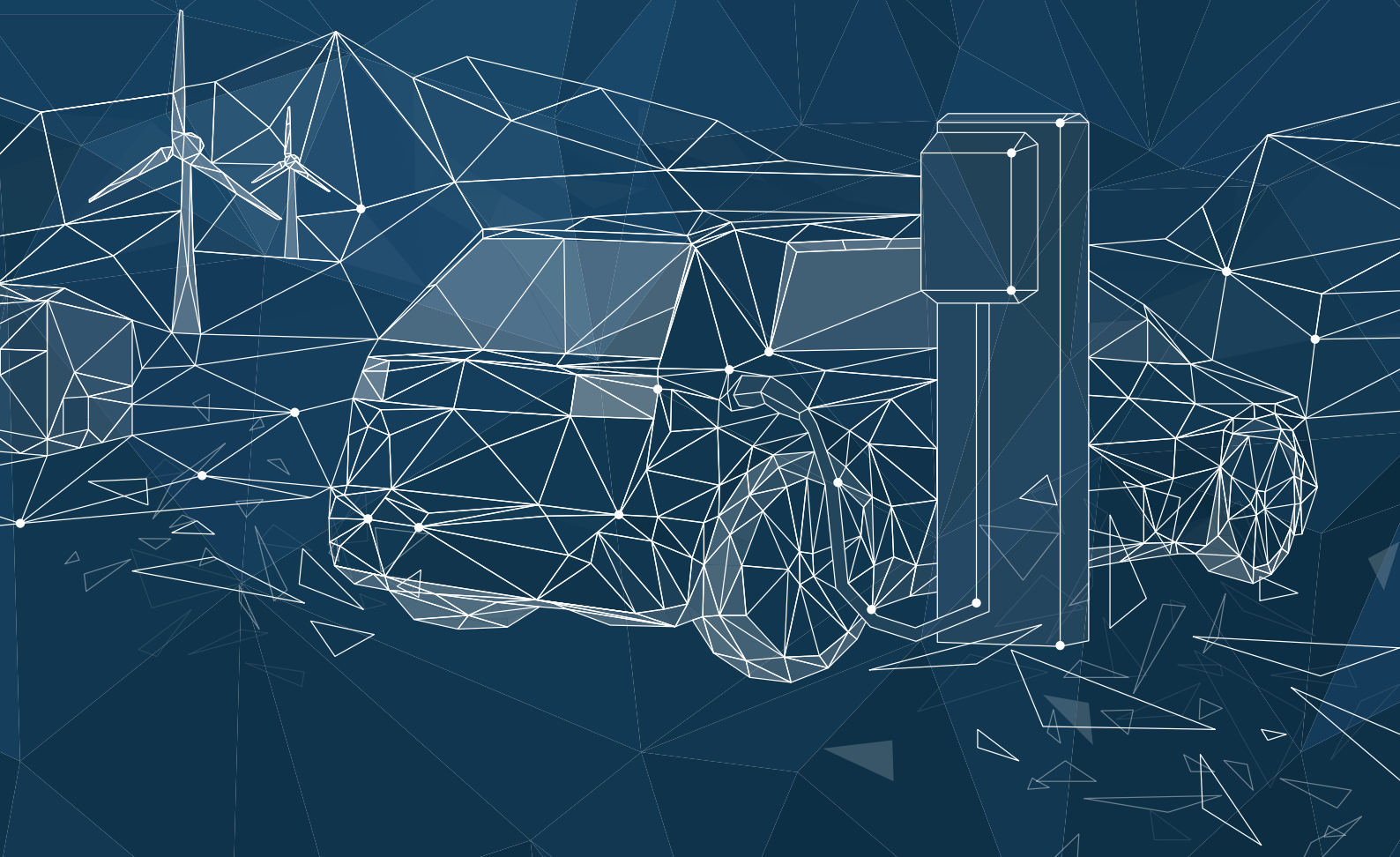
DECARBONIZATION



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PARTICULAR RESPONSIBILITY REQUIRES PARTICULAR COMMITMENT

Climate change and its consequences are threats to our planet and can already be felt in many places today. According to the Intergovernmental Panel on Climate Change's calculations, the transport and mobility sector currently accounts for around 23% of global energy-related greenhouse gas emissions. As one of the world's largest automotive manufacturers and mobility providers, Volkswagen is aware of the responsibility this entails. We are committed to the Paris Climate Agreement, which aims to keep the increase in global temperature by 2050 to well below two degrees Celsius. Volkswagen wants to become a net carbon-neutral company by 2050. We have set an intermediate goal for ourselves along the way: by 2030, Volkswagen wants to reduce the carbon footprint of its passenger cars and light commercial vehicles by 30% per vehicle (compared with 2018). We want to achieve this goal purely through reduction measures and switching to renewable energies – i.e., without any offset measures. In addition to the Group's electric offensive, we are concentrating to a greater extent on integrating renewably generated electricity in the use phase and switching the entire power supply for our plants to renewable energy.

For Volkswagen, climate-related topics have an important strategic and operative significance – e.g., with respect to regulatory requirements and the corresponding performance of our products and also our Group's ongoing transformation process. For example, the Group plans to invest around €89 billion in cutting-edge areas such as hybridization, electric mobility and digitalization by 2026. This equates to around 55% of capital expenditure and all the Group's research and development costs in the planning period. €52 billion alone is earmarked for investment in electric mobility.

Decarbonization of the Group's business activities occupies a key position in the NEW AUTO Group strategy and is one of six focus topics in the ESG, decarbonization and integrity Group initiative. The commitment to climate protection is also a core part of our "goTOzero" environmental mission statement, which stands for a net carbon-neutral way of doing business. In the reporting year, the environmental mission statement was updated and the importance of decarbonizing the Group's business activities was again underlined. You can find further information on our environmental mission statement in the Environmental Compliance Management chapter.

> Environmental Compliance Management

Reporting According to TCFD Recommendations

This year too, the chapter on decarbonization is based on the guidelines of the Task Force on Climate-Related Financial Disclosures (TCFD), which was set up by the G20's Financial Stability Board. These guidelines create a coherent framework for voluntary and consistent reporting of entities' climate-related financial risks and opportunities. We report along the four requirement categories that companies should take into account in the reporting according to the TCFD: governance, strategy, risk management, and metrics and targets.

MANAGEMENT OF GROUP-WIDE CLIMATE PROTECTION MEASURES

The Volkswagen Group has established Group-wide sustainability management. The related structures, processes and responsibilities are codified in a specific Group policy. The highest decision-making body for sustainability-related topics is the Group Board of Management. The Chairman of the Group Board of Management has cross-functional overall responsibility for sustainability. The Group Steering Committee for Sustainability bears the main responsibility for climate protection along the value chain as the highest body below the Board of Management. Product and portfolio topics are managed by the Group Steering Committee for Fleet Compliance. Both Group steering committees inform the Group Board of Management at least twice a year on topics such as corporate responsibility and sustainability (Group Steering Committee for Sustainability) and product-related greenhouse gas emissions (Group Steering Committee for Fleet Compliance).

Clear Responsibilities

The CEO of the Volkswagen Passenger Cars brand regularly informs the Group Board of Management on sustainability, environmental and energy-related topics. The member of the Board of Management is responsible for all environmental activities, including activities connected with climate-friendly mobility. The Group-wide management of environmental protection is the responsibility of the CEO of the Volkswagen Passenger Cars brand and of the Group Steering Committee for the Environment and Energy, which is supported by numerous specialist bodies. You can find further information on responsibilities and management in the Environmental Compliance Management chapter.

> Environmental Compliance Management

Volkswagen's Group Head of Environment provides reports to the Group Board of Management on environment- and energy-related topics in their capacity as Head of the Group Steering Committee for the Environment and Energy. The Division Head of the Group Strategy and General Secretariat provides reports to the Chairman of the Group Board of Management in their capacity as Head of the Group Steering Committee for Sustainability and regularly informs the Group Board of Management on sustainability- and environment-related topics. The positions described have the task of coordinating and managing the sustainability, environmental and CO_2 activities decided by the Group Board of Management.

Climate-related topics are coordinated and managed by regular meetings of the Group steering committees and by continuous communication with the heads of the Group's and the brands' various

research and development units and other Group functions. Internal and external stakeholder engagement also play an important role in this context. For example, we use the feedback from regular shareholder dialogs to review our strategies and approaches and adjust them where necessary. The Group Board of Management regularly consults with Volkswagen's Sustainability Council on climate protection.

> Stakeholder Management

> Sustainability Management

Decarbonization Progress Linked with Board of Management Remuneration

The decarbonization index is the core key indicator in the Group related to climate protection and serves as a measurement tool for the CO_2 emissions of the brands of the EU27+3, China and US regions that manufacture passenger cars and light commercial vehicles over the entire life cycle. The Volkswagen Group has linked the remuneration of the members of its Board of Management to, among other things, the development of the decarbonization index to create additional incentives here. The Volkswagen Group's Remuneration Report provides further information on how key sustainability criteria are taken into account in the Board of Management's remuneration.

THE VOLKSWAGEN GROUP'S CLIMATE-RELATED RISK AND OPPORTUNITY ANALYSIS

The Group identifies both risks resulting from climate change (physical risks) and risks and opportunities due to the shift toward a decarbonized economy (transitional risks and opportunities), which are addressed by the internal control system's master control catalogs and the risk management system's risk clusters. They are not only identified but also assessed and handled in accordance with the procedures explained in the Risk Management chapter.

> Risk Management

The following analysis shows an excerpt from the internal assessment of significant risks and opportunities.

I. Transitional risks

a. Politics & law

Emissions standards
Compliance with fleet and exhaust-emission limits can be technically challenging and require financial investment. Breaches of limits may also result in financial penalties. The Volkswagen Group closely coordinates technology and product planning with its brands so as to implement both existing and increasing legal requirements and to avoid breaches of limits.

Carbon pricing
Volkswagen supports ambitious carbon pricing, as this promotes the transformation to climate-friendly electric mobility in line with Group strategy. An increasingly effective carbon price, particularly in Europe, may, however, also lead to additional costs in energy and material consumption. The Group is countering this risk by switching its energy supply to renewable energies in the long term and integrating corresponding quotas for the use of renewably generated electricity in supplier-side procurement requirements.

Climate-related lawsuits
Requirements for greater climate-protection performance or incomplete disclosures on the impact of climate change may potentially result in lawsuits for companies. The Group counters this risk firstly through certification of its self-imposed decarbonization targets by independent and internationally recognized organizations and secondly through consistently aligning its nonfinancial reporting with legal and capital-market requirements.

b. Technology

Increasing model diversity
The increasing diversity of models as part of the electric offensive and shorter product life cycles translate to a global increase in vehicle launches. The technical systems and processes involved are complex, which means there is a risk that vehicle launches may be delayed. The Group counters this risk by identifying weak points in product creation early and on the basis of experience, with the aim of protecting vehicle launches in respect of quantity, quality and timing.

Stranded assets
Production capacity and technical equipment that are limited to the manufacture of high-emission products run the risk of losing value and becoming "stranded assets" during the transition to a low-carbon way of doing business. The Group counters this risk by focusing its investment program on capacity that serves the transformation of the Group to a leading provider of sustainable mobility.

c. Market

Emission-based vehicle taxation
Potential increases in vehicle taxes based on CO_2 emissions – as is already the case in many European countries – may lead to demand shifting in favor of smaller segments and engines and have an adverse financial impact for the Group. The Group counters this risk by constantly developing new and fuel-efficient vehicles and alternative drive technologies. The electrification of the portfolio and the Group's drive and fuel strategy form the basis for this.

Availability of renewable energies
The transition to a low-emission way of doing business is leading to market participants switching their energy supply to non-fossil sources and a concentration of demand for renewable energies. Excess demand for electricity from non-fossil sources potentially arising from this may result in higher market prices and consequently additional cost for the Group and also threaten the achievement of its decarbonization targets if the quantities required for achieving the targets cannot be provided by suppliers. The Group counters this risk with targeted support for the construction of additional generation capacity for electricity from renewable sources and entering into long-term contracts for existing resources.

d. Reputation

Reporting & communication
Critical media reports or defensive communication by the Group in relation to its CO_2 emissions, reduction targets and the decarbonization strategy might lead to reputational damage and, as a consequence, to reductions in the demand for the Group's products. The Group counters the risk through regular communication of its carbon footprint, emission reduction targets, and electrification and decarbonization strategies in the annual and sustainability reports and in its stakeholder management. In addition, the Group promotes the credibility of communication content of this nature through quality assurance measures as part of internal auditing of the Group and through embedding its decarbonization targets and management systems.

II. Physical risks

a. Acute

Extreme weather events
Extreme weather events in the form of floods, hurricanes and the like may cause disruptions of our own ability to operate or of the supply of critical input factors such as semiconductors or battery systems as key components of electrification, which may potentially lead to production downtime that has a financial impact for the Group. The Group counters risks caused by extreme weather firstly through adapted business continuity management and secondly through allocation strategies for distributing production-critical input factors to the brands accompanied by a prioritization of components and through the intensification of business relationship management with suppliers.

b. Chronic

Water availability
If the climate impacts water availability, this may lead to a need for site-related investments or cause added costs as a result of any adjustment measures needed or alternative supply routes. The Group counters this risk by assessing the climate-related vulnerability of production sites and deriving appropriate countermeasures using environmental analyses.

Rising sea levels
The rise in sea levels may be accompanied by flooding of low-lying coastal areas and increased threat by storm surges in coastal areas, particularly if these are not well enough protected. The Group's production sites near to the coast run the risk of being affected by business interruptions with increasing probability and frequency, and consequently of being impacted by climate-related losses in value creation. The Group counters this risk through systematic analyses of the impact of climate change on its production sites in order to assess potential risks and derive recommendations for countermeasures.

III. Opportunities

a. Products

Sales potential
The transformation of transportation and the associated transition to lower-emission and electric mobility open up new sales potential for fuel-efficient vehicles, electric vehicles and other alternative drives. The Volkswagen Group is laying the groundwork to open up the sales potential of the transformation of transportation with its brands based on coordinated technology and product planning and the associated electric offensive.

b. Efficiency

Cost savings
Decarbonization measures can go hand in hand with tapping efficiency potential. These include, for example, measures for more efficient LED lighting, modernized heat supply and cooling at the sites or also optimized washing and drying processes in production. The Group identifies and taps such potential by systematically recording and assessing reduction measures to be implemented on the basis of various decision-making criteria as part of the decarbonization program. Furthermore, the Group has a tool that provides additional incentives for implementing efficiency measures in the form of its CO_2 fund.

c. Market

Capital market performance
A positive performance on CO_2 and reporting in line with capital market requirements may positively impact rating outcomes and the Group's capital market conditions. ESG criteria are therefore an integral component of the NEW AUTO Group strategy with the aim of achieving sustainable improvements in capital market performance. Furthermore, the Group is

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gearing its reporting even more systematically to capital market requirements (e.g., TCFD). Volkswagen published its second Green Finance Report during the reporting year. The Green Finance Framework systematically links our corporate objective of carbon neutrality by 2050 with our financing strategy.

d. Resilience

Climate-related adaptation measures
Implementing measures to adapt to the impact of climate change may strengthen the resilience of production sites – for example, against extreme weather events but also against chronic effects such as the rise in sea levels – and thus prevent business interruptions. For this reason, in a first step the Group conducted an analysis of physical climate risks for 31 EU-taxonomy-relevant production locations, derived recommendations for implementing specific adaptation measures based on this and sent these to the individuals in charge locally for validation.

Scenario Analysis as a Decision-Making Basis for Climate Protection
Volkswagen is a member of the Mobility Model (MoMo) working group of the International Energy Agency (IEA). The Group uses model data and assumptions in a variety of contexts. MoMo uses IEA ETP (Energy Technology Perspectives) scenarios, including 2DS (2 °C Scenario) and B2DS (Beyond 2 °C Scenario). We have concentrated on the target year of 2030 here, which represents a milestone on the path to Group net carbon neutrality by 2050 and consequently acts as a reference for internal KPIs.

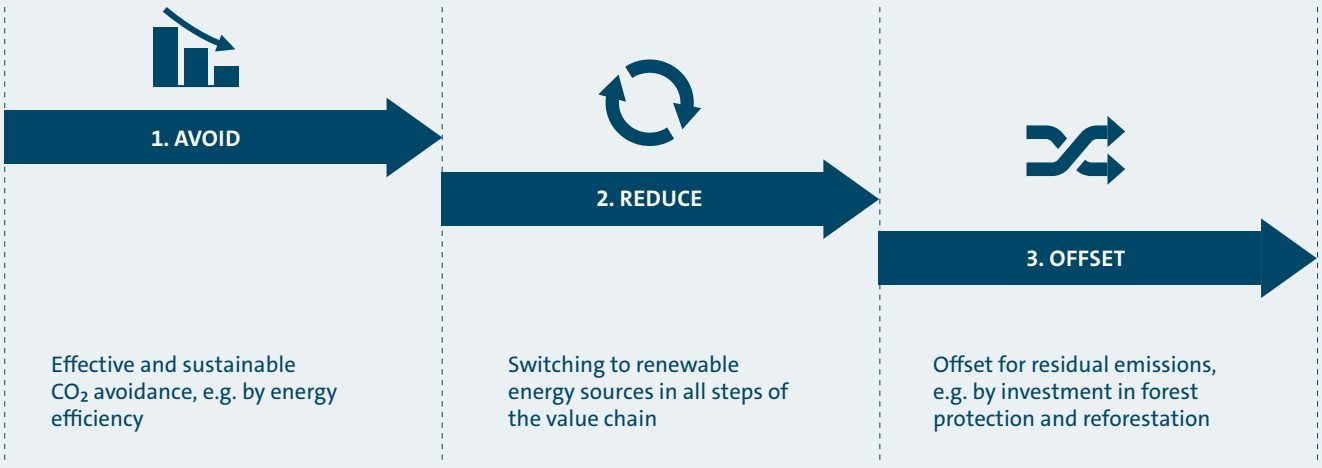
The scenario analysis focuses on the areas of production, sales and technology, the impact of products, and materials procurement. With respect to production-related emissions and the development of the vehicle sector, the analysis shows that a significant reduction in emission intensity per vehicle is needed to achieve the UN climate goals, particularly in view of increasing unit sales. At the same time, the importance of electrification will grow considerably. In passenger cars and light commercial vehicles, combustion engines will, however, retain half the market share through 2035 even in a beyond 2 °C scenario (B2DS).

We use the analysis results to make decisions regarding our sales planning and materials production – e.g., through their integration into our DCI scenarios. The market- and product-related results support and affirm our decision reinforced by the NEW AUTO Group strategy to invest massively in electric mobility and in increasing the efficiency of the internal combustion powertrain.

DECARBONIZATION PROGRAM TAKES ACCOUNT OF THE ENTIRE LIFE CYCLE

To achieve the target of net carbon neutrality, the Volkswagen Group is implementing a comprehensive decarbonization program, which includes the whole life cycle of the vehicles and is characterized by a clear hierarchy of measures: The top priority is measures with which CO_2 emissions can be avoided or reduced. In second place follow measures with which we can gradually shift the energy supply in all steps of the value chain to renewable energy. Finally, unavoidable CO_2 emissions are offset in selected cases through climate protection projects that meet the highest international standards. One example of this is the voluntary offsetting measures in the net carbon-neutral delivery of electric vehicles.

PRIORITIZATION OF DECARBONIZATION MEASURES



No Decarbonization without E-Mobility

Electric vehicles do not cause any local emissions during use – and therefore have an advantage compared to cars with combustion engines in terms of tailpipe emissions. The same applies to the entire life cycle: Current calculations show that the carbon footprint of electric vehicles is already better on average in Europe in most markets than comparable gasoline or diesel vehicles.

The consistent electrification of our vehicle fleet opens up the path to net carbon-neutral mobility for our customers. We plan to invest around €52 billion in electric mobility across the Group by 2026. The Volkswagen Group also once again increased the planned shares of electric vehicles in the core markets of the EU, the US and China for the target year of 2030 in the reporting year. The new electric vehicles are manufactured at eight sites in Europe, China and the US. The modular electric drive matrix (MEB) serves as the technical backbone of the e-offensive and is used in many more of our electric models. From 2026, the e-offensive will be supplemented by the Scalable Systems Platform (SSP).

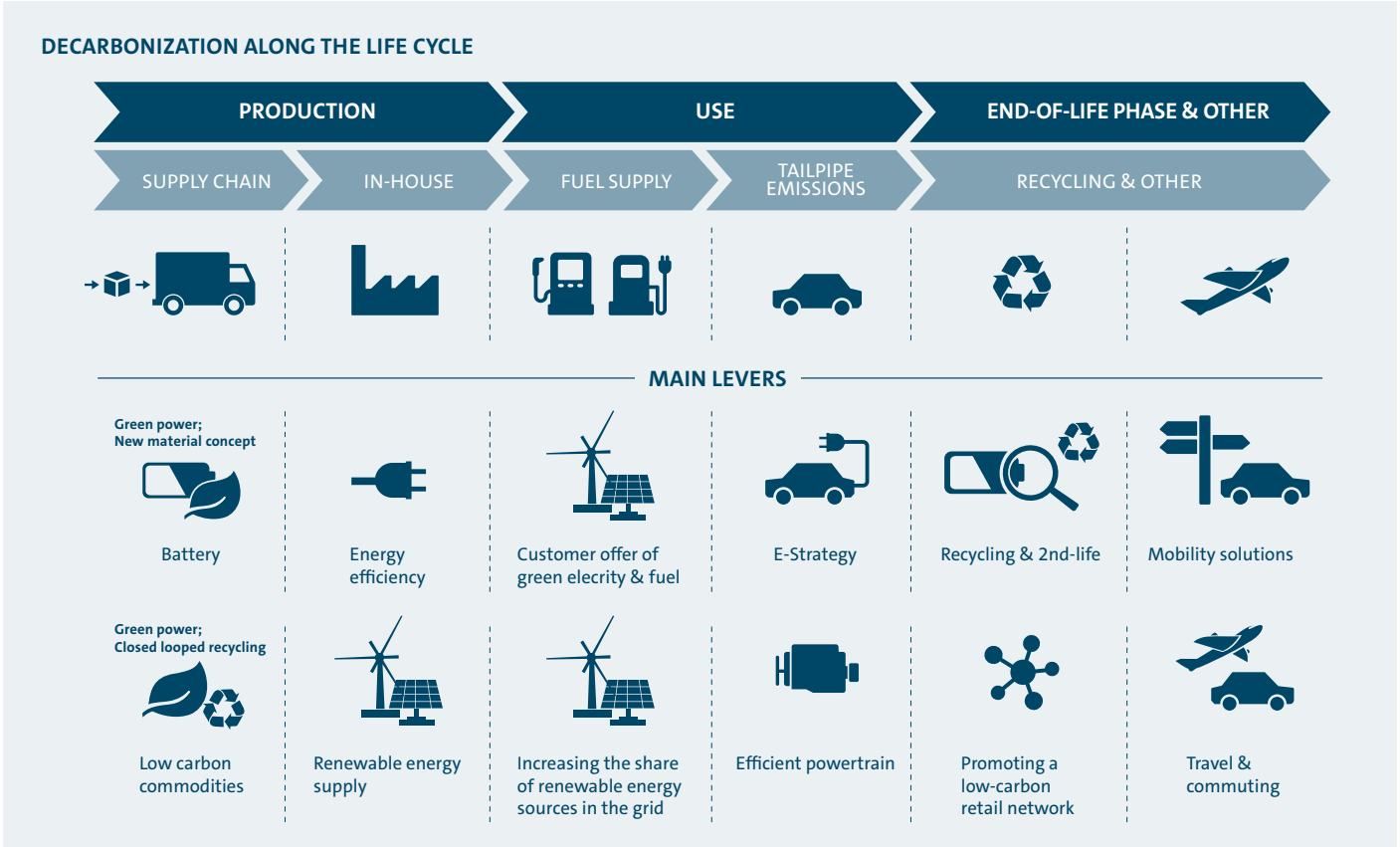
2022 saw the market launch of additional e-models from various brands, including the Audi Q5 e-tron in China, the Volkswagen ID.5 and the ID. Buzz.

Net Carbon-Neutral Use Phase Thanks to Renewable Energy

It is important to us to make in particular the use phase of our vehicles net carbon neutral in the long-term. This is because around 75% of a car's CO_2 emissions arise in use ("well to tank" and "tank to wheel"). E-vehicles and consistent charging with 100% renewably generated electricity play a key role in achieving carbon-neutral e-mobility. This is the only way that almost half of all CO_2 emissions can be avoided compared with the normal EU electricity mix. By supplying energy from 100% renewable sources via our subsidiary Elli (Electric Life), we can offer our customers the option of net carbon-neutral mobility in the use phase too.

Volkswagen Supports the Construction of Wind Farms and Solar Parks

The Volkswagen Group is the first automotive manufacturer to directly support the expansion of renewable energy on an industrial scale. New wind farms and solar parks are to be constructed in several regions of Europe by 2025. In Germany, for example, Volkswagen supported the construction of a solar plant with a total capacity of 170 million kWh per year. The plant in Tramm-Göthen in Mecklenburg in northeastern Germany has nearly 420,000 solar modules and is thus the largest independent solar project in Germany. In Sweden, Volkswagen Passenger Cars financially supported the construction of a wind farm: The park in the north of Sweden has a volume of around 100 GWh per year. In the reporting year, new photovoltaic systems were also constructed with Volkswagen's support: in Mosel, not far from the Zwickau vehicle plant, and in Sagunto, Spain. The ŠKODA brand was also involved in the construction of a wind farm in Finland in 2022. The wind farm is intended to produce around 570 GWh of electricity per year – enough to supply around 150,000 households with green power for a year.



It is planned that all projects together will generate around 7 TWh of additional green power by 2025. This should cover the electricity needs of the electric vehicles brought to market and enable a net carbon-neutral use phase for the electric fleet. In addition, in the reporting year, the supply of around 1 TWh was contractually agreed through entering into partnerships with electricity suppliers.

Clear Requirements for Decarbonization in the Supply Chain

We are aware that higher CO_2 emissions will initially arise in the supply chain during the transition to electric mobility and shares from the use phase are shifting to production. Against this background, we are systematically identifying the biggest drivers of CO_2 emissions in the supply chain and defining measures to reduce them. The difficulty of raw material extraction and the energy-intensive processes in manufacturing batteries are key drivers here. Around a third of CO_2 emissions that arise when manufacturing an electric car come from manufacturing high-voltage battery cells (HV). All suppliers (new contract awards) of high-voltage batteries are already contractually obliged to use certified power from renewable sources in their production processes. In addition, there are further requirements for upstream stages of the value chain, such as the CO_2 limits explained in the following paragraph. CO_2 emissions in battery manufacturing are therefore falling. More information on decarbonization measures in the upstream levels of the value chain can be found in the Supply Chain and Human Rights chapter.

> Supply Chain and Human Rights

For new vehicle projects, the Volkswagen Group is going to make CO_2 emissions a technical feature for relevant components in the future. This means that we will set binding CO_2 targets for suppliers, and they must be able to prove compliance with these at all times. One example concerns the new mechatronics platform Scalable Systems Platform (SSP). For example, the SSP platform's batteries have a CO_2 limit. To be able to achieve these limits, suppliers need to implement measures in their own production processes and upstream chains – for example, the use of renewable energy. Measures like these can reduce the carbon footprint of many electric vehicle models. For the ID. models, the Volkswagen Passenger Cars brand will use additional sustainable components, including battery cases and wheel rims made of CO_2-reduced aluminum. In this way, the ID. family's carbon footprint can be improved by around two metric tons per vehicle by 2025.

Volkswagen Group China is also working together with its suppliers on a more sustainable supply chain. For example, together with suppliers and partners, the group is developing a roadmap for switching to 100% renewably generated electricity by 2030. To date, more than 220 suppliers have already signed a declaration committing to switching to electricity from renewable sources.

Battery Manufacturing: Reducing Emissions, Expanding Our Own Capacities

As well as reducing CO_2 emissions in battery manufacturing, our focus is on expanding our production capacity. For example, Volkswagen Group Components has significantly expanded the production of battery systems for the latest generation of e-vehicles at its Braunschweig plant in the last few years. In connection with a second expansion step, the site will be able to install up to 500,000 batteries for models based on the modular electric drive matrix (MEB) each year following complete ramp-up.

The new unified battery cell for the volume segment is a component of the MEB. It will roll off the production line at the gigafactory operated by Volkswagen Group Components in Salzgitter from 2025. The business division also operates a modern laboratory center for cell research and development there.

In order to take a pioneering role on the key topic of battery cells, we are also making targeted investments in further production capacity outside Germany: By 2030, the Volkswagen Group wants to operate six battery factories with a production output of 240 GWh in Europe together with partners and in this way guarantee supply security. Each of the factories will operate solely on renewable power and will be designed for future closed-loop recycling. You can find further information on the battery raw materials cycle in the Circular Economy chapter.

> Circular Economy

In Spain, the Volkswagen Group and SEAT S.A. mobilized €10 billion for the electrification of the country in the reporting year. The construction of a first battery gigafactory, which will be supplied with renewable energy from a new photovoltaic plant, is scheduled to begin in Spain at the start of 2023. The factory is set to create more than 3,000 jobs by 2030. A production plant for battery systems remains under construction in Hefei (China).

PowerCo, the Volkswagen Group's battery company, and Belgian materials technology group Umicore also announced the formation of a joint venture in the reporting year. The aim is to establish a supply chain for sustainable battery materials on an industrial scale. Together with Bosch, the Volkswagen Group also wants to explore the creation of a European supplier to equip battery cell factories. Both companies have signed a memorandum of understanding to this end.

In addition, Volkswagen and Indian SUV manufacturer Mahindra signed a cooperation agreement for MEB components in 2022. Mahindra plans to equip its Born Electric Platform with components from Volkswagen, including electric motors, battery system components and battery cells.

In the reporting year, the decision was made that the Volkswagen Group Components site in Kassel is to become a key supplier for e-mobility. Specifically, the number of manufacturing lines for e-motors and other e-components is to double over the next four years.

Further Activities for Reducing Emissions in the Supply Chain

With the use of emission-reduced steel, we want to further reduce our products' carbon footprint in the future – starting in the Sport & Luxury segment. To advance the transition to emission-reduced steel products, the Volkswagen Group is in discussions with selected steel manufacturers. For example, there is a cooperation between the Group subsidiary Scania and the start-up H2 Green Steel. Furthermore, Volkswagen AG has drawn up a memorandum of understanding with Salzgitter AG, under which Volkswagen is to become one of the first customers for Salzgitter AG's low-CO_2 steel. The steel is to be produced on a new production route at Salzgitter AG's headquarters in Lower Saxony from the end of 2025.

goTOzero Impact Logistics

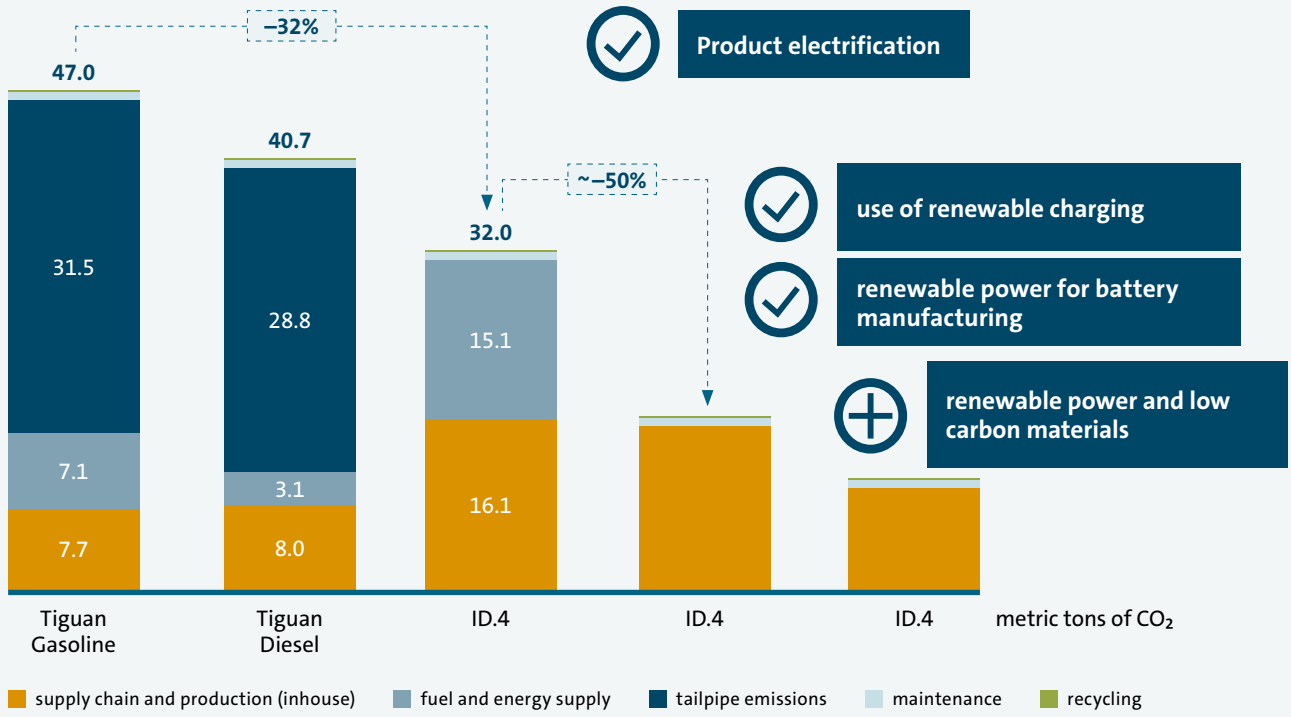
In the joint "goTOzero Impact Logistics" initiative, Group and brand logistics departments work together to achieve the goals of the "goTOzero" environmental mission statement. The aim here is to reduce emissions by continuously optimizing the transport network and logistics processes – including by means of digitalization.

The use of new low-emission technologies for transporting production materials and vehicles will also be continuously analyzed and accelerated.

The measures the Volkswagen Group is taking to achieve future carbon-neutral logistics include, for example, moving shipments from road to rail and almost complete CO_2 avoidance through the use of green power in rail transport in Germany and other countries in collaboration with Deutsche Bahn AG and other rail service providers. Additional rail services in Poland were switched over to green power in the third quarter of 2022, for example.

In addition, Group Logistics is using the two roll-on/roll-off charter ships powered by low-pollution liquefied natural gas (LNG) for transporting vehicles across the North Atlantic. Group Logistics plans to replace conventionally operated ships on the North Atlantic route with four more car freighters with the same propulsion system from the end of 2023. In contrast to other LNG-fueled marine engines, Group Logistics' charter ships are climate-friendly because the high-pressure technology of the two-stroke engines from MAN Energy Solutions allows almost no methane to escape. The dual-fuel engines will also enable non-fossil fuels – biogas (bio-LNG), e-gas (synthetic gas) from renewable sources, or biofuel – to be used in the future so that carbon emissions can be reduced even further.

THE DECARBONIZATION STRATEGY'S IMPACT ON THE CARBON FOOTPRINT (LIFE CYCLE ANALYSIS)*



* Vehicle basis: Tiguan & ID.4: Production and use (200,000 km) in Europe; ID.4 (1st Edition): 498 km range; fuel and electricity supply (well to tank): EU fuels, energy mix EU27, consumption (tank to wheel): WLTP; BEV: 82 kWh NMC 622 lithium ion battery, one battery over lifetime; chart data quality: DQ 1.D = certified value.

In addition, Group Logistics permanently operates two charter ships on European sea routes using certified renewable fuel. Used cooking oils and fats provide the raw material for the biofuel, which produces less CO_2 than conventional fossil fuels. These are waste and residual materials from the catering and food industries, which, for example, cannot be used for further processing into food or animal feed.

Climate Protection in Manufacturing

Volkswagen wants to reduce greenhouse gas emissions in production by 50.4% in absolute terms compared to 2018 by 2030. According to the Science Based Targets Initiative (SBTi), this corresponds to a 1.5 °C target path. By 2022, absolute greenhouse gas emissions had already been decreased by 27.2% compared with 2018. Key to this are increasing energy efficiency and switching to a renewable power supply as important components of the decarbonization strategy. The Volkswagen Group has set itself the goal of implementing energy efficiency measures from 2018 to 2030 that save a total of 4.9 million MWh of energy at the production sites. By 2022, 6,443 measures totaling 2.4 million MWh had already been implemented. In connection with the energy crisis in Europe, additional packages of measures were agreed and have in some cases already been implemented. This helps to counteract the impact of energy shortages in view of the current political situation.

Volkswagen is also paying particular attention to converting its own electricity generation. The conversion of the power plants in Wolfsburg from coal to natural gas, which commenced in 2019, is expected to reduce operational emissions. In 2021, a gas turbine system in the Wolfsburg Nord/Süd heat and power plant was put into operation. The project to switch from coal to natural gas at the Wolfsburg West heat and power plant is currently in the construction phase. Completion of the construction and installation work is planned for the second quarter of 2023. As a result of the current geopolitical situation, which is having a massive impact on the energy supply, and the associated possible gas shortage situation, Volkswagen believes that the originally announced annual savings of 1.5 million metric tons of CO_2 can only be realized from the second quarter of 2024. So far, it has been possible to achieve pro rata savings.

Further progress is being made in supplying clients with electricity from renewable energies. For example, the percentage of electricity purchased externally rose from 93.3% to 99.6% at EU production sites within one year. By 2023, all EU sites are to be supplied with 100% electricity from renewable sources. By 2030, the same target is planned for all global sites outside China. Volkswagen is also driving the energy transition at its own sites. For example, we have set ourselves the goal of generating 1.2 million MWh of power from renewable energies ourselves or in the immediate vicinity of the production sites by 2030. In 2022, 405,735 MWh of electricity was already generated from renewable energy in this way.

To date, 62 Group production sites have been supplied with external electricity from 100% renewable energy sources. Of these, 44 sites are within the EU and 18 sites are outside the EU.

In 2022, 54% of the Group's total global electricity consumption at its production sites (including China) was covered by electricity from renewable sources. Compared with the previous year, this is a rise of 3%. The Volkswagen Group is currently working together with its Chinese partners to develop their own targets for the Chinese production sites. The hurdles here include the high proportion of coal-fired power generation in the Chinese electricity mix and the fact that China's electricity market has not been liberalized.

As a result of our efforts in energy efficiency and renewable energy supply, we already operate eight production sites on a carbon-neutral basis (taking offset measures into account). These are the sites in Brussels and Győr (Audi), Zwickau and Dresden (Volkswagen), Zuffenhausen and Leipzig (Porsche), Crewe (Bentley) and Vrchlabi (ŠKODA). You can find further information on the certifications of our production sites' energy management systems (pursuant to ISO 50001 and ISO 14006) in the Environmental Compliance Management chapter.

> Environmental Compliance Management

Expanding the Fast Charging Infrastructure

We are driving the further expansion of fast charging infrastructure worldwide. For example, Volkswagen founded the joint venture IONITY with other original equipment manufacturers (OEMs). IONITY had set up 430 fast charging stations on major highways across Europe by 2022. Along with its partners, the Group wants to operate around 18,000 public fast charging points in Europe by 2025 – five times as many as today and about one third of the total demand predicted for 2025 on the continent. This will be achieved through a series of strategic partnerships in addition to IONITY:

- BP wants to construct around 8,000 fast charging points across Europe together with Volkswagen.
- In cooperation with Iberdrola, Volkswagen will, in particular, cover main traffic routes in Spain.
- In Italy, Volkswagen collaborates with Enel to expand the fast charging network both along freeways and in urban areas.

Volkswagen plans to expand the public fast charging network in the US and China too:

- In North America, Electrify America's charging infrastructure is to be doubled to more than 1,800 locations and expanded by 10,000 fast chargers by 2026.
- In China, Volkswagen is planning a total of 17,000 fast charging points by 2025 through the CAMS joint venture.

By 2025, we and our partners plan to create around 45,000 fast charging points in Europe, China and the USA. Volkswagen wants to spend about €400 million for the European program as a whole by 2025.

Increasing Vehicle Efficiency

Options in the system are intended to promote the efficiency of vehicle operation in terms of energy consumption. For example, driving mode selection supports fuel-efficient driving via one option. In addition, in the case of manual-transmission vehicles, there are recommendations for changing gear, the selection of environmental route planning in navigation systems and tips for saving gasoline.

E-Cars Will Be Part of Energy Systems in the Future

Volkswagen plans to integrate the electric car into private, commercial and public energy systems in the future. This will allow green power from the solar plant to be stored in the vehicle and fed back into the home network if needed. The Group launched two pilot projects in connection with this in the reporting year. For example, our subsidiary Elli, the Elia Group and its start-up re.alto signed a joint memorandum of understanding. In the next few years, the partners want to develop solutions to overcome the obstacles that have previously been identified regarding integrating electric cars into energy systems. And in a pilot project in Saxony, Elli and the regional distribution grid operator MITNETZ STROM are trialing the smart network integration of e-vehicles. Volkswagen also plans to offer a complete package with all technical modules and digital services for bidirectional charging.

Carbon-Neutral Delivery of Electric Vehicles

For a number of the Group's electric vehicles, we have decided to take the voluntary measure of making their delivery to our customers carbon-neutral. In this way, we want to make almost completely net carbon-neutral mobility possible for them, providing they choose a contract for renewable energy for charging the vehicle. For as long as we cannot avoid CO_2 emissions and cannot use renewable energies everywhere, we will do this by voluntarily offsetting the remaining greenhouse gas emissions from our supply chain, production and logistics. This applies to MEB vehicles from the Volkswagen Passenger Cars, Volkswagen Commercial Vehicles Audi, SEAT and ŠKODA brands in Europe. We expect the need for offsetting to increase for the next few years as a result of electrification and net carbon-neutral delivery in Europe. In 2022, this amounted to 5.9 million metric tons of CO_2 for the Group.

As part of net carbon-neutral delivery, we offset unavoidable emissions from the life cycle phases, such as from the supply chain or production, through climate protection projects with high certification standards. These include the Verified Carbon Standard (VCS), the Climate Community and Biodiversity Standards (CCB Standards) or the Gold Standard. In addition to external certification standards, we also assess offsetting projects for quality assurance in accordance with our own criteria, which are outlined in the paragraph below on offset projects.

CO_2 Fund Finances Decarbonization of Group's Own Processes

Up to €25 million is put into an internal CO_2 fund each year. In this way, the Volkswagen Group proportionally funds projects around the world that make a contribution to reducing greenhouse gas emissions and are transferable to as many sites, brands and companies as possible. One project that was funded this way in 2022 is "goTOzero Retail." The cross-brand team behind the project wants to improve the environmental performance of dealers and other partners. For example, a roadmap to reduce dealers' CO_2 emissions has been adopted. The starting point for this is more transparency about where in the dealer network which emissions occur. Specifically, the team works along three areas for action. Firstly, the plan is to improve customer perception at the point of sale in terms of sustainability and to empower dealers to save emissions and resources locally. Secondly, a steering mechanism is to be developed to systematically transform the dealer network and realize CO_2 reduction targets. And thirdly, the progress on the project will be regularly communicated internally and externally. The planned measures include certification of dealers in respect of the environmental performance, a KPI dashboard, the annual evaluation of CO_2 emissions in the retail network as well as a manual and web-based training options for dealers. Further money from the CO_2 fund was spent on research on plastic recyclates and on replacing components such as ventilation systems or lighting to save energy in this way.

Joint Venture for Offset Projects Has Started Work

We consider protecting natural carbon sinks to be an important task. Measures in this area should be both scalable and able to ensure the additionality and permanence of atmospheric carbon sequestration. To underpin our commitment to climate protection projects and be able to develop our own projects in accordance with the highest standards, VW Kraftwerk GmbH and ClimatePartner GmbH have established a joint venture (JV): Volkswagen ClimatePartner GmbH. It develops and funds certified climate protection projects that serve the recognized offsetting of CO_2 emissions. One key requirement for all projects is that they meet the highest quality standards. For this reason, the JV also takes control with regard to quality assurance. Core aspects include additionality, accuracy and permanence of the emission reductions, the socioeconomic and environmental advantageousness for the region, and regular audit by independent third parties. The initial project standards are the VCS, CCBS and GS. The JV commenced its operational work in 2022 and is focusing on forest protection projects and nature-based solutions. It is accompanied by a specially established independent project advisory board.

Commitment to Tropical Rain Forests
In the reporting year, Volkswagen became the first automotive manufacturer to join the LEAF Coalition (Lowering Emissions by Accelerating Forest finance). Together with governments and companies around the world, the initiative supports the protection of tropical rain forests and thus makes an important contribution to achieving the Paris climate goals, protecting biodiversity and realizing sustainable development.

EXPANDING CAPITAL EXPENDITURE AND PARTNERSHIPS

No single company can solve the great challenges of our time alone. This requires solid partnerships and cross-sector alliances. The Volkswagen Group also relies on collaboration with third parties in the context of decarbonization.

Promoting Innovations: Collaboration with EIT InnoEnergy
At the end of 2021, Volkswagen entered into a strategic partnership with EIT InnoEnergy, a world-leading innovation driver for the energy transition. Together, the companies want to promote technologies and business models that contribute to the decarbonization of the transportation sector and accelerate the transition to electric mobility. For example, investments are to be made in promising start-ups that are active in this area. In the course of the partnership, Volkswagen became a shareholder in EIT InnoEnergy.

Driving Decarbonization: Corporate Venture Capital Fund
Volkswagen wants to further drive decarbonization within and outside the Group from 2023 with a corporate venture capital (CVC) fund with a volume of more than $300 million. The focus is on the areas of traffic, energy and materials. The fund is intended to promote innovations along the entire mobility value chain and serve as a technological multiplier for the decarbonization of the Volkswagen Group's future business model. It targets early- and growth-stage start-ups with an investment focus in the US and Europe (including Israel). The fund is to be set up with a term of ten years, which is customary in the market, and is to be managed by an independent management team. In addition to Volkswagen, the fund will also be open to other selected investors.

Making the EU a Pioneer for Climate Protection: Involvement in the CEO Alliance
The CEO Alliance for Europe's Recovery, Reform and Resilience is a pan-European and cross-sector alliance of large corporations based in Europe that expressly support the EU's Green Deal and the associated climate protection targets. The CEO Alliance supports the goal of making the EU the leading region in the world in climate protection, accelerating investment, driving innovation and thus creating future-proof jobs. Oliver Blume, the new CEO of the Volkswagen Group, reinforced the commitment to the CEO Alliance once again in the reporting year.

13 member companies are currently working on more than ten joint projects. New additions last year included a project concept on the potential of digitally networked systems, one on the establishment of a European value chain for photovoltaics and one on sustainable financing and investments. In addition, the CEO alliance continues to work on an EU-wide charging infrastructure for heavy duty trucks, integrated energy systems, sustainable buildings, e-buses for Europe, a value chain for green hydrogen and the production of green steel.

The CEO Alliance supports the European Commission's Fit for 55 program and is proposing rapid measures for decarbonizing mobility and transport, the transformation of the building sector and a rapid decarbonization of the energy system in the EU. The CEO Alliance also expresses support for carbon pricing across industries and countries and is calling for political decision-makers in Europe to set a strong price signal and continuously develop the EU emissions trading system.

GRI 305-5

DEFINING AND PURSUING AMBITIOUS DECARBONIZATION TARGETS

The Volkswagen Group wants to become a net carbon-neutral company by 2050. To achieve this goal, offset action is also planned alongside carbon reduction measures and converting to renewable energies.

50.4% reduction

targeted in production-related CO_2 emissions by 2030.

In the reporting year, the Volkswagen Group increased its target for reducing CO_2 emissions in production by 2030. For example, the Group wants to reduce the CO_2 emissions of its passenger cars and light commercial vehicles by 50.4% by 2030 – compared with the base year of 2018. The Group had previously been aiming for a reduction of 30%. The Science Based Targets initiative (SBTi) confirmed to the Volkswagen Group in the reporting year that the Company is fulfilling the conditions for limiting global warming to 1.5 degrees Celsius with its objective for the production phase (Scope 1 and 2). Group-wide production also makes a contribution to achieving Volkswagen AG's overall climate goals with its stricter CO_2 saving targets. SBTi has confirmed the aim of reducing CO_2 emissions by 30% in the use phase (Scope 3) to the Volkswagen Group as in line with the limitation of global warming to two degrees celsius. By 2030, the Group wants to emit 30% less CO_2 on average per vehicle (passenger cars and light commercial vehicles) over the entire life cycle than in 2018. The targets are to be achieved through pure CO_2 reduction.

Decarbonization targets were also formulated in the area of heavy trucks and buses, and these represent sub-targets for the Group. For example, Scania is committed to reducing its absolute Scope 1 and Scope 2 greenhouse gas emissions by 50% by 2025 compared with the base year of 2015. In 2022, the company also announced its intention to decarbonize its supply chain as far as possible by 2030. This involves the most important production materials and largest sources of emissions: batteries, steel, aluminum and cast iron. The Scope 3 greenhouse gas emissions from the use of vehicles sold are to be reduced by 20% per vehicle kilometer at Scania by 2025, also compared with a 2015 baseline. The SBTi confirmed to Scania that these targets are at a level that allow global warming to be limited to 1.5 degrees celsius. MAN also received SBTi certification of its decarbonization target in the reporting year. In addition, Scania and MAN have committed to the SBTi's Net-Zero Standard.

This level of ambition for the decarbonization targets is considered a minimum requirement for the Group brands, which are also free to set higher targets themselves. The following figure shows the individual brands' ambitions.

DECARBONIZATION TARGETS OF THE GROUP BRANDS FROM 2018 TO 2030 (DCI)

	Nutzfahrzeuge	SKODA	SEAT	Audi	PORSCHE
–40%[1]	–40%[1]	–40%[1]	–50%[1]	–40%[2]	Net carbon neutrality[3,4]

[1] Target applies to EU27+3.
[2] Target applies to the EU, US and China region excluding completely knocked down production.
[3] Target applies worldwide – offsets are part of Porsche's decarbonization strategy alongside CO_2 reductions and abatement.
[4] From 2030, all steps of the value chain of the new vehicles Porsche then puts on the market (production, use and recycling of vehicles) is to be net carbon neutral.

GRI 305-1, 305-2, 305-3, 305-4, 305-5

Decarbonization Index for Target Achievement Measurability
In the decarbonization index (DCI), we have a meaningful measuring instrument that makes our progress and interim results in this area public and verifiable. The DCI is calculated based on the CO_2 emissions of the brands of the Europe (EU27, UK, Norway and Iceland), China and US regions that manufacture passenger cars and light commercial vehicles over the entire life cycle. In this index, the use phase is calculated over 200,000 km and with reference to region-specific fleet values without legal flexibilities. The intensity of the CO_2 emissions from the electricity used to charge electric vehicles is also calculated on the basis of region-specific energy mixes. Maintenance of the vehicles is not taken into account here. Our vehicle life cycle assessments, which are used as the data basis for calculating supply chain and recycling emissions, have been verified externally and independently in accordance with the ISO 14040 standard.

DECARBONIZATION INDEX (DCI)
The DCI measures the average emissions of the CO_2 and CO_2 equivalents of the brands of the Europe (EU27, UK, Norway and Iceland), China and US regions that manufacture passenger cars and light commercial vehicles over the entire life cycle and is expressed in metric tons of CO_2 per vehicle. It includes not only the direct and indirect CO_2 emissions of the individual production sites (Scope 1 and 2) but also all other direct and indirect CO_2 emissions in the life cycle of the vehicles (Scope 3).

The DCI calculation methodology is regularly adjusted depending on internal and external requirements, such as new test cycles for fleet emissions. In order to present a methodologically consistent time series, published DCI values may therefore also be adjusted to the new methodology and thus changed.

In the reporting year, the DCI value averaged 48.0 metric tons of CO_2 per vehicle. Compared with the figure for 2021, which was adjusted due to the change in calculation assumptions (for example, taking region-specific life cycle assessments into account for Chinese models for the first time), this means a reduction of 0.4 metric tons of CO_2 per vehicle. This means that increases in emissions in individual life cycle phases have been more than compensated for. As a result of a more specific data set, the emissions recorded in the DCI decreased by 0.6 metric tons of CO_2/vehicle in 2022. Projects in the supply chain (e.g., closed-loop management of aluminum scrap and renewable energy for battery cell production) and our green power in the use phase led to a reduction of total emissions in the DCI by 0.4 metric tons of CO_2/vehicle. The electrification of the portfolio combined with the use of renewable energies in production and the use phase is thus showing an impact.

TRANSPARENCY ON CO_2 EMISSIONS AS A BASIS FOR IMPROVEMENTS

Every year, we calculate the Group's carbon footprint using the Scope 1 to 3 inventory, in line with the requirements of the internationally accepted Greenhouse Gas Protocol (GHG Protocol). On this basis, we can determine the success of the measures we have put in place and identify other areas where we can take action.

Not shown are additional CO_2 offset projects – e.g., for the carbon-neutral delivery of electric vehicles. The compensation volume in the reporting period ran to 5.9 million metric tons of CO_2. This equates to 0.9 metric tons of CO_2 per vehicle for all vehicles included in the decarbonization index.

In line with the Scope 3 standards published by the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI), we are reporting CO_2 emissions for 13 out of a total of 15 Scope 3 categories in 2022. According to this, around 20% of all Scope 3 emissions are in the "Purchased goods and services" emissions category, while 73.0% are in the "Use phase" emissions category (well to wheel). To calculate use-phase emissions in the DCI and in the Scope 3 GHG inventory, fleet values not including any legal flexibilities are used.

The calculation of CO_2 emissions in the use phase of the Scope 3 GHG inventory is based on a Group fleet value representing the global passenger cars and light commercial vehicles fleet in the three major regions (Europe [EU27, UK, Norway and Iceland], the USA and China). In order to provide a picture that is as complete as possible, we also collect data on emissions in this category that are produced during the production and transportation of fuels ("well to tank" emissions).

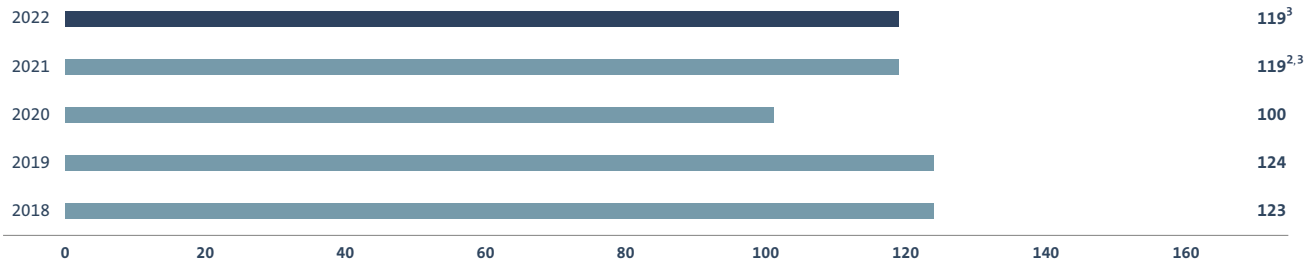
Fleet CO_2 emissions in Europe (EU27+2)[1]

The Volkswagen Group's new passenger car fleet in the EU (from 2022 including Lamborghini and Bentley) (EU27+2) emitted an average of 119 g CO_2/km (Worldwide Harmonized Light Vehicles Test Procedure – WLTP)[2] in the reporting period in accordance with the statutory measurement bases. The statutory target is 122 g CO_2/km (WLTP).[2] This means that the Volkswagen Group outperformed the EU's fleet CO_2 target. All the figures mentioned are subject to confirmation of the CO_2 data in the context of official publication by the European Commission. The targets are expected to be tightened from 2025 (subject to publication in the Official Journal of the EU): The European Commission has thus set a target of a 15% reduction in CO_2, which corresponds to a CO_2 target of less than 105 g CO_2/km for our EU new passenger car fleet. A 55% reduction has been set for 2030, which corresponds to a CO_2 target of less than 55 g CO_2/km. We expect our new passenger car fleet in the EU to be able to meet this target for 2025 and outperform the target for 2030. A CO_2 reduction target of 100% for passenger cars has been set for 2035.

The Volkswagen Group's new light commercial vehicles fleet in the EU emitted an average of 193 g CO_2/km (WLTP)[2] in the reporting period as per statutory measurements bases, compared with a statutory target of 199 g CO_2/km (WLTP).[2] This means that the Volkswagen Group outperformed the EU's fleet CO_2 target. All the figures mentioned are subject to confirmation of the CO_2 data in the context of official publication by the European Commission. The targets are expected to be tightened from 2025 (subject to publication in the Official Journal of the EU): The European Commission thus stipulates a 15% reduction in CO_2, which corresponds to a CO_2 target of less than 184 g CO_2/km for our EU new light commercial vehicle fleet. A 50% reduction has been set for 2030, which corresponds to a CO_2 target of less than 108 g CO_2/km. We expect our EU new light commercial vehicle fleet to be able to meet the target for 2025 and outperform the target for 2030. A CO_2 reduction target of 100% for light commercial vehicles has been set for 2035.

In the UK and Switzerland/Liechtenstein markets, the Volkswagen Group's light commercial vehicle fleets met the statutory requirements for the reporting period. The Volkswagen Group's passenger car fleet fell just short of the statutory requirements for the reporting year in Switzerland. However, the target for the CO_2 pool established with other manufacturers in the United Kingdom was reached.

CO_2 EMISSIONS OF THE VOLKSWAGEN GROUP'S EUROPEAN (EU27+2) NEW PASSENGER CAR FLEET
in grams per kilometer (WLTP)



[1] Definition of EU27+2: Belgium, Malta, Bulgaria, the Netherlands, Denmark, Austria, Germany, Poland, Estonia, Portugal, Finland, Romania, France, Slovakia, Greece, Slovenia, Ireland, Spain, Italy, Sweden, Croatia, the Czech Republic, Latvia, Hungary, Lithuania, Luxembourg, Cyprus + Iceland, Norway.
[2] The European Commission switched its calculation of CO_2 fleet emissions from NEDC to WLTP in 2021.
[3] Subject to confirmation of the CO_2 data in the official publication by the European Commission.

CO_2 fleet emissions in the USA

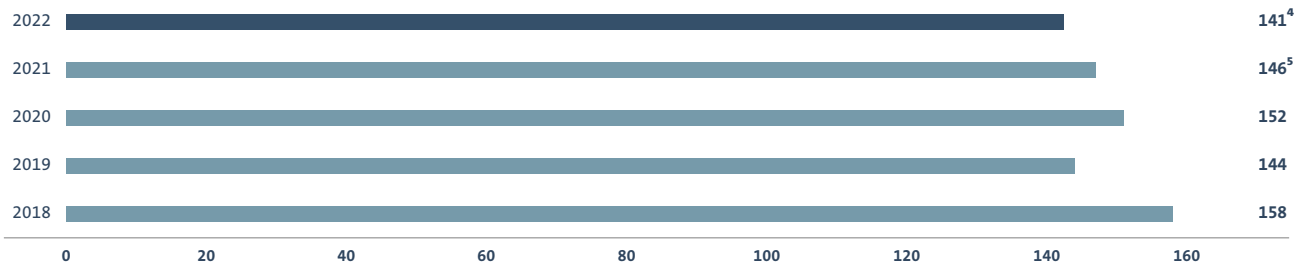
In the United States of America, the emission pool – comprising the Group brands Volkswagen Passenger Cars, Audi, Lamborghini, Bentley and Porsche – is obliged to comply with the Green House Gas (GHG) and Corporate Average Fuel Economy (CAFE) regulations. Due to a model year – the accounting period used in the USA – differing in length from the calendar year, internal calculations are used to determine the figures for the current and preceding model year. The passenger car and light commercial vehicle fleets' GHG CO_2 figure for model year 2022 (internal data as of September 2022) is an average of 141 g CO_2/km (model year 2021: 146 g CO_2/km) compared with a statutory target of 136 g CO_2/km (model year 2021: 142 g CO_2/km).

By applying the statutory flexibility provided for regarding GHG and in CAFE as well as externally acquired credits, the Volkswagen Group succeeded in complying with applicable requirements – subject to confirmation by the authorities – for model year 2021. The figure given for model year 2022 is also subject to confirmation by the Environmental Protection Agency (EPA).

We anticipate a CO_2 target of around 110 g CO_2/km in the USA for 2025 and therefore expect to be able to achieve this target. We will increase the electric vehicle proportion of our new vehicle fleet to well over 50% by 2030 and are therefore within the current Administration's target range.

VOLKSWAGEN GROUP CO_2 EMISSIONS ACCORDING TO THE GHG PROTOCOL FOR PASSENGER CARS AND LIGHT COMMERCIAL VEHICLES IN THE USA

in grams per kilometer by model year



[4] Subject to submission of the final MY report MY22 and subsequent confirmation by EPA and the California Air Resources Board (CARB) (internal data as of September 2022).
[5] Subject to confirmation by EPA and CARB (final MY report MY21 submitted but not yet confirmed).

ACHIEVING DECARBONIZATION TARGETS

We have two levers in particular available to us to impact greenhouse gas emissions across the entire life cycle of Volkswagen products: the Group's electric offensive and the Renewable Energies strategy. Around 90% of the decarbonization targeted by the Group can be realized through electrification of the fleet and switching to renewably generated energy. We track and manage whether we are meeting our targets in these areas at a higher level.

The Group Steering Committee for Sustainability is responsible for our decarbonization program and target achievement. The Group Steering Committee for Fleet Compliance and a specially founded Decarbonization Project Center is responsible for strategy and target development and also for implementation of the program and fleet compliance. The Decarbonization Project Center includes experts from all brands and relevant departments. We use a predefined process overseen by the management of the Decarbonization Project Center and the Group Steering Committee for Fleet Compliance to check measures with which we can achieve the objective of decarbonization. All production locations and the brands and regions have prepared decarbonization roadmaps. The degree of target achievement is measured with a tracking system. If we miss our target, we implement corrective measures.

TRATON SE's heavy commercial vehicles have a significant carbon footprint and are therefore part of a separate decarbonization program that is connected with the existing decarbonization program for passenger cars and light commercial vehicles via interfaces. The program and associated measures are intended to facilitate progress with reducing greenhouse gas emissions.

Internal carbon pricing tools are an integral component of our decarbonization controlling. For example, when managing the portfolio, we work with shadow prices to integrate emission-related risks into decision-making processes and with internal emissions trading to optimize reduction paths of CO_2 fleet compliance. In the decarbonization program, we assess the efficiency of reduction measures using abatement costs and aggregate these in an abatement cost curve. As part of this, we are currently working with an internal carbon price or abatement costs of up to €20 per metric ton of CO_2. This figure is reviewed annually based on target achievement and adjusted by a resolution of the Board of Management.

GRI 305-4, 305-5

DECARBONIZATION KPIS

KPI	Unit	2022	2021	Notes and comments
Decarbonization Index WLTP strategic KPI	metric tons of CO_2/vehicle	48.4	48.4 (45.9)	Passenger-car manufacturing brands and light-commercial-vehicle-producing brands in the Europe (EU27, United Kingdom, Norway and Iceland), China and USA regions. As a result of a more specific data set, the emissions recorded in the DCI decreased by 0.6 metric tons of CO_2/vehicle in 2022. Projects in the supply chain (e.g., closed-loop management of aluminum scrap and renewable energy for battery cell production) and our green power measures in the use phase led to a reduction of total emissions in the DCI by 0.4 metric tons of CO_2/vehicle. The calculation of the CO_2 savings from the Aluminum Closed Loop was updated compared with the prior year because the press shop offcuts were reassessed. The DCI for 2021 and 2022 is reported without taking offset measures into account. To enable comparability, the DCI reported in 2021 (45.9 metric tons CO_2/vehicle) was adjusted to new calculation assumptions.
Average emissions of the new passenger car fleet (strategic KPI)				
EU	g CO_2/km	119	119	From 2022 including Lamborghini and Bentley
USA	g CO_2/km	141	147	Emission pool: Volkswagen Passenger Cars, Audi, Lamborghini, Bentley and Porsche Forecast value: The figure given for model year 2022 is also subject to confirmation by the EPA.
Alternative drive technologies in the Group				Volkswagen Group production: Volkswagen Passenger Cars, Audi, ŠKODA, SEAT, Volkswagen light commercial vehicles
Worldwide				
Gas drives (natural gas and LPG)	number of vehicles produced/percentage change	15,387/ –56.3	35,192/ –24.0	
Hybrid drives	number of vehicles produced/percentage change	229,882/ –4.2	239,998/ +18.9	
All-electric drives	number of vehicles produced/percentage change	580,023/ +35.5	427,946/ +112.2	
Alternative drives (total)	**number of vehicles produced/percentage change**	**825,292/ +17.4**	**703,136/ +56.3**	

GRI 305-1, 305-2, 305-3, 305-4, 305-5

KPI	Unit	2022	2021	Notes and comments
Europe				EU27, United Kingdom, Norway and Iceland
Gas drives (natural gas and LPG)	number of vehicles produced/percentage change	15,240/ –56.4	34,917/ –23.6	
Hybrid drives	number of vehicles produced/percentage change	166,415/ –16.2	198,550/ +46.7	
All-electric drives	number of vehicles produced/percentage change	340,952/ +17.8	289,389/ +65.0	
Alternative drives (total)	**number of vehicles produced/percentage change**	**522,607/ 0.0**	**522,856/ +46.7**	
Product carbon footprint (DCI)	in metric tons of CO_2/vehicle	48.0	48.4 (45.9)	See also Decarbonization Index note
Scope 1 GHG emissions (absolute)[1]	in million metric tons of CO_2	4.46	4.67	
of which Volkswagen AG	in million metric tons of CO_2	2.02	2.22	
Scope 1 GHG emissions (specific)	in kg of CO_2/vehicle	415	476	Passenger cars and light commercial vehicles
in Volkswagen AG	in kg of CO_2/vehicle	3,024	3,507	Adjustment of figure for 2021 due to incorrect unit
Scope 2 GHG emissions (absolute)[1]	in million metric tons of CO_2	2.11	2.41	
of which Volkswagen AG	in million metric tons of CO_2	0.11	0.14	
Scope 2 GHG emissions (specific)	in kg of CO_2/vehicle	236	288	Passenger cars and light commercial vehicles
in Volkswagen AG	in kg of CO_2/vehicle	167	223	
Scope 3 GHG emissions	**in million metric tons of CO_2**	**395.62**	**364.14**	
Category 1: Purchased goods and services	in metric tons of CO_2/in %	80,786,280/ 20.4	58,092,388/ 16.0	The category 1 CO_2 emissions relate to the supply chain emissions of all passenger cars and light commercial vehicles produced in the reporting year. They were calculated on the basis of 63 production-volume-weighted life cycle assessments (LCAs). In the 2022 reporting year, region-specific LCAs for Chinese models were taken into account the first time. All vehicle LCAs (passenger cars and light commercial vehicles) have been independently certified in accordance with ISO 14040/44. The calculation of the CO_2 savings from the Aluminum Closed Loop was updated compared with the prior year because the press shop offcuts were reassessed. Additional drivers of change include an increased average vehicle weight and increased production number.

[1] Scope: The following sites are not included in the Group assessment in the reporting year: the four Scania Service Centers (Johannesburg, Narasapura, Kuala Lumpur, Taoyuan City); two MAN Truck & Bus sites (Serendah, St. Petersburg); one site in China (Suzhou) and four other sites still currently under construction in China (a vehicle plant in Hefei, a vehicle plant in Changchun and two other component plants in Hefei with planned production start in 2023/2024). The figures for December of the reporting year include an estimate. The estimated figures for the prior year were replaced in the current data collection.

GRI 305-3, 305-5

KPI		Unit	2022	2021	Notes and comments
	Category 2: Capital goods	in metric tons of CO_2/in %	6,633,357/ 1.7	5,523,322/ 1.5	The emissions associated with capital goods were calculated on the basis of an economic input-output analysis using the investment data in the Volkswagen AG Annual Report.
	Category 3: Fuel- and energy-related emissions (not included in Scope 1 or 2)	in metric tons of CO_2/in %	1,034,162/ 0.3	1,224,681/ 0.3	The Group-wide consumption of energy is recorded annually in our internal environmental information system and converted into CO_2 equivalents using emission factors for the various energy sources from a representative generic database.
	Category 4: Upstream transportation and distribution	in metric tons of CO_2/in %	4,124,894/ 1.0	3,929,898/ 1.1	This number is equivalent to the CO_2 emissions from energy-source supply and use, both from inbound and outbound transports and transportation processes between our sites worldwide. Transportation data are manually derived from internal transport IT systems for all modes of transport and manually recorded processes. Figure based on the 2022 CDP report – the figure for the 2022 reporting year will appear in the 2023 CDP report.
	Category 5: Waste	in metric tons of CO_2/in %	909,775/ 0.2	911,348/ 0.3	The waste produced across the Group is recorded annually in our internal environmental information system and converted into CO_2 equivalents using emission factors for the various waste streams from a representative generic database.
	Category 6:[2] Business travel	in metric tons of CO_2/in %	123,816/ 0.0	721,059/ 0.2	Due to the low proportion of emissions (< 0.5%), the previous calculation was based on a generic approach. For the 2022 reporting year, the emissions were, for the first time, calculated using a new measurement approach based on Volkswagen AG's actual air and rail travel and extrapolated for the Group.
	Category 7:[2] Employee commuting	in metric tons of CO_2/in %	1,099,091/ 0.3	1,096,418/ 0.3	The CO_2 emissions are based on activity data that were collected in a specific survey representing commuting to/ from our largest site in Wolfsburg. The calculation assumes 220 working days per year and a distribution between modes of transport of 75% by car, 10% by train (long-distance transport), 5% by public transport (land transport) and 10% by public transport (urban). The corresponding emission factors for these four modes of transport were calculated on the basis of external generic data sources. The global Scope 3 emissions caused by commuting were extrapolated from the Wolfsburg results on the basis of headcount.
	Category 8: Upstream leased assets	in metric tons of CO_2/in %	413,446/ 0.1	342,703/ 0.1	The calculation is based on Group-wide payments for rights to use land, buildings and buildings on third-party land. The emissions for this category were estimated using an economic input-output analysis.
	Category 9: Downstream transportation and distribution				Included in category 4

[2] Due to the low proportion of emissions (< 0.5%), the previous calculation was based on a generic approach. In the reporting year, specific reference data were used to further develop the methodology for emissions in the business travel category, and the plan is to do this for emissions in the commuting category in the 2023 reporting year.

GRI 305-3, 305-5

KPI		Unit	2022	2021	Notes and comments
	Category 10: Processing of sold products				Included in Scope 1
	Category 11: Use of sold products	in metric tons of CO_2/in %	287,767,802/ 72.7	279,380,915/ 76.7	The CO_2 emissions comprise the well-to-wheel emissions of all passenger cars and light commercial vehicles sold in 2022 at an assumed lifetime mileage of 200,000 km. The calculation is based on the weighted average fleet emissions [g CO_2/km] in the main markets of the EU27 (plus IS + NO + UK), China and the USA in accordance with the currently legally applicable driving cycles. Region-specific emission factors for fuel and electricity supply chains from a representative generic database were used to calculate the corresponding well-to-tank emissions.
	Category 12: End-of-life treatment of sold products	in metric tons of CO_2/in %	552,289/ 0.1	747,070/ 0.2	The category 12 CO_2 emissions relate to the potential end-of-life emissions of all passenger cars and light commercial vehicles produced in the reporting year. They were calculated on the basis of 63 production-volume-weighted life cycle assessments (LCAs). In the 2022 reporting year, region-specific LCAs for Chinese models were taken into account the first time. All vehicle LCAs (passenger cars and light commercial vehicles) have been independently certified in accordance with ISO 14040/44.
	Category 13: Downstream leased assets	in metric tons of CO_2/in %	9,162,826/ 2.3	10,619,440/ 2.9	The calculation is based on, among other things, payments received by the Group for rights to use land, buildings and buildings on third-party land. The emissions for this category were estimated using an economic input-output analysis.
	Category 14: Franchises	in metric tons of CO_2/in %	3,009,100/ 0.8	1,550,000/ 0.4	Due to the low proportion of emissions (< 0.5%), the previous calculation was based on a generic approach. From the 2022 reporting year, the calculation is based on an annual evaluation of the CO_2 emissions of the Volkswagen Group's trading and service partners on the basis of the sites' energy consumption and country-specific emission factors. The latter come from a representative generic database.

EU TAXONOMY

Doing business in an environmentally sustainable way is one of the central challenges of our time. The EU has defined criteria for determining the degree of a company's environmental sustainability. With our taxonomy-aligned investments in development activities and in property, plant and equipment, we are today already shaping the future in an environmentally sustainable way as envisaged by the EU Taxonomy.

BACKGROUND AND OBJECTIVES

As part of the European Green Deal, the European Union (EU) has placed the topics of climate protection, the environment and sustainability at the heart of its political agenda in order to achieve climate neutrality by the year 2050. The finance sector is expected to make an important contribution to realizing this objective. In this context, the EU published the "Strategy for Financing the Transition to a Sustainable Economy" in 2021. Aimed at supporting the financing of the transition to a sustainable economy, the published strategy contains proposals relating to transition finance, inclusiveness, resilience and contribution of the financial system, and global ambition. It is based on the EU's action plan on Financing Sustainable Growth of 2018. In addition to "Disclosures" and "Tools", another key module is the EU Taxonomy (Regulation (EU) 2020/852 and associated delegated acts).

The EU Taxonomy is a classification system for sustainable economic activities. An economic activity is considered taxonomy-eligible if it is listed in the EU Taxonomy and can therefore potentially contribute to realizing at least one of the following six environmental objectives:

- Climate change mitigation
- Climate change adaptation
- Sustainable use and protection of water and marine resources
- Transition to a circular economy
- Pollution prevention and control
- Protection and restoration of biodiversity and ecosystems.

An activity is only considered environmentally sustainable, i.e., taxonomy-aligned, if it meets all three of the following conditions:

- The activity makes a substantial contribution to one of the environmental objectives by meeting the screening criteria defined for this economic activity, e.g., level of CO_2 emissions for the climate change mitigation environmental objective.
- The activity meets the Do-No-Significant-Harm (DNSH) criteria defined for this economic activity. These are designed to prevent significant harm to one or more of the other environmental objectives, e.g., from the production process or by the product.
- The activity is carried out in compliance with the minimum safeguards, which apply to all economic activities and relate primarily to human rights and social and labor standards.

The Volkswagen Group supports the EU's overarching goal. We are committed to the Paris Climate Agreement and align our own activities with the 1.5 °C goal. We aim to achieve net carbon neutrality by 2050.

REPORTING FOR FISCAL YEAR 2022

Under the EU Taxonomy, the Volkswagen Group is required to report on the climate change mitigation and climate change adaptation environmental objectives for fiscal year 2022; the EU has not yet defined the disclosure requirements for the other four environmental objectives. The figures reported on sales revenue, capital expenditure and operating expenditure relate to the companies consolidated in the Volkswagen Group's financial statements. Volumes and financial data for our Chinese joint ventures are therefore excluded.

The wording and terminology used in the EU Taxonomy are still subject to some uncertainty in interpretation, which could lead to changes in the reporting when it is subsequently clarified by the EU. Ultimately, there is a risk that the key performance indicators presented as taxonomy-aligned would need to be assessed differently. Our interpretation is set out below.

ECONOMIC ACTIVITIES OF THE VOLKSWAGEN GROUP

With the Group strategy "NEW AUTO" – Mobility for generations to come, we are preparing ourselves for the global changes in mobility and thus playing a substantial role in driving Volkswagen's transformation into a software-oriented company. In so doing, we pay particular attention to the use of resources and the emissions of our product portfolio, as well as those of our sites.

The Volkswagen Group's activities in its vehicle-related business with passenger cars, light commercial vehicles, trucks, buses and motorcycles cover the development, production and sale of vehicles and extend to our financial services and other vehicle-related products and services. Activities in these areas are suited under the EU Taxonomy to making a substantial contribution to the environmental objective of climate change mitigation by increasing clean or climate-neutral mobility.

The Volkswagen Group's activities in the Power Engineering Business Area comprise the development, design, production, sale and servicing of machinery and equipment. These activities also fall under the environmental objective of climate change mitigation.

An analysis of our economic activities in the context of the EU Taxonomy has not revealed any activities that contribute specifically to the environmental objective of climate change adaptation.

The table below sets out the allocation of our activities in the vehicle-related business and in Power Engineering to the economic activities listed in the EU Taxonomy under the environmental objective of climate change mitigation. Changes may be made to the economic activities in future as the rules around the EU Taxonomy dynamically evolve.

Economic activity in accordance with the EU Taxonomy	Description of economic activity	Allocation in the Volkswagen Group
Environmental objective: climate change mitigation		
3. Manufacturing		
3.2 Manufacture of equipment for the production and use of hydrogen	Manufacture of equipment for the production and use of hydrogen.	Power Engineering
3.3 Manufacture of low-carbon technologies for transport	Manufacture, repair, maintenance, retrofitting, repurposing and upgrade of low-carbon vehicles, rolling stock and vessels.	Vehicle-related business
3.6 Manufacture of other low-carbon technologies	Manufacture of technologies aimed at substantial greenhouse gas emission reductions in other sectors of the economy, where those technologies are not covered by other economic activities in the manufacturing sector.	Power Engineering
9. Professional, scientific and technical activities		
9.1 Close to market research, development and innovation	Research, applied research and experimental development of solutions, processes, technologies, business models and other products dedicated to the reduction, avoidance or removal of greenhouse gas emissions for which the ability to reduce, remove or avoid greenhouse gas emissions in the target economic activities has at least been demonstrated in a relevant environment, corresponding to at least Technology Readiness Level 6.	Power Engineering

Economic Activities in Vehicle-Related Business

Economic activity 3.3 Manufacture of low-carbon technologies for transport

We allocate all activities in our vehicle-related business associated with the development, production, sale (including financial services), operation and servicing of vehicles to this economic activity. This includes all passenger cars, light commercial vehicles, trucks, buses and motorcycles manufactured by us, irrespective of their powertrain technology, and also includes genuine parts.

In our vehicle-related business, we have detailed the vehicles manufactured by us by model and powertrain technology and analyzed the CO_2 emissions associated with them in accordance with the current regulations. In this way, we have identified those vehicles among all of our taxonomy-eligible vehicles that meet the screening criteria and with which the substantial contribution to climate change mitigation is measured. These include all of the Volkswagen Group's all-electric vehicles. Until December 31, 2025, they also include passenger cars and light commercial vehicles with CO_2 emissions of less than 50 g/km in accordance with the WLTP. This encompasses the majority of our plug-in hybrids. Buses meeting the EURO VI standard (Stage E) were also included until December 31, 2022.

At this stage, other activities that are directly associated with the primary vehicle-related business and that in our view should also be allocated to this economic activity have not yet been included or have been interpreted as not yet being taxonomy-eligible. This is because, as the rules of the EU Taxonomy currently stand, it is still unclear where to record them in accordance with the EU Taxonomy. These activities particularly include the sale of engines and powertrains, as well as parts deliveries, the sale of non-Group products and production under license by third parties. Based on current assumptions, hedging transactions and individual activities that we present primarily under Other sales revenue in the consolidated financial statements cannot be classified as economic activities under the EU Taxonomy, and we have therefore initially classified them as not being taxonomy-eligible.

Economic Activities in Power Engineering

In the Power Engineering Business Area, we have analyzed our activities with respect to their classification under the EU Taxonomy and, with the exception of the heavy fuel oil engine new building business and individual components for the extraction and processing of fossil fuels, have identified them as taxonomy-eligible.

Economic activity 3.2 Manufacture of equipment for the production and use of hydrogen

Our activities relating to the manufacture of equipment for the production and use of hydrogen that meet the screening criteria and make a substantial contribution to the climate change mitigation objective are taxonomy-eligible. One example is the use of green hydrogen. At Volkswagen, the activities cover the power-to-X technology for the production of low-carbon or carbon-neutral synthetic fuels, as well as components for the storage of hydrogen.

Economic activity 3.6 Manufacture of other low-carbon technologies

The description of this economic activity means that only those technologies manufactured for the purpose of reducing greenhouse gas emissions substantially in other sectors of the economy are taxonomy-eligible. At Volkswagen, this comprises all new-build activities that enable the use of gas and climate-neutral synthetic fuels (e.g., manufacturing of gas and dual-fuel engines), all industrial solutions for energy storage and sector coupling (e.g., heat pumps) and all solutions for carbon capture, storage and usage; it also includes subsea compression (a solution close to the wellhead for the extraction of natural gas). These activities are rounded off by the

service and after-sales business, comprising the upgrading and modernization of existing equipment. For example, we retrofit existing maritime fleets with technology that makes it possible to reduce CO_2 emissions.

Economic activity 9.1 Close to market research, development and innovation
The description of this economic activity includes applied research in technologies for the reduction or avoidance of greenhouse gas emissions. We allocate our licensing business to this economic activity. In the course of such business we provide our development services in the form of production documents, based on which our licensees are authorized to manufacture corresponding gas and/or dual-fuel engines.

With regard to economic activity 3.2 Manufacture of equipment for the production and use of hydrogen, we meet the screening criteria that determine whether a substantial contribution has been made to the mitigation of climate change. As the reporting obligations and the complex requirements specified therein, such as for life cycle analyses, were not introduced until very recently, it has not yet been possible to provide corresponding proof of economic activities covered by 3.6 Manufacture of other low-carbon technologies and 9.1 Close to market research, development and innovation.

DO NO SIGNIFICANT HARM (DNSH)

The DNSH criteria were analyzed in the reporting year for economic activities covered by 3.3 Manufacture of low-carbon technologies for transport and 3.2 Manufacture of equipment for the production and use of hydrogen.

In the vehicle-related business, an analysis was performed for each vehicle production site where passenger cars, light commercial vehicles, trucks and buses are or will be produced that meet the screening criteria for the substantial contribution of economic activity 3.3 Manufacture of low-carbon technologies for transport, or that are to meet them in future according to our five-year planning, and based on current regulations. Of the approximately 40 sites included, the majority are located in the EU, with some in the United Kingdom, Türkiye, South Africa, the USA, Mexico, Brazil, Argentina and China. In addition to these, we also included the sites that manufacture specific components for electric vehicles.

For the Power Engineering Business Area, an analysis was performed for each site that produces relevant components for systems or is responsible for supply chains that meet the screening criteria for the substantial contribution of economic activity 3.2 Manufacture of equipment for the production and use of hydrogen, or that are to meet them in future according to our five-year planning. There are three such sites in Germany and one in Sweden.

Below, we set out our interpretation and describe the main analyses we used to examine whether there was any significant harm to the other environmental objectives. The wording and terminology used in the EU Taxonomy are subject to some uncertainty in interpretation and supposedly go beyond the regulations to be applied in regular business operations. In addition, the application of the EU Taxonomy to sites outside the EU leads to particular challenges due to the possibility of diverging legislation. We took applicable laws as well as external and internal regulations and guidelines as the basis for our assessments, which confirm that we meet the requirements of the DNSH criteria in the reporting period for the vehicle-related business and the Power Engineering sites.

Climate change adaptation
We performed a climate risk and vulnerability assessment to identify which production sites may be affected by physical climate risks. The physical climate risks we identified were assessed on the basis of the lifetime of the relevant fixed asset.

Volkswagen's climate-based DNSH assessment is based on Representative Concentration Pathway (RCP) scenario 8.5 to the year 2050 and thus assumes the highest concentration of CO_2 according to the Intergovernmental Panel on Climate Change (IPCC). The relevance of the identified threats was assessed for the local environment and, if appropriate, the measures needed to mitigate the risk were developed.

Sustainable use and protection of water and marine resources
We evaluated our economic activities with respect to the sustainable use and protection of water and marine resources looking at the following three criteria: preserving water quality, avoiding water stress, and an environmental compatibility assessment (EIA or comparable process). Risks identified in an EIA are examined during the approval process and, if relevant, result in measures and regulatory requirements. We based the analysis primarily on ISO 14001 certificates, information from site approvals and other external data sources related to sites with a high risk exposure.

Transition to a circular economy
Environmentally compatible waste management in the manufacturing process, reuse and use of secondary raw materials and a long product lifespan are a major part of Volkswagen's environmental management system. Volkswagen defines clear and unambiguous guidelines on the circular economy in its environmental principles, in its overall factory white paper and in its "goTOzero" strategy.

The product-related requirements for passenger cars and light commercial vehicles are taken into account through implementation of the statutory end-of-life vehicle requirements in conjunction with the type approval of the vehicle models. In addition to this, each brand has targets and measures for the use of recycled materials in new vehicles. For trucks and buses, a review was conducted at the level of each brand to establish the extent to which local legislation or internal rules and regulations cover the specific requirements.

Pollution prevention and control
To be considered as environmentally sustainable, an economic activity must not significantly increase air, water or soil pollutant emissions as compared with the situation before the activity started. The DNSH criteria for this environmental objective require that the economic activity in question does not lead to the manufacture, distribution or use of substances listed in a variety of EU chemical regulations and directives or product-specific rules and regulations. In this context, we also consider the use of alternative substances in our analyses and assessments. Overall, the automotive sector is tightly regulated already, as demonstrated, for example, by the publicly accessible Global Automotive Declarable Substance List (GADSL). Approval and monitoring processes have been implemented with the aim of ensuring compliance with the legal requirements and internal rules and regulations applicable to regular business operations. This also ensures compliance with the legislation specified in the DNSH criteria. For this purpose, we applied the requirements applicable to regular business operations in the European Union in 2022. Outside of the EU we applied the regulations specific to the country in question.

Protection and restoration of biodiversity and ecosystems
In order to verify adherence to the requirements on biodiversity and ecosystems, the relevant areas were identified. Where biodiversity-sensitive areas are located close to a production site, we checked whether a nature conservation assessment had been performed and whether nature conservation measures had been defined in the environmental approvals and subsequently implemented. We also checked whether changes had occurred in an area's conservation status.

MINIMUM SAFEGUARDS

The minimum safeguards consist of the OECD Guidelines for Multinational Enterprises, the United Nations Guiding Principles on Business and Human Rights, the Fundamental Conventions of the International Labour Organization (ILO) and the International Bill of Human Rights.

The Volkswagen Group accepts its corporate responsibility for human rights, fully recognizes these conventions and declarations and reaffirms its agreement with the contents and principles stated therein.

Below, we describe the main analyses we used to examine whether the minimum safeguards are adhered to.

The Volkswagen Group has conducted and completed human rights risk assessments for 802 controlled Group companies worldwide; this includes all sites that were also examined under the DNSH criteria. This risk analysis takes into account the prior-year results and risk assessments. The companies were given risk-specific measures to counteract the risks identified in the analysis, and were required to implement these. The status of implementation of the respective measures is continuously monitored by the Group.

Relationships with our business partners are based on the Code of Conduct for Business Partners. We review compliance with the binding requirements defined in the Code, using sustainability ratings for relevant suppliers. We address existing sustainability risks and violations of sustainability principles by systematically defining and implementing measures to correct the violations; this also includes the upstream supply chain. We implemented a Human Rights Focus System in 2022 to comply with international frameworks and requirements and specifically the German Supply Chain Due Diligence Act *(Lieferkettensorgfaltspflichtengesetz* –LkSG). The system aims to identify particularly high risks in our supply chain in connection with human rights violations and the environment and to manage these appropriately. The assessments confirm that we meet the requirements of the minimum safeguards in the reporting year.

Key Performance Indicators in accordance with the EU Taxonomy Regulation

The EU Taxonomy defines sales revenue, capital expenditure and operating expenditure as the key performance indicators that must be reported on. We explain these below. The tables required by the EU Taxonomy are included at the end of the section.

The financial figures relevant for the Volkswagen Group are taken from the IFRS consolidated financial statements for fiscal year 2022. As we differentiate between economic activities, we have avoided double counting. Where possible, the figures have been directly allocated to an economic activity. In our vehicle-related business, for example, we compiled the financial figures based on the vehicle model and powertrain technology. This applies both to the vehicles themselves and to the corresponding financial services and other services and activities.

Only where this was not possible for capital expenditure and operating expenditure were allocation formulas used based on the planned vehicle volumes. In the Power Engineering Business Area, we used allocation formulas based on planned sales revenue. This data and planning form part of the medium-term financial planning for the next five years on which the Board of Management and Supervisory Board have passed a resolution.

Sales revenue

The definition of turnover in the EU Taxonomy corresponds to sales revenue as reported in the IFRS consolidated financial statements. This amounted to €279.2 billion in fiscal year 2022 (see also note on "Sales revenue" in the notes to the consolidated financial statements).

Of this total, €254.5 billion, or 91.1% of Group sales, was attributable to economic activity 3.3 Manufacture of low-carbon technologies for transport, and was classified as taxonomy-eligible. This includes sales revenue after sales allowances from the sale of new and used vehicles, including motorcycles, from genuine parts, from the rental and lease business, and from interest and similar income, as well as sales revenue directly related to the vehicles, such as workshop and other services.

Of the taxonomy-eligible sales revenue, €26.1 billion meet the screening criteria used to measure the substantial contribution to climate change mitigation. This includes all of our all-electric vehicles, the majority of the plug-in hybrids, and the buses meeting the EURO VI standard (Stage E).

In 2022, there were 596 thousand such vehicles, 6.5% more than in the previous year. Their share of the relevant sales volume – excluding the vehicles from the Chinese joint ventures – rose to 11.1 (10.1)%. Passenger cars and light commercial vehicles made up the bulk at 594 thousand vehicles; trucks and buses recorded a ninefold increase year-on-year. Sales of all-electric vehicles were up significantly.

Taking into account the DNSH criteria and minimum safeguards, €26.1 (21.1) billion of the sales revenue generated from our vehicle-related business, equating to 9.4 (8.5)% of consolidated sales revenue, was taxonomy-aligned. Of this amount, €19.6 billion, or 7.0% of consolidated sales revenue, was attributable to our all-electric models (BEVs). In 2022, compliance with the DNSH criteria was also demonstrated for truck and bus sites.

In the Power Engineering Business Area, the majority of our taxonomy-eligible sales revenue was attributable to economic activity 3.6 Manufacture of other low-carbon technologies (€2.5 billion). A further €35 million was contributed by economic activity 9.1 Close to market research, development and innovation. Our activities that fall under economic activity 3.2 Manufacture of equipment for the production and use of hydrogen generated taxonomy-aligned sales revenue of €18 (5) million, taking into account the DNSH criteria and minimum safeguards. The increase in taxonomy-aligned sales revenue is attributable to the expansion of business and above all to the initial consolidation of H-TEC SYSTEMS GmbH.

Of the Volkswagen Group's total sales revenue in fiscal year 2022,

- €257.0 (227.8) billion, or 92.1 (91.0)%, was taxonomy-eligible sales revenue and
- €26.1 (21.2) billion, or 9.4 (8.5)%, was taxonomy-aligned sales revenue.

SALES REVENUE 2022

Economic activities	Sales revenue		Substantial contribution to climate change mitigation		Compliance with DNSH criteria	Compliance with minimum safeguards	Taxonomy-aligned sales revenue	
	€ million	%[1]	€ million	%[1]	Y/N	Y/N	€ million	%[1]
A. Taxonomy-eligible activities	**257,043**	**92.1**	**26,145**	**9.4**	**Y**	**Y**	**26,145**	**9.4**
Vehicle-related business								
3.3 Manufacture of low-carbon technologies for transport	254,502	91.1	26,128	9.4	Y	Y	26,128	9.4
of which taxonomy-aligned BEVs	–	–	–	–	Y	Y	19,589	7.0
Power Engineering								
3.2 Manufacture of equipment for the production and use of hydrogen	18	0.0	18	0.0	Y	Y	18	0.0
3.6 Manufacture of other low-carbon technologies	2,488	0.9	–	–	–	–	–	–
9.1 Close to market research, development and innovation	35	0.0	–	–	–	–	–	–
B. Taxonomy-non-eligible activities	**22,189**	**7.9**						
Total (A + B)	**279,232**							

[1] All percentages relate to the Group's total sales revenue.

Capital Expenditure

Capital expenditure for the purposes of the EU Taxonomy refers to the following items in the IFRS consolidated financial statements: additions to intangible assets, additions to property, plant and equipment, and additions to lease assets and investment property. These are reported in the notes to the 2022 consolidated financial statements in the notes on "Intangible assets", "Property, plant and equipment" and "Lease assets and investment property". Additions from business combinations, each of which is reported under "Changes in consolidated Group", are also included. By contrast, additions to goodwill are not included in the calculation.

In fiscal year 2022, additions in the Volkswagen Group as defined above amounted to

- €11.7 billion from intangible assets,
- €12.9 billion from property, plant and equipment and
- €24.1 billion from lease assets (mainly vehicle leasing business) and investment property.

Other additions to be included resulted from changes in the consolidated Group, amounting to €0.4 billion in fiscal year 2022. Total capital expenditure to be included in accordance with the EU Taxonomy therefore came to €49.1 billion.

All capital expenditure attributable to our vehicle-related business is associated with economic activity 3.3 Manufacture of low-carbon technologies for transport. Taxonomy-eligible capital expenditure for the vehicle-related business amounted to €48.8 billion, or 99.4% of the Group's capital expenditure.

To determine the substantial contribution in the vehicle-related business, we compiled the financial figures based on the vehicle model and powertrain technology in the same way as for sales revenue. Where possible, capital expenditure was directly attributed to vehicles. It was included if the vehicles in question make a substantial contribution to the climate change mitigation objective. Any capital expenditure directly attributable to vehicles that do not meet the screening criteria was not included. Capital expenditure that was not clearly attributable to a particular vehicle was taken into account on a proportionate basis using allocation formulas. In our vehicle-related business, we developed allocation formulas based on planned vehicle volumes for the Group companies. In the sales companies, for example, we used allocation formulas related either to individual vehicle brands or to all vehicle brands, depending on the primary business activity, while site-based allocation formulas were used for production companies. This means that capital expenditure was counted in full via the allocation formulas for sites that according to our medium-term planning will only produce vehicles meeting the screening criteria for the substantial contribution in the next five years. In contrast, capital expenditure on sites that only produce vehicles not meeting the screening criteria was not counted under the allocation formula. Calculated in this way, capital expenditure relating to vehicles that meet the screening criteria for the substantial contribution amounted to €16.9 billion.

Taking into account the DNSH criteria and minimum safeguards, capital expenditure of €16.9 (14.2) billion was taxonomy-aligned. This represented 34.5 (26.2)% of the Group's total capital expenditure. Of this figure, €5.8 billion was attributable to intangible assets, €5.7 billion to property, plant and equipment and €5.4 billion to lease assets and investment property. The figure includes additions to capitalized development costs of €4.4 billion and additions to property, plant and equipment of €5.4 billion for our all-electric vehicles (BEVs). The increase in taxonomy-aligned capital expenditure – both the absolute value and the proportion – is attributable to the growing number of environmentally sustainable vehicle projects under the EU Taxonomy.

In the reporting period, we refinanced taxonomy-aligned capital expenditure from fiscal year 2021 based on the Green Finance Framework updated in October 2022 by issuing green bonds in the amount of €2.5 billion. Only capital expenditure in connection with all-electric vehicles was included here. Also in 2022, Scania issued a green bond totaling SEK 3.0 billion to finance research and development activities relating to battery-electric vehicles. €178 million of this total was used in the year under review already, of which €98 million was attributable to taxonomy-aligned capital expenditure. Adjusted for this figure, taxonomy-aligned capital expenditure attributable to the vehicle-related business accounted for 34.3% of total capital expenditure in accordance with the EU Taxonomy.

€27 million of the taxonomy-eligible capital expenditure in the Power Engineering Business Area is attributable to economic activity 3.2 Manufacture of equipment for the production and use of hydrogen and 60 million is attributable to economic activity 3.6 Manufacture of other low-carbon technologies. For the latter, operating expenditure was broken down based on planned sales revenue.

Taxonomy-aligned capital expenditure for the manufacture of equipment for the production and use of hydrogen was disclosed for the first time in the amount of €27 million, almost two thirds of which was attributable to intangible assets and around one third to property, plant and equipment. The expenditure relates predominantly to the initial consolidation of H-TEC SYSTEMS GmbH.

Of the Volkswagen Group's total capital expenditure in fiscal year 2022,

- €48.9 (53.6) billion, or 99.6 (99.2)%, was taxonomy-eligible capital expenditure and
- €16.9 (14.2) billion, or 34.5 (26.2)%, was taxonomy-aligned capital expenditure.

CAPITAL EXPENDITURE 2022

Economic activities	Capital expenditure		Substantial contribution to climate change mitigation		Compliance with DNSH criteria	Compliance with minimum safeguards	Taxonomy-aligned capital expenditure	
	€ million	%[1]	€ million	%[1]	Y/N	Y/N	€ million	%[1]
A. Taxonomy-eligible activities	**48,873**	**99.6**	**16,943**	**34.5**	**Y**	**Y**	**16,943**	**34.5**
Vehicle-related business								
3.3 Manufacture of low-carbon technologies for transport	48,786	99.4	16,917	34.5	Y	Y	16,917	34.5
of which additions to capitalized development costs for BEVs					Y	Y	4,415	9.0
of which additions to property, plant and equipment for BEVs					Y	Y	5,398	11.0
Power Engineering								
3.2 Manufacture of equipment for the production and use of hydrogen	27	0.1	27	0.1	Y	Y	27	0.1
3.6 Manufacture of other low-carbon technologies	60	0.1	–	–	–	–	–	–
9.1 Close to market research, development and innovation	–	–	–	–	–	–	–	–
B. Taxonomy-non-eligible activities	**205**	**0.4**						
Total (A + B)	**49,078**							

[1] All percentages relate to the Group's total capital expenditure.

Operating Expenditure

The operating expenditure reported by us for the purposes of the EU Taxonomy comprises non-capitalized research and development costs, which can be taken from the note on "Intangible assets". We also include the expenditure for short-term leases recognized in our consolidated financial statements, which can be found in the note on "IFRS 16 (Leases)", and expenditure for maintenance and repairs.

The allocation of operating expenditure to the economic activities followed the same logic as that described for capital expenditure.

All operating expenditure attributable to the vehicle-related business is associated with economic activity 3.3 Manufacture of low-carbon technologies for transport and has been classified as taxonomy-eligible.

Where possible, non-capitalized research and development costs were directly attributed to vehicles. They were included if the vehicles in question make a substantial contribution to the climate change mitigation objective. We did not include any non-capitalized research and development costs directly attributable to vehicles that do not meet the screening criteria. Non-capitalized research and development costs that were not clearly attributable to a particular vehicle were taken into account on a proportionate basis using allocation formulas. For these and other operating expenses, allocation formulas were used, similarly to capital expenditure. Of the taxonomy-aligned operating expenditure of €4.9 (3.3) billion, 85.8% was attributable to non-capitalized research and development costs. The increase in taxonomy-aligned operating expenditure – both the absolute value and the proportion – is attributable to the growing number of environmentally sustainable vehicle projects under the

EU Taxonomy. Including the share of the bond issued by Scania attributable to taxonomy-aligned operating expenditure, the share of taxonomy-aligned operating expenditure declined from 42.7 (32.7)% to 42.0% of total operating expenditure in accordance with the EU Taxonomy.

€4 million of the taxonomy-eligible operating expenditure in the Power Engineering Business Area is attributable to economic activity 3.2 Manufacture of equipment for the production and use of hydrogen and €199 million is attributable to economic activity 3.6 Manufacture of other low-carbon technologies. For the latter, operating expenditure was broken down based on planned sales revenue.

Taxonomy-aligned operating expenditure for the manufacture of equipment for the production and use of hydrogen was disclosed for the first time in the amount of €4 million, which was attributable to non-capitalized research and development costs and related predominantly to the initial consolidation of H-TEC SYSTEMS GmbH.

OPERATING EXPENDITURE 2022

Economic activities	Operating expenditure		Substantial contribution to climate change mitigation		Compliance with DNSH criteria	Compliance with minimum safeguards	Taxonomy-aligned operating expenditure	
	€ million	%[1]	€ million	%[1]	Y/N	Y/N	€ million	%[1]
A. Taxonomy-eligible activities	**11,395**	**98.9**	**4,926**	**42.7**	**Y**	**Y**	**4,926**	**42.7**
Vehicle-related business								
3.3 Manufacture of low-carbon technologies for transport	11,191	97.1	4,922	42.7	Y	Y	4,922	42.7
Power Engineering								
3.2 Manufacture of equipment for the production and use of hydrogen	4	0.0	4	0.0	Y	Y	4	0.0
3.6 Manufacture of other low-carbon technologies	199	1.7	–	–	–	–	–	–
9.1 Close to market research, development and innovation	–	–	–	–	–	–	–	–
B. Taxonomy-non-eligible activities	**131**	**1.1**						
Total (A + B)	**11,525**							

[1] All percentages relate to the Group's total operating expenditure.

CAPEX PLAN UNDER THE EU TAXONOMY

The EU Taxonomy requires the reporting to state the extent to which taxonomy-aligned capital and operating expenditures a) relate to assets or processes associated with environmentally sustainable economic activities or b) are part of a plan to expand taxonomy-aligned economic activities or to allow taxonomy-eligible economic activities to become taxonomy-aligned (CapEx plan). A CapEx plan under the EU Taxonomy shows the total capital expense, i.e., the sum of capital and operating expenditures expected to be incurred in the reporting period and during the five-year medium-term planning to expand taxonomy-aligned economic activities or allow taxonomy-eligible economic activities to become taxonomy-aligned.

For the vehicle-related business, the CapEx plan drawn up under the EU Taxonomy relates to economic activity 3.3 Manufacture of low-carbon technologies for transport within the climate change mitigation environmental objective.

Additions from lease assets (mainly vehicle leasing business) are based on existing environmentally sustainable activities and have therefore not been included in the CapEx plan. We allocated additions from intangible assets and property, plant and equipment as well as non-capitalized research and development costs to the CapEx plan if they allow taxonomy-eligible economic activities to become taxonomy-aligned or lead to the expansion of taxonomy-aligned economic activities. For this we compared the average taxonomy-aligned production volume from the medium-term planning with the taxonomy-aligned vehicles from the reporting period and allocated the taxonomy-aligned capital expenditure according to this ratio whereby we considered the share exceeding the current taxonomy-aligned production volume.

As a result, €9 billion of the taxonomy-aligned capital expenditure and €3 billion of the taxonomy-aligned operating expenditure in the reporting period is attributable to the CapEx plan under the EU Taxonomy. The total capital expense from the CapEx plan under the EU Taxonomy that is expected to be incurred in the reporting period and during the five-year medium-term planning amounts to €100 billion.

In the Power Engineering Business Area, the CapEx plan under the EU Taxonomy relates to economic activity 3.2 Manufacture of equipment for the production and use of hydrogen listed in the climate change mitigation environmental objective. Based on the ratio of sales revenue in the reporting period to the average sales revenue envisaged in the medium-term planning, we allocated €26 million of the taxonomy-aligned capital expenditure and €4 million of the taxonomy-aligned operating expenditure to the CapEx plan. The total capital expense from this CapEx plan under the EU Taxonomy that is expected to be incurred in the reporting period and during the medium-term planning amounts to approximately €300 million.

SALES REVENUE 2022

Economic activities	Code(s)	Absolute sales revenue	Proportion of sales revenue	Criteria for a significant contribution: Climate change mitigation	Climate change adaptation	Water and marine resources[2]	Circular economy[2]	Pollution[2]	Biodiversity and ecosystems[2]	DNSH criteria (do no significant harm): Climate change mitigation	Climate change adaptation	Water and marine resources	Circular economy	Pollution	Biodiversity and ecosystems	Minimum safeguards	Taxonomy-aligned proportion of sales revenue 2022	Taxonomy-aligned proportion of sales revenue 2021	Enabling activities category	Transition activities category
		€ (m)	%[1]	%[1]	%[1]	%[1]	%[1]	%[1]	%[1]	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%[1]	%[1]	E	T
A. Taxonomy-eligible activities																				
A.1 Environmentally sustainable activities (taxonomy-aligned)																				
Manufacture of low-carbon technologies for transport	3.3	26,128	9.4	9.4	–	–	–	–	–		Y	Y	Y	Y	Y	Y	9.4	8.5	E	
Manufacture of equipment for the production and use of hydrogen	3.2	18	0.0	0.0	–	–	–	–	–		Y	Y	Y	Y	Y	Y	0.0	0.0	E	
Sales revenue from environmentally sustainable activities (taxonomy-aligned) (A.1)		**26,145**	**9.4**	**9.4**	**–**	**–**	**–**	**–**	**–**								**9.4**	**8.5**		
A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned activities)																				
Manufacture of low-carbon technologies for transport	3.3	228,374	81.8																	
Manufacture of other low-carbon technologies	3.6	2,488	0.9																	
Close to market research, development and innovation	9.1	35	0.0																	
Sales revenue from taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned activities) (A.2)		**230,898**	**82.7**																	
Total (A.1 + A.2)		**257,043**	**92.1**																	
B. Taxonomy-non-eligible activities																				
Sales revenue from taxonomy-non-eligible activities (B)		22,189	7.9																	
Total (A + B)		**279,232**	**100.0**																	

[1] All percentages relate to the Group's total sales revenue.
[2] Criteria for a significant contribution to the environmental objective not yet defined.

CAPITAL EXPENDITURE 2022

Economic activities	Code(s)	Absolute capital expenditure	Proportion of capital expenditure	Criteria for a significant contribution: Climate change mitigation	Climate change adaptation	Water and marine resources[2]	Circular economy[2]	Pollution[2]	Biodiversity and ecosystems[2]	DNSH criteria (do no significant harm): Climate change mitigation	Climate change adaptation	Water and marine resources	Circular economy	Pollution	Biodiversity and ecosystems	Minimum safeguards	Taxonomy-aligned proportion of capital expenditure 2022	Taxonomy-aligned proportion of capital expenditure 2021	Enabling activities category	Transition activities category
		€ (m)	%[1]	%[1]	%[1]	%[1]	%[1]	%[1]	%[1]	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%[1]	%[1]	E	T
A. Taxonomy-eligible activities																				
A.1 Environmentally sustainable activities (taxonomy-aligned)																				
Manufacture of low-carbon technologies for transport	3.3	16,917	34.5	34.5	–	–	–	–	–		Y	Y	Y	Y	Y	Y	34.5	26.2	E	
Manufacture of equipment for the production and use of hydrogen	3.2	27	0.1	0.1	–	–	–	–	–		Y	Y	Y	Y	Y	Y	0.1	–	E	
Capital expenditure of environmentally sustainable activities (taxonomy-aligned) (A.1)		**16,943**	**34.5**	**34.5**	**–**	**–**	**–**	**–**	**–**								**34.5**	**26.2**		
A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned activities)																				
Manufacture of low-carbon technologies for transport	3.3	31,870	64.9																	
Manufacture of other low-carbon technologies	3.6	60	0.1																	
Close to market research, development and innovation	9.1	–	–																	
Capital expenditure of taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned activities) (A.2)		**31,930**	**65.1**																	
Total (A.1 + A.2)		**48,873**	**99.6**																	
B. Taxonomy-non-eligible activities																				
Capital expenditure for taxonomy-non-eligible activities (B)		205	0.4																	
Total (A + B)		**49,078**	**100.0**																	

[1] All percentages relate to the Group's total capital expenditure.
[2] Criteria for a significant contribution to the environmental objective not yet defined.

OPERATING EXPENDITURE 2022

Economic activities	Code(s)	Absolute operating expenditure	Proportion of operating expenditure	Criteria for a significant contribution: Climate change mitigation	Criteria for a significant contribution: Climate change adaptation	Criteria for a significant contribution: Water and marine resources[2]	Criteria for a significant contribution: Circular economy[2]	Criteria for a significant contribution: Pollution[2]	Criteria for a significant contribution: Biodiversity and ecosystems[2]	DNSH criteria (do no significant harm): Climate change mitigation	DNSH criteria (do no significant harm): Climate change adaptation	DNSH criteria (do no significant harm): Water and marine resources	DNSH criteria (do no significant harm): Circular economy	DNSH criteria (do no significant harm): Pollution	DNSH criteria (do no significant harm): Biodiversity and ecosystems	Minimum safeguards	Taxonomy-aligned proportion of operating expenditure 2022	Taxonomy-aligned proportion of operating expenditure 2021	Enabling activities category	Transition activities category
		€ (m)	%[1]	%[1]	%[1]	%[1]	%[1]	%[1]	%[1]	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%[1]	%[1]	E	T
A. Taxonomy-eligible activities																				
A.1 Environmentally sustainable activities (taxonomy-aligned)																				
Manufacture of low-carbon technologies for transport	3.3	4,922	42.7	42.7	–	–	–	–	–		Y	Y	Y	Y	Y	Y	42.7	32.7	E	
Manufacture of equipment for the production and use of hydrogen	3.2	4	0.0	0.0	–	–	–	–	–		Y	Y	Y	Y	Y	Y	0.0	–	E	
Operating expenditure for environmentally sustainable activities (taxonomy-aligned) (A.1)		**4,926**	**42.7**	**42.7**	**–**	**–**	**–**	**–**	**–**								**42.7**	**32.7**		
A.2 Taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned activities)																				
Manufacture of low-carbon technologies for transport	3.3	6,269	54.4																	
Manufacture of other low-carbon technologies	3.6	199	1.7																	
Close to market research, development and innovation	9.1	–	–																	
Operating expenditure of taxonomy-eligible but not environmentally sustainable activities (not taxonomy-aligned activities) (A.2)		**6,469**	**56.1**																	
Total (A.1 + A.2)		**11,395**	**98.9**																	
B. Taxonomy-non-eligible activities																				
Operating expenditure for taxonomy-non-eligible activities (B)		131	1.1																	
Total (A + B)		**11,525**	**100.0**																	

[1] All percentages relate to the Group's total operating expenditure.
[2] Criteria for a significant contribution to the environmental objective not yet defined.