electric mobility presented in an entertaining manner. In addition to data about their potential energy requirements, users can simulate the duration of different charging solutions in real time and view the various regional charging infrastructures. The App has been available in around 29 countries worldwide since 2020. So far, it has evaluated just under 2.5 million trips for its users.

### **App collects data on individual fuel consumption**

The Mercedes-Benz Group offers transparent information and possibilities to compare the fuel consumption of its vehicles in Europe: Since 2020, customers can voluntarily share their individual fuel consumption anonymously and compare it with users of similar vehicles via the free Mercedes me App for almost all model series.

### **Saving energy with the Eco Coach**

Since the end of 2020, the Mercedes-Benz Group has offered customers of plug-in hybrid and electric vehicles an app with individual energy-saving tips: the Mercedes me Eco Coach analyses personal driving and charging behaviour and provides personalised tips on how to reduce the CO<sub>2</sub> footprint and increase the longevity of the vehicle battery. The app is now available in ten European markets.



### **Facilitating the switch to battery-electric vehicles**

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.



# 2.2 Operations



## Production

The Mercedes-Benz Group formulates the holistic goal of making the mobility of the future more sustainable in its sustainable business strategy. This applies not only to mobility solutions, but also to the Group's own production plants. Thus the CO<sub>2</sub> emissions arising from Mercedes-Benz production operations and in the energy supply of the 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 renewable energy at its own sites and the implementation of a sustainable heat supply system. All remaining CO<sub>2</sub> emissions are offset through qualified compensation projects.

### **2022: net carbon-neutral production**

Mercedes-Benz AG has already reached a significant milestone: Production at all manufacturing locations operated by the Mercedes-Benz Group has been net carbon-neutral in terms of Scope 1 and Scope 2 since 2022. This includes 29 car and van plants worldwide and is a further step in the implementation of the "Ambition 2039".

The procurement of green electricity plays a key role in these efforts. Since 2022, all of the Mercedes-Benz Group's own production plants worldwide have obtained their external electricity from renewable sources. The Mercedes-Benz Group in Germany currently relies on a mix of solar, wind and hydroelectric power for external electricity purchases. In addition, there already are photovoltaic systems at several locations, as well as other expansion projects.

Another lever is the continuous expansion of a sustainable heat supply for the production plants of Mercedes-Benz AG. In 2022, Mercedes-Benz Cars gradually increased its purchases of biomethane for production processes at German locations. Other Mercedes-Benz locations are supplied by biomass heating plants.

Overall, renewable energy sources already cover around 45% of the total energy requirements of the Mercedes-Benz production sites.

The energy efficiency of a plant is of great importance for the reduction of the CO<sub>2</sub> footprint of vehicle production. Various measures, such as the optimisation of lighting and ventilation technology, the intelligent control of electrical energy supply or the use of efficient and state-of-the-art technology in planning, contribute to significant energy savings in production plants today.

In the final step, since 2022 Mercedes-Benz has been compensating for all CO<sub>2</sub> emissions (Scope 1 and Scope 2) at production facilities operated by Mercedes-Benz Group that have been as yet unavoidable through carbon offsets from qualified climate change mitigation projects. Remaining emissions are produced mainly in the combined heat and power plants which generate electricity and heat with natural gas. (For further details on CO<sub>2</sub> offsetting, see [Chapter 8 Calculation basis and transparency](#))

### **2030: The next stage of CO<sub>2</sub> reduction and energy transition**

In 2022, Mercedes-Benz already achieved its originally set target, which was confirmed by the Science Based Targets Initiative (SBTi), of reducing CO<sub>2</sub> emissions in its own plants (Scope 1 and 2) by 50% by 2030 compared to 2018 – years ahead of schedule. In order to make further progress, Mercedes-Benz has defined a new goal: by 2030 it wants to achieve an 80% reduction compared to 2018.

To achieve this goal, the Mercedes-Benz Group is 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. In addition, Mercedes-Benz is planning to invest €1 billion in next-generation paint shops, which enable energy savings of up to 60% per vehicle compared to today's technology. Through the use of electric furnaces, natural gas is replaced by electricity and to generate heat for the drying process.





Another important pillar for the Mercedes-Benz Group is the expansion of renewable energies at its locations. The aim is to cover more than 70% (cars) and 80% (vans) of the energy requirement in production with renewable energy sources by 2030. To this end, the company is planning to expand solar and wind energy at its own locations, and to conclude corresponding power purchase agreements.

Up to 2025, the Mercedes-Benz Group will make further investments to continue the expansion and installation of photovoltaic systems (PV systems) at more than 50 locations around the world. This means that the photovoltaic capacity at the production and other facilities worldwide is to be expanded to up to 140 MWp by 2025, which corresponds to more than 1,000,000 square meters of new solar panels.

In September 2022, the Mercedes-Benz Group began its planning for the installation of a wind farm on its test site in Papenburg, northern Germany. By 2025, the plan is to construct several wind turbine systems there, generating more than 100 MW and covering over 15% of the annual power requirement of Mercedes-Benz Group AG in Germany. To this end, the company is planning a long-term cooperation with a partner in the form of a Power Purchase Agreement (PPA) to the value of hundreds of millions of euros. Furthermore, internal studies are ongoing to determine whether the large-scale installation of photovoltaic systems is feasible on the test site.

In addition, Mercedes-Benz Group has concluded a long-term power supply contract with a major energy provider. The electricity will be generated by a newly constructed offshore wind farm in Germany, which is to go into operation by 2027. The supply contract covers a volume of approximately 30% of the company's entire power requirement in Germany.

### **2039: The ambition for the production**

On the way to Ambition 2039, Mercedes-Benz intends to implement further measures to cover the energy requirements at its own production sites entirely with renewable energies by 2039. This transformation is a decisive factor in achieving the vision of CO<sub>2</sub>-emission-free production in 2039.



# Logistics

On the way towards net carbon-neutral transport logistics, Mercedes-Benz AG is committed to the prevention and reduction of CO<sub>2</sub> emissions in the global transport network. In 2022, around 2 million Mercedes-Benz vehicles were transported around the world. In addition, the European production networks of Mercedes-Benz AG received nearly 6.6 million tons of production materials. Mercedes-Benz AG is continually optimising its logistics in order to reduce the associated CO<sub>2</sub> emissions.

Among other things, in 2022, the company improved the transport network for the supply to the Asian markets: thanks to shorter transport routes, around 20,000 t of CO<sub>2</sub> were avoided, compared with the previous year. The company also wants to shift more transport from road to rail, and is focusing on an expansion of rail transport: in August 2022, work began on a new rail siding with logistics centre at the Mercedes-Benz plant in Jawor (Poland). This expansion is to facilitate the delivery of batteries from Jawor to Mercedes-Benz plants around the world from 2024.

Together with DB Cargo, the company opened the logistics centre for the Mercedes-Benz plant in Bremen in 2021. The Centre for Battery Logistics is the hub of the net carbon neutral logistics concept for the battery systems of the new Mercedes EQ model, the EQE. Since 2022, DB Cargo has been transporting the systems on a net carbon neutral basis from the Mercedes-Benz Hedelfingen plant in Stuttgart to Bremen by using green electricity. For marine transport of components from Bremerhaven to India, Mercedes-Benz AG relies on biofuels and was able to reduce CO<sub>2</sub> emissions by around 9,000 t in 2022 compared with the previous year. Furthermore, in close cooperation with its transport service providers, Mercedes-Benz AG is examining innovative transport concepts and new means of transport such as freight sailing ships to further avoid and reduce emissions in its logistics. Until these climate-compatible transport alternatives and technologies become available, Mercedes-Benz AG continues to support qualified climate protection projects.





# Sales Organisation

The Mercedes-Benz Group has set itself the goal of making its sales organisation more climate-compatible – but this can only be achieved with the support of its sales partners.

By 2030, all sales partners worldwide are expected to achieve the goal of net carbon-neutral operation. The focus here is on identifying and implementing measures that help to avoid and reduce CO<sub>2</sub> emissions. This includes switching to green electricity contracts, the energy-efficient refurbishment of existing buildings and the construction of highly energy-efficient new buildings. This is based on the global CO<sub>2</sub> emissions of the Mercedes-Benz Sales Organisation, which the company determined for the first time in 2022, as well on continuous reporting for subsequent years. This enables the Mercedes-Benz Group to check the effectiveness of the implemented measures and to quantify the realised CO<sub>2</sub> reduction. In addition, the company plans to develop an interactive platform in 2023 which includes all concepts, tools and measures relevant to CO<sub>2</sub> reduction. At the same time, the platform is intended to provide the strategic framework for the sustainability efforts of the Mercedes-Benz Sales Organisation.

The own-retail outlets of Mercedes-Benz AG in Germany, like the Mercedes-Benz plants, have been operated on a net carbon-neutral basis with effect from 2022. In addition to the nationwide switch to green electricity, the focus in 2022 was on avoiding or reducing energy consumption in the own-retail outlets and sales buildings – for example, by switching to LED lighting and taking modernisation measures. Increasing energy efficiency remains the focus of the dealerships.



## 2.3 Supply chain



### Sustainable transformation at the suppliers

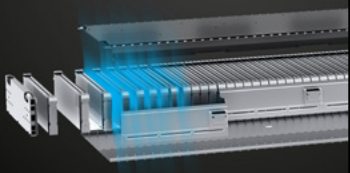
With its “Ambition 2039”, the Mercedes-Benz Group aims to have a net carbon-neutral new vehicle fleet along the entire value chain in less than 20 years. The supplier network plays a decisive role in achieving the climate targets: for example, the production of an all-electric vehicle is about twice as carbon-intensive as that of a conventional combustion engine model, mainly owing to the lithium-ion batteries. For Mercedes-Benz Cars and Mercedes-Benz Vans, the goal is to from 2039 on source only net carbon-neutral production materials.

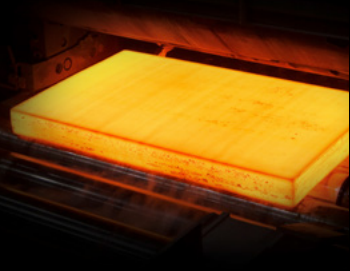
In order to reduce CO<sub>2</sub> emissions in the supply chain, Mercedes-Benz Cars and Mercedes-Benz Vans are actively promoting the transformation of the suppliers. For this, they use three levers:


- By means of the **„Ambition Letter“**, which applies in the case of the award of any new contract, suppliers pledge to deliver only net carbon-neutral products to the Mercedes Benz AG from 2039 on. Around 86% of the suppliers of Mercedes-Benz Cars and Mercedes-Benz Vans – measured in terms of annual purchasing volume 2022, based on monthly updated planning figures – have signed the “Ambition Letter”.
- In addition, Mercedes-Benz has 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, Mercedes-Benz works together with selected partners. The aim is to use **innovative technologies** 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.

# Future technologies to reduce CO<sub>2</sub> emissions

The Mercedes-Benz Group is working together with the suppliers to develop measures to reduce CO<sub>2</sub> emissions in the production and non-production materials it purchases. To this end, quantitative interim targets for CO<sub>2</sub> emissions in the supply chains have been defined. 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.

<p>Batteries</p> 	<ul style="list-style-type: none"><li>• The production of battery cells for the current electric vehicle platform (EVA2) is already net carbon-neutral.</li><li>• Net carbon-neutral cathode production for next model generation of electric vehicles confirmed by strategic suppliers.</li><li>• Further potentials in supply chain are under investigation and implementation.</li></ul>
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<p>Steel</p> 	<ul style="list-style-type: none"><li>• Purchasing of CO<sub>2</sub>-reduced flat steel products especially for parts of the current electric vehicle platform (EVA2) in the USA from 2022, manufactured through the use of a high share of recycled scrap steel and renewable energies – reduction by more than 60% compared to the conventional blast-furnace process.</li><li>• Investment into future technologies: steel production based on hydrogen and electricity from exclusively renewable sources.</li></ul>
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<p>Aluminum</p> 	<ul style="list-style-type: none"><li>• One third of aluminum used in the next BEV model generation in Europe from 2024-2025 onwards will come from smelters using renewable energy in their electrolysis.</li><li>• Working together with aluminum producers to develop aluminum with very low CO<sub>2</sub> footprint for automotive applications by 2030.</li></ul>
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## Responsible Sourcing Standards

In 2022, the Mercedes-Benz Group introduced the “Responsible Sourcing Standards”. These are the company’s new central contractual document covering sustainability requirements for suppliers. The standards include its minimum requirements for a responsible supply chain. In this way, the company is tightening its sustainability requirements, particularly in the areas of environmental due diligence, climate protection and resource conservation, as well as biodiversity, deforestation and water. In addition, the standards define minimum requirements with regard to human rights due diligence.



## 2.4 End-of-life

The Mercedes-Benz Group's responsibility for its products extends over the entire life cycle of the vehicle. That is why the company already thinks about what will happen to the product at the end of the vehicle life cycle during product development. Reuse and recycling of materials are important levers not only to minimise the use of resources but also the carbon footprint.

The Mercedes-Benz Group's vision therefore is, as far as possible, to transform its entire value chain into a closed loop. To this end, it wants to return its end-of-life materials to the material cycle – including for example the batteries of electric vehicles, which still contain a considerable quantity of valuable materials.

When developing products, the Mercedes-Benz Group keeps the circular economy in mind from the start and draws up a recycling concept for each new model series. For this, it analyses all components and materials and examines the extent to which they are suitable for the various stages of the recycling process. All Mercedes-Benz passenger car models and light commercial vehicles have a materials recycling rate of 85% according to ISO 22628 and a 95% recovery rate in accordance with the European End-of-Life Vehicles Directive 2000/53/EC.

An important lever of the circular economy for electric vehicles is the battery. Once it is no longer possible to recondition or reuse a battery, it is recycled in order to recover valuable raw materials. That is why Mercedes-Benz is building its own battery recycling factory in Kuppenheim, where a recycling rate of over 96 percent can be achieved thanks to innovative technology. Following this example, Mercedes-Benz AG is planning to set up a closed-loop recycling system for batteries in China and the USA together with partners.





# Steering and organisation



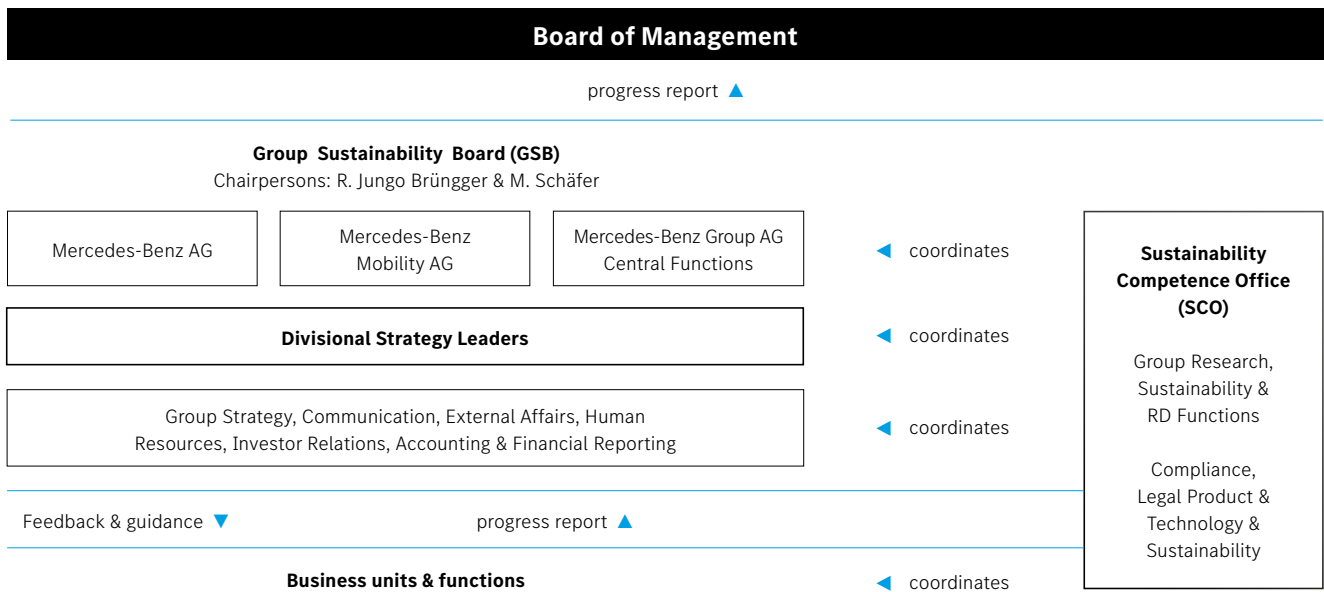
# Organisational structure & governance

The Mercedes-Benz Group acts in line with the sustainable business strategy adopted by the Board of Management of Mercedes-Benz Group AG in 2019 with the agreement of the Supervisory Board. Sustainability topics are thus an integral part of the business strategy.

The sustainable business strategy is reflected in the organisational structure of the Mercedes-Benz Group: Sustainability and climate protection are a substantial part of all business functions, whether it be research and development, purchasing, finance or other functions. Representatives of these specialist functions meet regularly in central committees that ensure the implementation and further development of the strategy.

The Group Sustainability Board (GSB) is the central management body for all sustainability topics and reports to the Board of Management. 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. 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 Supervisory Board monitors and advises the Board of Management in its deliberations relating to the transformation targets, which also include non-financial and sustainability related targets.

The operational work is carried out by the Sustainability Competence Office (SCO). The SCO provides advice to the specialist units and helps them complete the tasks assigned to them by the GSB. In addition, the SCO monitors the progress of the sustainable business strategy. The results are reported to the GSB and the Board of Management in the form of detailed scorecards at least twice a year.



# Incentivisation

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.

# Dialogue with stakeholders and experts

The Mercedes-Benz Group attaches great importance to engaging in a dialogue with its interest groups. An important instrument in the exchange with stakeholders is the “Sustainability Dialogue”. This dialogue with stakeholders enables it to look at its sustainability commitment from different angles, to identify and pick up on new trends and to share experiences.

The Advisory Board for Integrity and Sustainability has been providing support for the company’s sustainability work since 2012. The board’s members are independent external specialists from the fields of science and business, as well as from civic organisations, and include experts who possess specialized knowledge regarding environmental and social policy, the development of transport, traffic and mobility, and human rights and ethical issues. The members of the Advisory Board support the Mercedes-Benz Group with constructive criticism in questions related to integrity and corporate responsibility.



# Financial planning

Ambition 2039 and the strategic decision to go all-electric by the end of this decade, where market conditions allow, are driving the allocation of capital and investments of the Mercedes-Benz Group.

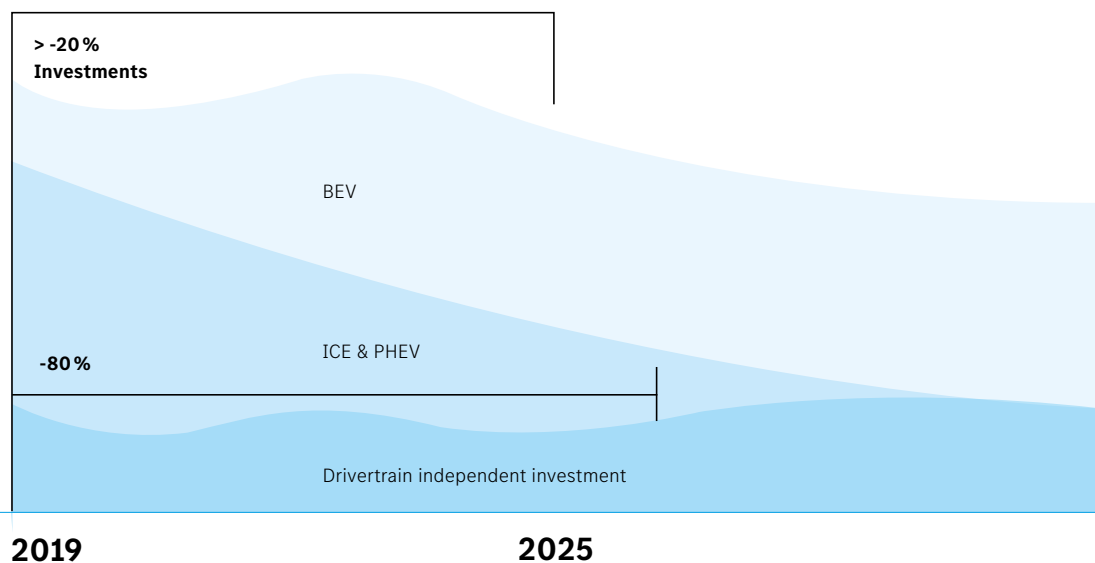
The company is already cutting investments into combustion and hybrid engines by 80 % between 2019 and 2026. With the accelerated shift into the electric-only era, Mercedes-Benz has already increased its investments in battery-electric vehicles. The company invests in three all-electric architectures – MB.EA, AMG.EA and VAN.EA – thereby adding exciting new models to its portfolio. Altogether, Mercedes-Benz Group wants to invest more than €60 billion between 2022 and 2026 for the transformation into a fully electric and software-driven future.

Beyond products, Mercedes-Benz is also investing in environmentally compatible production and in the expansion of battery production. Moreover, it invests in the qualification of its employees to ensure the successful implementation of its sustainable business strategy and the digitisation of the company.

This acceleration of transformation will fundamentally change the company and will also require constant high levels of investment. Thanks to the Green Finance Framework of Mercedes-Benz, the capital allocation and financing needs are aligned with the Ambition 2039 and the targets outlined in the Paris Climate Agreement.

[Sustainability Report Mercedes-Benz Group AG](#)  
[Task Force on Climate-related Financial Disclosure \(TCFD\) Report](#)

## Capital expenditure and Research & Development investments\*



BEV: battery-electric vehicles  
PHEV: plug-in hybrid vehicles  
ICE: Internal combustion engine vehicles



# Climate risks and scenarios

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.



# Policy engagement



Climate change mitigation and resource conservation are two of the existential challenges of our time. However, the more ambitious the targets set by governments become, the less likely it is that they can be reached through the efforts of the automotive industry and its companies alone. The political framework is the key here, so a cooperative dialogue needs to be maintained between government, business and industry, and society at large — and this is exactly what the External Affairs unit at the Mercedes-Benz Group seeks to accomplish.

- The Mercedes-Benz Group uses its expertise in a targeted manner to achieve the greatest possible correspondence between public and private interests – and thus to be part of the solution.
- As a player in the transport sector, the Mercedes-Benz Group supports the Paris Climate Agreement: It is convinced of the objectives of the agreement.
- Its political representation of interests follows the business strategy of the Group.
- Within the framework of the responsible political representation of its interests, the Mercedes-Benz Group continuously seeks to establish and maintain a dialogue with government representatives and politicians at its locations worldwide, and it continued to do so in the reporting year. The Mercedes-Benz Group also shares ideas and information with other interest groups and individuals, including groups that are active in politics and society, opinion leaders, experts, citizens, representatives from business and non-governmental organizations (NGOs). Together with these stakeholders, the Mercedes-Benz Group supports the opinion-forming process at both national and international level in order to promote the sustainable business goals and the transformation of the automotive industry.
- The Mercedes-Benz Group aligns its political advocacy with principles of transparency and responsibility. It is convinced that the public has a right to know about the decision-making processes, and that companies that position themselves transparently are more successful than others in the medium and long term. After all, this is also how they can make the greatest contribution to the community.
- Here, the Mercedes-Benz Group takes the route of publicly accessible parliamentary lobby registers. In this way, it can transparently inform the parliamentary groups about its issues, as well as about the resources and players involved in safeguarding its interests.
- The Mercedes-Benz Group also uses its own “Mercedes-Benz Group Climate Policy Report” to inform about its political positions. In addition, the Group publishes further information regarding its stance on relevant, strategic and stakeholder-related issues on the corporate website. Here, too, it adheres to principles of transparent representation of interests.

[🔗 Climate Policy Report Mercedes Benz Group AG](#)  
[Website Mercedes-Benz Group](#)

# Just transition

# The “People Plan” of Mercedes-Benz

The transformation towards locally emission-free and connected individual mobility does not only concern products, technologies and business models. It also affects the entire workforce and the corporate culture: Working processes and structures are changing just as fundamentally as employee tasks, job profiles and cooperation within the Group. The Group is shaping this transition – the “Just Transition” – together with the employee representatives in a future-oriented, socially acceptable and fair manner.

With the HR strategy – the “People Plan” – the HR division is shaping the personnel transformation of the Mercedes-Benz Group and accompanying people through the transformation. This “People Plan” is based on the three pillars: “Re-Shape”, “Re-Skill”, “Re-Charge”. The pillars are complemented by the “Principles of Cooperation” and the foundation consisting of “Sustainability, Diversity and Integrity”.

The strategy pillar “**Re-Shape**” comprises the socially responsible restructuring of the Group on the basis of new competence and product fields. In addition to a future-oriented set-up of administrative functions, this is also very much about the target visions of the production locations and the sales organisation. In doing so, it is just as important to take local individual factors into account as it is to set Group-wide standards and create synergies. In this way, the Mercedes-Benz Group is making a contribution to securing jobs in the future.

With “**Re-Skill**”, the Mercedes-Benz Group wants to ensure that employees are equipped with the necessary know-how for future activities and tasks. In Germany alone, the Mercedes-Benz Group is investing more than €1.3 billion in the qualification, training and further education of its employees by 2030.

To retain trained specialists in the Group and recruit new talents, the Mercedes-Benz Group strives to continue to position itself as an attractive employer. The Mercedes-Benz Group is pursuing this goal within the “**Re-Charge**” pillar. It sees attractive working conditions and modern forms of working as well as the creation of an inclusive corporate culture based on trust as an essential factor. The Mercedes-Benz Group demands and promotes equal opportunities and a culture characterised by appreciation and respect.





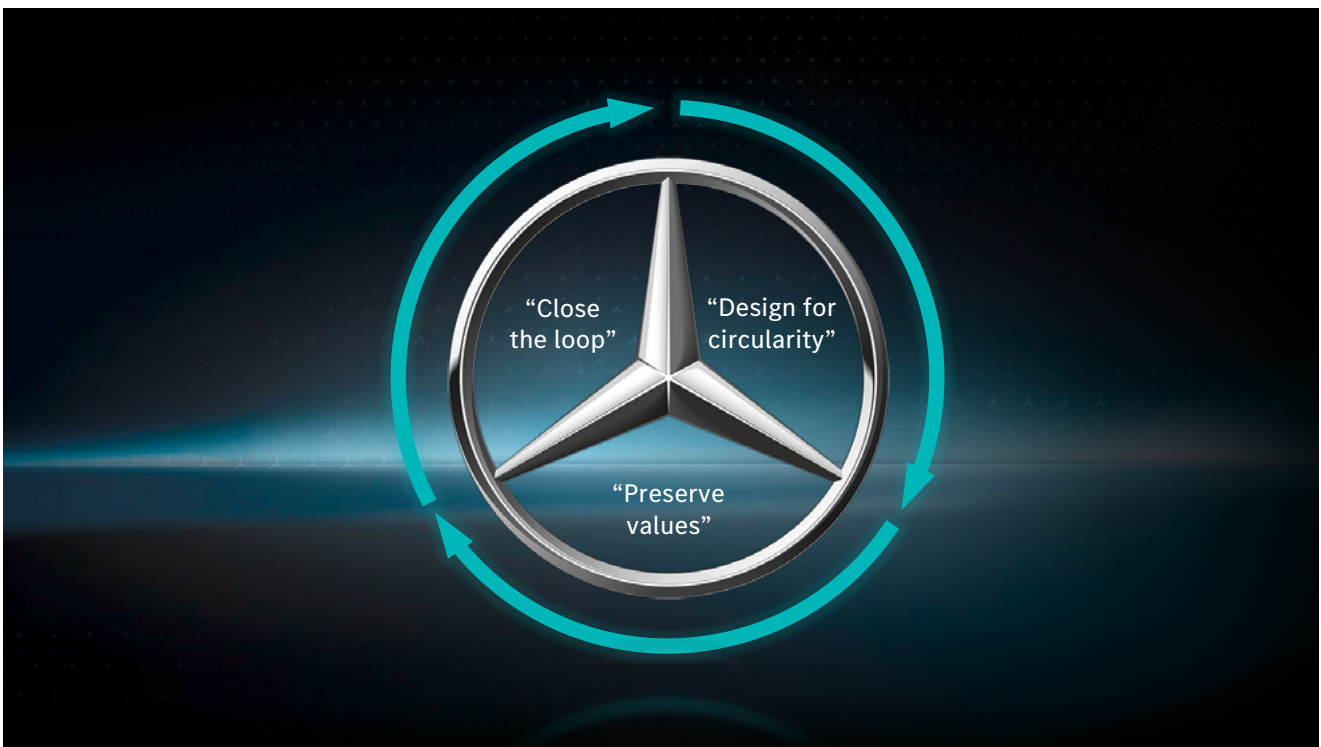
# Climate and nature

Global climate and nature are intertwined. To achieve global climate goals, ways are needed to protect the world's natural carbon sinks and prevent further destruction of ecosystems. Science shows that climate change is already interfering with the balance of nature. An effective climate protection strategy therefore also includes the protection of nature and the sensible use of resources.

## Resource conservation

The increasing demand for mobility is also leading to an increase in the worldwide consumption of resources — with negative consequences for the environment and society. For example, in many cases the extraction and processing of primary raw materials are often energy-intensive and lead to emissions of greenhouse gases and other pollutants. That's why the goal of the Mercedes-Benz Group is to increasingly decouple its consumption of resources from the growth of its production volume: it has set out to reduce the use of primary resources per vehicle. By 2030, the share of secondary raw materials for the passenger car fleet is to be increased to an average of 40 %.

The vision of the Mercedes-Benz Group therefore is, as far as possible, to transform its entire value chain into as closed loop. To this end, it wants to return its production waste and end-of-life materials to the material cycle, including for example the batteries of electric vehicles, which still contain a considerable quantity of valuable materials.



# Nature and biodiversity

The decline of biodiversity is a global problem that is steadily growing. The Mercedes-Benz Group also bears responsibility in this regard since the use of land and resources, the emission of pollutants and production-related interference with the environment can have a negative impact on biodiversity. For this reason, the goal of the Mercedes-Benz Group is to act in an environmentally aware manner at all its locations, and to continually improve its operational environmental performance. This also includes promoting and preserving biodiversity at the production locations.

At its plants, the Mercedes-Benz Group has already established numerous measures designed to maintain the ecological balance. These will continue to be expanded in the future. For example, nesting boxes for native birds and insects have been built, wild bee hotels have been set up, and green roofs, dry brooks, stone areas as habitats for cold-blooded animals, rock gardens and flower meadows have been created. If it is not possible to establish supporting or compensatory measures directly at the company's locations, the Mercedes-Benz Group will create substitute habitats. The German environmental organisation NABU has provided advice, support and documentation for the Group's programmes benefiting the flora and fauna at these sites.

The Mercedes-Benz Group also obliges direct suppliers by means of binding requirements in the Responsible Sourcing Standards to ensure that their business activities do not contribute to or benefit from the illegal transformation of natural ecosystems. Each supplier must also take appropriate due diligence measures for its own supply chain. If the value chains for its products involve the risk of the conversion of natural forests or other natural ecosystems, the partner must perform due diligence measures to support the long-term protection of these natural ecosystems and assets.

In addition, Mercedes-Benz aims to further expand its activities to protect biodiversity in the supply chain. For this purpose, the company is examining the introduction of suitable analytical methods in order to be able to systematically identify significant potential negative impacts on biodiversity in the future.







# Calculation basis and transparency

# Calculation of CO<sub>2</sub> emissions

The Mercedes-Benz Group calculates and documents its CO<sub>2</sub> emissions in accordance with the 2004 Corporate Accounting and Reporting Standard of the Greenhouse Gas Protocol Initiative according to the categories Scope 1 to Scope 3. All direct CO<sub>2</sub> emissions from the company's own emission sources (Scope 1), the indirect emissions from generation of purchased electricity and district heating (Scope 2), and the emissions from the use of Mercedes-Benz Group products, the supply chain and recycling (Scope 3) are documented. The Mercedes-Benz Group thus also takes into account the upstream and downstream emissions of its activities.

In Scope 3, the Mercedes-Benz Group determines CO<sub>2</sub> emissions resulting from the use of its products on the basis of sales figures and the average fleet consumption value. The company assumes an annual mileage of 20,000 km for ten years. Further indirect CO<sub>2</sub> emissions from the supply chain (purchased goods and services) or in connection with vehicle recycling are calculated using vehicle-specific life cycle assessments.

Mercedes-Benz only takes the greenhouse gas CO<sub>2</sub> into account in its balance sheets, as no data of comparable quality are available worldwide for other greenhouse gases. Furthermore, the emitted amount of these other greenhouse gases is very small and thus their environmental impact is clearly subordinate compared to CO<sub>2</sub>. The Group considers fossil CO<sub>2</sub> emissions in its carbon balance sheets; an identification of biogenic CO<sub>2</sub> emissions is currently still being developed. Further information on the calculation of CO<sub>2</sub> emissions as well as current and past emissions data are published in the Mercedes-Benz Group Sustainability Report.

[🔗 Sustainability Report Mercedes-Benz Group AG](#)

# Transparency in the supply chain

The complex supply chains in the automotive industry pose a particular challenge to data transparency. That is why the Mercedes-Benz Group is involved in the "Catena-X" cooperation project. The project networks companies across industries and allows for a secure exchange of data between all participants in the automotive value chain: from the mining of the raw materials to the recycling, the data chain is to be supplemented by each company with product-specific CO<sub>2</sub> data so as to allow a product-specific CO<sub>2</sub> footprint that should include as high a proportion of primary data sources as possible. In the "Catena-X" project group "Sustainability and CO<sub>2</sub>", the Mercedes-Benz Group and other partners are developing a standard that will make CO<sub>2</sub> data more comparable and reliable.



# CO<sub>2</sub> offsetting and the future of carbon removal

Ambition 2039 focuses on the avoidance and reduction of CO<sub>2</sub> emissions. Decarbonisation can work if emissions are consistently reduced and, wherever possible, completely eliminated.

Since 2022, all CO<sub>2</sub> emissions (Scope 1 and Scope 2) that have been as yet unavoidable at the production plants operated by the Mercedes-Benz Group have been offset by means of carbon offsets from qualified climate change mitigation projects.

All offsetting projects comply with international accounting requirements and the high quality demands of the Gold Standard. In this way, the Mercedes-Benz Group supports projects that meet very high quality criteria, are subject to a reliable calculation methodology and avoid double counting. The climate-protection projects not only avoid CO<sub>2</sub> emissions but also promote sustainable, socially beneficial and ecological development in many ways in the countries where the projects take place. The portfolio includes offset projects such as small-scale biogas plants in Nepal and projects for CO<sub>2</sub>-reduced drinking water treatment in Nigeria and Kenya.

According to the Intergovernmental Panel on Climate Change (IPCC), the global climate targets cannot be achieved through reduction measures alone. In addition, CO<sub>2</sub> would also have to be removed from the atmosphere. The Mercedes-Benz Group therefore also intends to include CO<sub>2</sub> removal projects in its portfolio in the future. In doing so, the company recognises the challenges of the currently weakly regulated market and wants to consciously focus on the highest quality criteria when selecting projects.

## Measuring the target achievement

The implementation of Ambition 2039 and the CO<sub>2</sub> reduction measures is continuously monitored in the relevant internal committees and progress is documented annually in the company's Sustainability Report. The process is certified by an external auditing company.

[🔗 Sustainability Report Mercedes-Benz Group AG](#)



