# Volkswagen AG - Water Security 2021

## W0. Introduction

### W0.1

**(W0.1) Give a general description of and introduction to your organization.**

The Volkswagen Group with its headquarters in Wolfsburg is one of the world's leading automobile manufacturers and the largest carmaker in Europe. The Group aspires to offer attractive, safe and eco-friendly vehicles that set the global benchmark in their respective classes. In 2020, the number of Group vehicles delivered to customers was 9.31 million (2019: 10.98 million) . The share of the world passenger car market amounts to 13.0% (12.9% in 2019). Group sales revenue in 2020 totaled € 222,884 million (2019: € 252,632 million), while earnings after tax amounted to € 8,824 million (2019: € 14,029 million)

The Group comprises twelve brands from seven European countries: Volkswagen Passenger Cars, Audi, SEAT, ŠKODA, Bentley, Bugatti, Lamborghini, Porsche, Ducati, Volkswagen Commercial Vehicles, Scania and MAN. The product spectrum ranges from motorcycles to low consumption small cars and luxury vehicles. In the commercial vehicle sector, the products include ranges from pick-ups, buses and heavy trucks.

In addition, the Volkswagen Group offers a wide range of financial services, including dealer and customer financing, vehicle leasing, banking and insurance activities, and fleet management. With MOIA, we have established our own company for new mobility solutions. Furthermore, the new Group subsidiary Elli ("Electric Life") is now offering a nationwide green electricity tariff. Elli's first product is called Volkswagen Naturstrom®. The Elli company has set itself the goal of digitally connecting the topics of energy and mobility. This is based on the conviction that electric mobility is only truly sustainable if the e-vehicle is operated using energy generated without CO2.

The Group operates 118 production plants worldwide with around 665,445 employees (2019: 667,447 employees). The Volkswagen Group markets its vehicles in 153 countries.

The future program TOGETHER Strategy 2025+, the biggest change process in the history of Volkswagen, aims to make a significant contribution to achieving a reality in which mobility has fewer negative environmental impacts, and to attaining the United Nations' Sustainable Development Goals (SDGs). Our goal is to become a role model for environmental protection. We believe the transformation of our core business is the right way to meet these objectives. Under the new vision "Shaping mobility - for generations to come." We are providing answers to the challenges of today and tomorrow with our TOGETHER 2025+ Group Strategy. Our goal is to make mobility sustainable for us and for future generations.

The Volkswagen Group has set milestones in all areas to be achieved in the coming years on the road to complete decarbonisation by 2050. Volkswagen is thus fully committed to the Paris climate agreement targets. Our 2025 target is to reduce the CO2 footprint of the vehicle fleet by 30% across the lifecycle compared to 2015. Volkswagen is therefore electrifying the vehicle portfolio, with investment in this area alone amounting to more than €35 billion by 2025. The share of electric vehicles in the Group fleet is to rise to at least 40% by 2030. At the same time, greenhouse gas emissions in production are to be cut by 30% by 2030 compared with 2018. As part of our electrification offensive, we aim to offer our customers world-wide around 70 completely battery electric vehicles, of which production of approximately 20 models has already started. In addition, around 60 hybrid models are planned by 2030, just over half of which are already in production. By 2030, the Volkswagen Group aims to have electrified its entire model portfolio. As a result, the projected number of vehicles to be built on the Group's electric platforms in the next decade will increase from 15 million to 22 million. Expanding e-mobility is an important building block on the road to a CO2-neutral balance.

In September 2020 the target validation team of the Science Based Target Initiative (SBTI) has classified our company's scope 1 and 2 target ambition and has determined that it is in line with a well-below 2°C trajectory.

As per our Mission Statement Environment, for all our products and mobility solutions we aspire to minimise environmental impacts along the entire life cycle – from raw material extraction until end-of-life - in order to keep ecosystems intact and to create positive impacts on society. Compliance with environmental regulations, standards and voluntary commitments is a basic prerequisite of our actions.

The topic "Resources" is one of four prioritized action areas. Herein, we intend to maximize resource efficiency and promote circular economy approaches in the areas of materials, energy and water. By 2025, we plan to have reduced the production-related environmental externalities (CO2, energy, water, waste, volatile organic compounds) by 45% per vehicle compared to 2010.

### W0.2

**(W0.2) State the start and end date of the year for which you are reporting data.**

| | Start date | End date |
|---|---|---|
| Reporting year | January 1 2020 | December 31 2020 |

### W0.3

**(W0.3) Select the countries/areas for which you will be supplying data.**

Argentina
Austria
Belgium
Bosnia & Herzegovina
Brazil
China
Czechia
Denmark
Finland
France
Germany
Hungary
India
Italy
Malaysia
Mexico
Netherlands
Poland
Portugal
Russian Federation
Slovakia
South Africa
Spain
Sweden
Switzerland
Thailand
Turkey
United Kingdom of Great Britain and Northern Ireland
United States of America

## W0.4

**(W0.4) Select the currency used for all financial information disclosed throughout your response.**

EUR

## W0.5

**(W0.5) Select the option that best describes the reporting boundary for companies, entities, or groups for which water impacts on your business are being reported.**

Companies, entities or groups over which operational control is exercised

## W0.6

**(W0.6) Within this boundary, are there any geographies, facilities, water aspects, or other exclusions from your disclosure?**

Yes

## W0.6a

**(W0.6a) Please report the exclusions.**

| Exclusion | Please explain |
|---|---|
| The non-manufacturing companies (e.g. Financial Services). The reporting boundary is described in the Volkswagen standard 98000 as the whole amount of all production plants/locations of the Volkswagen Group. | The volume of water use associated with non-manufacturing processes and services is not representative/minimal when compared with the total water withdrawn in the reporting year. The exclusions can't be quantified precisely however, as there are more than 600 entities such as Financial Services and countless properties outside of the production sites. Most of the properties consist of office buildings where the main water uses are for sanitary purposes. Other properties count with workshops and car washes. . According to internal sources, approximately 132.500 employees work in properties outside of the production sites. If the average water use of one employee is set very generous to be 45 liters daily, this sums up to 9,9 m³/year for each employee, taking into account 230 working days per year. The overall water use of external employees would amount to 1371 megaliters/year. This would correspond to 3,3% of the overall freshwater withdrawal of the production sites and not significant. Therefore the reporting boundary for water accounting is the amount of all production sites of the Volkswagen Group, as defined in the Volkswagen standard 98000. |

# W1. Current state

## W1.1

### (W1.1) Rate the importance (current and future) of water quality and water quantity to the success of your business.

| | Direct use importance rating | Indirect use importance rating | Please explain |
|---|---|---|---|
| Sufficient amounts of good quality freshwater available for use | Vital | Vital | Direct: E.g. paint shop, cooling and employees use freshwater. Therefore the importance is considered as vital. The required water quality can vary depending on what it is used for: higher quality water can be produced on-site. To save energy, chemicals and equipment we prefer water sources with good or high quality. Since 2010 we are reducing water consumption through our company-wide goals permanently. Given our growing production figures and the integration of new sites in recent years, our Group's absolute fresh water use has increased in recent years. However, the amount of freshwater used per vehicle fell by 17.7% per vehicle from 2010 to 2020 – thanks to a range of recycling measures and the introduction of manufacturing processes requiring less water. This trend is going to continue in future due to constant implementation of new water reducing technologies. In the medium term it is our goal, that the water consumption will be by 3 m³/veh. company-wide. However, it will continue to be a vital input for production. Indirect: Water is a key factor for many processes in our supply chain (e.g. cooling, metal production). Our life cycle analysis results show that over 50% of total water use in the vehicle life cycle takes place in the upstream value chain. We therefore see this aspect as vital. We address the challenge of sustainable water use in the supply chain, inter alia, by requesting relevant suppliers to report on water via the CDP Supply Chain Program. Future trends: Due to new technologies water demand will be reduced in the supply chain. Rising prices and shortage of water resources will push this trend forward, but water availability in the supply chain will continue to play a vital role in the future |
| Sufficient amounts of recycled, brackish and/or produced water available for use | Not very important | Not very important | Direct: The use of recycled water in our production is not that high, so "not important" was chosen. Water is one relevant world risk, therefore we focus in water stress regions on recycling water and wastewater. Through these projects and exchange of technologies via internal networks an increase in recycling is aimed for. Recycled or brackish water can be an alternative in water stress areas (less freshwater dependency). If in the future resources get scarce and competition (farming, population) tighter, higher investigations in new equipment and higher energy demand per vehicle are required. For sites at the sea, seawater desalination could be an option; otherwise the effluent of the wastewater treatment plant (WWTP) can be recycled. This means that in the future the importance could rise. In our supply chain (indirect), water quantity is more important than quality for several processes (mining, rubber farming). So, recycled, brackish or produced water can be used instead of freshwater. Since in the supply chain usually freshwater is used, "not very important" was chosen. In the future, in analogy to our direct operations, recycled or produced water may become more important for our supply chain as an alternative to freshwater in locations with reduced water availability. |

## W1.2

### (W1.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?

| | % of sites/facilities/operations | Please explain |
|---|---|---|
| Water withdrawals – total volumes | 100% | For all production sites annual data are collected in our own company-wide IT-system for recording and reporting of environmental indicators. This includes water-related key performance indicators such as water withdrawals, water discharges and water recycled. All methods are listed in the Volkswagen norm 98000. 91% of the total volume is measured directly: one part of the required freshwater is provided by external suppliers and Volkswagen is charged by the amount used. The other part is supplied by our own wells. In each case Volkswagen is obligated to report the amount of water abstraction to ensure the existing permit is fulfilled and the corresponding fees are paid. The remaining 9% of the total amount are calculated, since the amount of collected rain and surface water on Volkswagen owned properties cannot be measured exactly. The flow rate is measured continuously with analog or digital measurement methods depending on the medium |
| Water withdrawals – volumes by source | 100% | According to the environmental data collected annually for several reports the freshwater is provided from: • municipality/externals • rainwater • groundwater • surface water. Although we are not able to directly measure 100% of our freshwater withdrawals, the classification of the water sources can be assigned by 100%. The flow rate is measured continuously with analog or digital measurement methods depending on the medium. For all production sites annual data are collected in our own company-wide IT-system for recording and reporting of environmental indicators. This includes water-related key performance indicators as water withdrawals, water discharges and recycled water. |
| Entrained water associated with your metals & mining sector activities - total volumes [only metals and mining sector] | <Not Applicable> | <Not Applicable> |
| Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector] | <Not Applicable> | <Not Applicable> |
| Water withdrawals quality | 100% | 100% of the water withdrawals quality is measured and monitored (at the very least annually but generally more frequently), either by external suppliers or internally by Volkswagen. External suppliers: Reports for quality provided (e.g. Harzwasser = water from German Harz region, monthly) in accordance to the national & international standards (e.g. German Drinking Water Regulation). e.g. Harzwasser analysis incl. 67 parameters: • general description (i.a. t, odor, pH value) • bacteriological tests • main parameters (i.a. Na, K, Mg, P, TOC) • disinfectant • trace substances (i.a. AOX, Al, Pb) Internal suppliers: analysis for quality in internal or external laboratories corresponding to national & international standards. The testing is done on regular basis (at least annually but generally more frequently) depending on the parameter & as frequently as required by local regulations. For design, dimensioning or operation of a plant analyses needed are carried out by our employees. |
| Water discharges – total volumes | 76-99 | The water discharge data are also collected annually within the query of the environmental data. In the reporting year 60,3% of water discharges were measured directly. In comparison to last year the measured amount decreased. Method: The flow rate is measured continuously with analog or digital measurement methods. These data are collected in our company-wide IT-system. The remaining 33,3% of wastewater discharges are calculated annually by freshwater input. The sum of measured and calculated is 93,6%. There is no need at Volkswagen sites to directly measure the water discharge in case of 1) the municipality using a freshwater consumption and a factor to calculate wastewater charges; 2) wastewater charges according to the permit are calculated using other parameter (e.g. COD or BOD load per year); 3) Factories with indirect discharge often have a variety of outflows, which makes monitoring/measuring difficult. In these three cases a calculation for the water discharges is used. |
| Water discharges – volumes by destination | 100% | Every year within the environmental data collection the destination of the wastewater streams is reported. The Volkswagen sites can either have a “direct” or “indirect” discharge of wastewater. In the case of indirect discharge, the treatment is done in the municipal wastewater treatment plant. For direct discharge the wastewater is treated in our own facilities. After treatment the wastewater is discharged to the closest receiving water body. The wastewater destination is reported by the production sites to 100% in the annual query. We either measure flows directly, where required, or undertake a qualified estimate/extrapolation based on site withdrawal data and consumption reference values. If the flow rate is measured, it is done continuously with analog or digital measurement methods depending on the medium. For all production sites the data are collected annually in our own company-wide IT-system for recording and reporting of environmental indicators. |
| Water discharges – volumes by treatment method | 76-99 | STo collect the 2020 reporting data, all Volkswagen production sites were asked to disclose the percentage of each treatment level at their site using a questionnaire. The amount of wastewater per treatment method was then calculated for each site using the indicated percentage multiplied with the total discharge volume of that site. This value is known from the annual collection of the environmental data in our company-wide IT-system (see “Water discharges – total volume). Once the site-specific values were known, they were summed up to give a substantiated answer on Volkswagen Group level. |
| Water discharge quality – by standard effluent parameters | 76-99 | Characteristic parameters like COD, N, P, Ni are reported by production sites annually with the environmental data query. For the reporting year 98,7% of the parameters got measured; mostly at sites that discharge directly to a receiving water body. We don't monitor 100% because: 1) Sites with indirect discharge are often not obliged to measure the parameters (depending on national law), where it is sufficient to monitor the amount of wastewater to be treated by the municipal WWTP. Industrial wastewater after pre-treatment (in accordance with national law) is measured and monitored throughout . 2) Small sites which have only sanitary wastewater are sometimes not obliged to measure the parameters (national law). All norms are covered by the VW standard 98000 referring to international standards. e.g. COD (DIN 38409-41; ISO 6060). Frequency according to the national law and as often as necessary for the operation of the wastewater treatment plants (at least 3 times a week up to daily) |
| Water discharge quality – temperature | Not relevant | For Volkswagen the temperature of water discharge is not a relevant parameter (especially in production). In the vehicle production processes with hot wastewater don't exist since the heat is recovered within the processes. In the mechanical processing hot formed or hardened parts are cooled by oil; no water is used. The heat of the process bath is kept in the system using heat exchangers. Evaporators for emulsion separation work also with a heat recovery system. Only a few production sites (under 10) have legal restrictions regarding the temperature, so temperature is measured continuously at these sites. 100% of the sites with direct discharge are measuring the temperature, because this parameter is used to control the process of the biological WWTP. We do not expect a change of relevance in the future based on the insights we have at this point. |
| Water consumption – total volume | 100% | Within the automobile production only a few liquids (e.g. washing water for the car windscreen) leave the production site; added up this water consumption is far less than 1% of our water withdrawals. Evaporation is the most important factor regarding the water consumption. Definition/method: Water consumption is calculated by using the formula: Total input minus total outflow equals the water amount evaporated (e.g. due to cooling processes). The water evaporating at each production site is not measured but calculated with the described formula. By this we have an estimation for 100% of our production sites and know how much water the sites consume. This calculation is done once a year for the annual reports. |
| Water recycled/reused | 51-75 | Environmental data including water recycled, etc. are collected annually for several reports (annual report, sustainability report, CDP, WDP) according to internal Volkswagen and GRI standards. 75% of the recycled water is measured and monitored. The amount of water that is being recycled or reused is determined by the GRI standards. This means that one part of the recycled water is measured directly (11%); the other is calculated (64%) depending on the production process cycles of the different plants. The missing amount of the total volume is estimated by qualified approximations (e.g. recycling water used for toilet flushing). If the flow rate is measured, it is done continuously with analog or digital measurement methods depending on the medium. These data are collected annually in a company-wide IT-system. |
| The provision of fully-functioning, safely managed WASH services to all workers | 100% | Volkswagen is not participating in the WASH initiative yet. However, all Volkswagen sites (100%) are offering sufficient supply with sanitary facilities to all their employees. This is covered by using internal standards for planning (allocation formula) new production sites and halls or extension/remodelling of existing facilities. Chapter 1.7 of our Social Charter states in case of Occupational Safety and Health Protection: Volkswagen meets at least the respective national standards for a safe and hygienic working environment and in this context will undertake appropriate measures to assure health and safety in the work place so that healthy employment conditions are assured. Method: Our mandatory requirements regarding sanitary facilities are continuously monitored by our Health & Safety management system, covering all sites. |

## W1.2b

### (W1.2b) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, and how do these volumes compare to the previous reporting year?

| | Volume (megaliters/year) | Comparison with previous reporting year | Please explain |
|---|---|---|---|
| Total withdrawals | 41754 | Lower | Total water withdrawals decreased by 11.4% over the last reporting year as production volume lowered due to less market demand and challenges in the supply of certain parts during the worldwide COVID-19 pandemic. Since 2010 we are reducing our specific water consumption per vehicle produced through our company-wide environmental goals permanently. The trend of decreasing the specific water demands is going to continue in future due to the constant implementation of new water reducing technologies. Due to investments at new production sites and the production lines the water consumption decreases further company-wide. Outlook: As a medium-term goal it is expected that the specific water consumption per vehicle will be reduced company-wide to 3 m³/vehicle, meaning that total water withdrawals should decrease further company-wide as well. Of note: For all questions in the entire report asking for a "Comparison with previous reporting year" the graduation is done as following: • less than -20% much lower • -20% to -5% lower • -5% to +5% about the same • 5% to 20% higher • more than 20% much higher |
| Total discharges | 25786 | Lower | Total discharges resulted 13.8 % lower than in the last reporting year. As less water was withdrawn and used in the production due to the Covid-19 pandemic, less water was discharged. The ratio of discharges to withdrawals was nearly constant compared to the last reporting year (2019: 0.63, 2020: 0.62) Outlook: The permanent implementation of new water reducing technologies and the aim to recycle as much water as possible (within the process as well as the effluent of the wastewater treatment plants) is going to reduce the water discharge step by step in the next years company-wide. |
| Total consumption | 15967 | Lower | Water consumption for Volkswagen is mainly constituted by evaporation losses. During our production process water is evaporating in several processes (e.g. cooling systems, electricity generation), a direct measurement of the evaporation in our production process is not feasible. Therefore, the total water consumption figure was calculated with the available data (sum of the total water withdrawal minus the sum of the total water discharge). The total consumption is not directly related to the water withdrawals or the water discharges. Due to the fact that a high amount of the total consumption is related to the evaporation of the cooling systems and production facilities, this amount will remain more or less the same in the future, if there are no changes in the production processes. This year's reduction of the water consumption by 7.0% is closely related to the decrease of overall production processes due to the Covid-19 pandemic and thus the lower demand of cooling water and electricity). Outlook: In the future evaporation and the total consumption of water will be further reduced through the implementation of new production technologies such as the dry paint separation in the paint shop. |

## W1.2d

### (W1.2d) Indicate whether water is withdrawn from areas with water stress and provide the proportion.

| | Withdrawals are from areas with water stress | % withdrawn from areas with water stress | Comparison with previous reporting year | Identification tool | Please explain |
|---|---|---|---|---|---|
| Row 1 | Yes | 26-50 | About the same | Other, please specify (Maplecroft Water Risk Index) | In 2020 the share of water withdrawn from water stressed areas decreased to 41% in comparison to 42% in 2019. This development mirrors our effort to continuously enforce our water management activities (e.g. increased recycling, accelerated shift to waterless processes etc.) at our production sites, especially those located in areas suffering from water stress. In 2020, 47 of our production sites were situated in water stressed areas (2019: 46). The total withdrawal of water from stressed areas lowered significantly by 13% in comparison with the last reporting year, however most of this effect must be assigned to reduced production capacity as the pandemic Covid-19 struck the worldwide economy (compare with W1.2b, total withdrawal lowered by 11.4% as well). In order to classify local risks, the Maplecroft risk index tool was chosen, because of the detailed data which makes it possible to receive individual information for extreme local issues like water. The risk index represents the ratio between water withdrawals and water regeneration. The result is multiplied with a factor of ten. So zero (0) represents areas of extreme water stress and ten (10) areas without water stress. The Water Stress Index pinpoints areas of water stress down to 10km² worldwide and was developed for companies to identify risk of water interruptions to supply chains, operations and investments. For the selection of sites in water stress areas, we have included all sites in areas with a water risk index of 0-2,5 (extreme risk, Volkswagen sites e.g.: Kariega (Uitenhage), Puebla, Pune, Ankara) and 2,5-5 (high risk, Volkswagen sites e.g.: Pamplona, Chengdu, Osnabrück). We then have determined the share of water withdrawals of these sites compared to the Group's global value. We take action towards a sustainable water management at these sites. The tool WRI Aqueduct is used to analyse the future development of our production sites. Volkswagen is investigating in new technologies that have the potential to reduce water consumption and is increasing the activities with local authorities (e.g. reforestation of 750 hectares in Iztaccíhuatl-Popocatépetl National Park). There is still enough to be done before the water stress is reduced in the suffering regions. Water stress for Volkswagen is defined in dependence of Maplecroft. |

## W1.2h

### (W1.2h) Provide total water withdrawal data by source.

| | Relevance | Volume (megaliters/year) | Comparison with previous reporting year | Please explain |
|---|---|---|---|---|
| Fresh surface water, including rainwater, water from wetlands, rivers, and lakes | Relevant | 1184 | Higher | While the total water withdrawal in 2020 was lower than in 2019 (see reasoning above), withdrawal of fresh surface water increased about 9% compared to the last reporting year, accounting for 3% of the total water withdrawal (2019: 2%). Explanation: Several sites count with both the provision of fresh surface water as well as water from 3rd party. They might prefer to have used their full capacity of fresh surface water prior to the use of 3rd party supplied water, as it is more cost efficient. If rich aquifers do not exist in certain regions, fresh surface water is needed to supply fresh water to all consumers in the region including the industry. Without the fresh surface water only limited operation would be possible (back-up by own wells cannot provide the water demand needed for full operation). With all the new water saving technologies, the aim to recycle as much water as possible, and the use of brackish water as an alternative, the demand will decrease in the future. |
| Brackish surface water/Seawater | Not relevant | <Not Applicable> | <Not Applicable> | Not used by Volkswagen and therefore not relevant. We do not have any production site directly at the seaside, so neither brackish surface water nor seawater is available to be used at the production sites. If the freshwater resources get scarce and the competition between industry, agriculture and the population is going to increase, brackish surface water could in future be an alternative to produce fresh water even for the inland regions of sea access countries. |
| Groundwater – renewable | Relevant | 10900 | About the same | As mentioned above, total water withdrawal in 2020 resulted 11% lower than in 2019. Withdrawal of renewable groundwater also decreased about 1% in comparison to the previous reporting year. Since the reduction was smaller as in overall withdrawal, the share of renewable groundwater in the total withdrawal increased from 23% to 26%. Explanation: Several sites count with both the provision of ren. groundwater as well as water from 3rd party supply. They might have preferred to use their full capacity of renewable groundwater prior to the 3rd party supplied water, as it is more cost efficient. Groundwater aquifers are the most important fresh water resource all over the world. Our production sites rely on groundwater partly as a main source (external supplier) or as a back-up solution (own wells). With all the new water saving technologies, the aim to recycle as much water as possible, and the use of brackish water as an alternative, the groundwater demand will decrease in the future. |
| Groundwater – non-renewable | Not relevant | <Not Applicable> | <Not Applicable> | Not used at Volkswagen. Due to the value and the extreme long regeneration time of non-renewable groundwater sources it is not planned to use this source at any time now or in the future. |
| Produced/Entrained water | Not relevant | <Not Applicable> | <Not Applicable> | Not used at Volkswagen. To supply our employees with a sufficient amount of sanitary water for all personal needs (shower, washing and canteen) fresh water is necessary in high quality. After usage the sanitary water is treated in our biological WWTP and we are able to produce sufficient amounts of recycling water for the production processes by ourselves. In the production processes we produce all kinds of water qualities and recycle as much as possible within our own production. If necessary, fresh water is used to fill the gap between internal recycled water and the water demand of the factory (sanitary and industrial water cycle). Therefore produced water by other industries is not used due to the low quality (sanitary water) and the availability of all water qualities within our production processes. It is expected that, because of the described reasons, Volkswagen will not use produced water from sources outside our factories in the future. |
| Third party sources | Relevant | 29670 | Lower | Total water withdrawal in 2020 resulted 11% lower than in 2019. Fresh water demand from third party sources lowered even more (15%) compared with the last reporting year. The share of third party supplied water in total withdrawal thus decreased from 74% to 71%. Fresh water sourced by third parties, such as local municipal suppliers, stays the most important water source up to date as it meets the requirements of the national water legislation ensuring a quality sufficient for human needs and also suitable for up-cycling processes (e.g. production of demineralized water for paint shop). However, third party supplied water is relatively expensive when compared to the usage of our own groundwater wells or surface water, which may explain the overproportional decrease in the last reporting year . With all the new water saving technologies, the aim to recycle as much water as possible, and the use of brackish water as an alternative, the demand will decrease further in future. |

## W1.2i

### (W1.2i) Provide total water discharge data by destination.

| | Relevance | Volume (megaliters/year) | Comparison with previous reporting year | Please explain |
|---|---|---|---|---|
| Fresh surface water | Relevant | 7632 | Lower | -14% less discharge to receiving water bodies (= fresh surface water) than in the last reporting year. This decrease is mainly due to less withdrawal (compare with W1.2b). Other aspects are leakages in the piping system, maintenance of machinery and the implementation of new technologies/processes (test phase). All production sites with an own biological wastewater treatment plant discharge directly (except China) to the receiving water body (= fresh surface water). The permanent implementation of new water reducing technologies and the aim to recycle as much water as possible (within the process as well as the effluent of wastewater treatment plants) is going to reduce the water discharge step by step in the next years company-wide. |
| Brackish surface water/seawater | Not relevant | <Not Applicable> | <Not Applicable> | Not used by Volkswagen since no factory is situated directly by the sea. There will be no change in the future because new factories are not planned directly by the seaside. |
| Groundwater | Not relevant | <Not Applicable> | <Not Applicable> | Not used by Volkswagen. Treated as well as pretreated wastewater is not sent directly to the groundwater, because groundwater bodies are large and good quality water storages. In the case of an emergency at the WWTP wastewater with no sufficient treatment and quality would reach the groundwater body and pollute large water storages. It takes groundwater bodies a long time to recover from pollution compared with surface water bodies. This is due to their direct interaction with the atmosphere. Because of that and legal requirements no wastewater is sent to the groundwater. This will not change in the future. |
| Third-party destinations | Relevant | 18154 | Lower | -14% less discharge to third party destinations than in the last reporting year. This decrease is mainly due to less withdrawal (compare with W1.2b). Other aspects are leakages in the piping system, maintenance of machinery and the implementation of new technologies/processes (test phase). All wastewater produced in the production is pre-treated depending on the pollution (e.g. ultrafiltration, evaporation or physico-chemical treatment) and either treated in an own biological wastewater treatment plant, or discharged and afterwards treated with the sanitary wastewater in a municipal wastewater treatment plant (indirect discharge, equals a third-party destination, therefore this destination is relevant for Volkswagen). With all the activities to reduce the water consumption within the production and the aim to recycle as much water as possible the water discharge will decrease further over the next years. |

## W1.2j

**(W1.2j) Within your direct operations, indicate the highest level(s) to which you treat your discharge.**

| | Relevance of treatment level to discharge | Volume (megaliters/year) | Comparison of treated volume with previous reporting year | % of your sites/facilities/operations this volume applies to | Please explain |
|---|---|---|---|---|---|
| Tertiary treatment | Relevant | 10716 | Lower | 41-50 | 37 sites indicated that they treat their wastewater to a tertiary level including elimination of CSB, Phosphorus and Nitrogen, e.g. with a membrane bio reactor (MBR). Out of that number, 13 sites are discharging the wastewater afterwards to a receiving water body. The other sites either discharge their treated wastewater to a municipal WWTP or reuse the water in cooling towers, toilet flushes or irrigation (e.g. sites Pune, Foshan an Chengdu). The amount of tertiary treated wastewater declined in comparison with the previous reporting year, as the total wastewater discharge declined as well due to lower production capacity/Covid-19 pandemic. |
| Secondary treatment | Relevant | 2534 | Much lower | 1-10 | Most of the sites that treat their wastewater to a secondary level within the plant discharge it afterwards to a municipal WWTP. Only two sites reported that they discharge their wastewater after secondary treatment to a receiving water body, which is in accordance with the local operating concession. Some implemented treatment methods include ultrafiltration of oily wastewater, neutralisation of acidic or alkaline wastewater, coagulation and flotation of heavy metals for wastewater from coating lines, ion exchange of heavy metals for wastewater from coating lines, sludge removal via chamber filter presses. The amount of secondary treated wastewater declined in comparison with the previous reporting year, as the total wastewater discharge declined as well due to lower production capacity/Covid-19 pandemic. |
| Primary treatment only | Relevant | 1656 | Lower | 1-10 | The wastewater streams treated on a primary level on site are afterwards completely being handed over to a municipal WWTP. There are no streams that are directed to the natural environment after primary treatment. Some implemented treatment methods include sieves, grease separators, neutralization of pH or a chemico-physical precipitation of heavy metals. The amount of primary treated wastewater declined in comparison with the previous reporting year, as the total wastewater discharge declined as well due to lower production capacity/Covid-19 pandemic. |
| Discharge to the natural environment without treatment | Relevant | 263 | Much lower | 1-10 | In general, wastewater from the Volkswagen sites is not discharged to the natural environment without treatment. The only exception is cooling water from one site, which is discharged directly back to the river after use because it is only changed in temperature. This is in accordance with the sites local concession. The amount of cooling water that was discharged to the natural environment without treatment declined in comparison with the previous reporting year, as the production capacity in 2020 lowered significantly in comparison with 2019 and the demand was lower. |
| Discharge to a third party without treatment | Relevant | 10498 | Lower | 41-50 | The vast majority of our production sites is discharging their wastewater to third parties. The indicated volume in this row is only referring to wastewater that is being handed over to a 3rd party without pretreatment on site. A great amount of wastewater though is treated at least to a primary level on site before being handed over to a municipal WWTP, at some plants (e.g. China) the wastewater even undergoes tertiary treatment before it is discharged to the municipal WWTP/3rd party. Those wastewater streams are listed in the corresponding rows as primary, secondary, tertiary treatment. The amount of wastewater classified as "discharge to 3rd party without treatment on site" declined in comparison with the previous reporting year, as the total wastewater discharge declined as well. |
| Other | Relevant | 119 | Much lower | Less than 1% | Two sites didn't disclose their treatment level which is why they are listed as "other". Two sites indicated that a small proportion of their wastewater is classified as hazardous waste and handed over to a qualified vendor. One site indicated that a small proportion of their wastewater is classified as waste and handed over to the municipal digestion tower. The discharge amount classified as "Other" declined in comparison with the previous reporting year, as the total wastewater discharge declined as well. |

## W1.4

**(W1.4) Do you engage with your value chain on water-related issues?**

Yes, our suppliers

Yes, our customers or other value chain partners

## W1.4a

**(W1.4a) What proportion of suppliers do you request to report on their water use, risks and/or management information and what proportion of your procurement spend does this represent?**

**Row 1**

**% of suppliers by number**
76-100

**% of total procurement spend**
76-100

**Rationale for this coverage**
All (100%) of our suppliers are required to answer a sustainability questionnaire which contains questions concerning environmental management, CO2, water and waste. Furthermore, we request 239 relevant suppliers with a high contribution to our upstream environmental impact to report in detail on Water Security via the CDP Supply Chain Program. This alone equates to 63% of our production-related procurement spending (excluding services, Volkswagen Brazil and Scania). The 239 selected suppliers deliver a majority of the materials with the highest share of material emissions. There are incentives for suppliers to report in order to be acknowledged as potential partners for innovative cooperation projects. The supply chain, in particular obtaining and processing raw materials, is responsible for the major proportion of our water use, which is why supplier assessment is vital to improve our water consumption.

**Impact of the engagement and measures of success**
>13.000 suppliers submitted a questionnaire in 2020 and 1,369 suppliers improved their sustainability performance. 65% of our 2,000 highest revenue suppliers documented that they have a certified environmental management system in accordance with ISO 14001 and/or EMAS. We use the responses to these self-assessments to help identify ways to enhance sustainability performance, and communicate the latter to our suppliers. In 2020, we surveyed 239 suppliers as part of the CDP Water Supply Chain Program. That covers >63% of our production related procurement spending. Suppliers are asked to report water figures, management practices, exposure to water risks, presence in water stress areas etc. We analyze the responses in order to select suppliers for our business. We measure the response rate and the average scoring level attained as measures for success. We achieved an above-average response rate and thus are able to cover 63% of production-related procurement spending.

**Comment**
We sharpened the scope and approach of our supplier self assessment. In the questionaire we query various sustainability topics and suppliers must present documents as proof of their answers. This new self-disclosure is an industry standard also used by other OEMs. Additionally, we have reported a cumulative figure for the number of suppliers assessed, whereas the figure now is an annual figure

## W1.4b

**(W1.4b) Provide details of any other water-related supplier engagement activity.**

**Type of engagement**
Innovation & collaboration

**Details of engagement**
Educate suppliers about water stewardship and collaboration

**% of suppliers by number**
76-100

**% of total procurement spend**
76-100

**Rationale for the coverage of your engagement**
In 2020, 41% (around 17,1 million m³) of our entire freshwater consumption is attributable to sites located in regions, where water resources are at risk. Suppliers are often located there as well. Therefore all our suppliers are requested to minimise their impacts on the Environment. Encouraging them to minimise water usage reduces the risk of production breakdown for us as well. To facilitate ongoing supplier development, we conduct an e-learning module on sustainability available to all suppliers. We also conduct issue-specific sustainability training courses and workshops with our suppliers at selected locations. The sustainability requirements towards suppliers are specified in the Code of Conduct for Business Partners, which defines the Group's expectations regarding the way business partners act in their corporate activities. The requirements are considered a basis for successful business relations between the Volkswagen Group and its partners.

**Impact of the engagement and measures of success**
We measure the success of our supplier education measures by tracking the attendance to our programs in a given year: By the end of the reporting year, more than 11.992 suppliers – representing 17.4% of the sales revenue of suppliers of our procurement volume – had completed the e-learning module. Alongside the e-learning format, we also conduct issue-specific sustainability training courses and workshops with our suppliers. In the reporting period, this was only possible to a very limited extent. We therefore developed an online training option in order to train suppliers on our requirements and their implementation in shorter sessions. In total, the awareness of around 950 supplier personnel was raised on sustainability issues at these events. In addition, we also work with industry initiatives and in cooperation with other companies on equipping our suppliers to better manage sustainability

**Comment**
In regions with water scarcity we conduct water projects within the framework of sustainable water management with our local suppliers to improve groundwater recharge and biodiversity. Izta-Popo-Project: The project includes the reforestation of 7.5 km² of Izta-Popo hillsides and a monitoring of the local fauna, which increased the groundwater renewal. Involved in the project are Volkswagen, Volkswagen suppliers, the government and local water suppliers

## W1.4c

**(W1.4c) What is your organization's rationale and strategy for prioritizing engagements with customers or other partners in its value chain?**

Rationale:

We actively engage with customers on water-related issues. As part of our strategic stakeholder management, we have identified ten stakeholder groups in our environment. Our customers represent the innermost ring of the external stakeholder network. Stakeholder expectations of this and other groups are regularly evaluated using our dialog formats: In 2019, we launched the Volkswagen Group Stakeholder Dialog Series in Wolfsburg as a Group-wide dialog series in a conference format.

On water-related topics, we predominantly engage in active exchange with fleet customers, due to the high strategic interest we observe in this particular stakeholder group. This also is reflected in the requests by fleet customers to complete the CDP Water supply chain questionnaire, and water/effluent management is a key topic in several other supplier ratings that we undergo on behalf of fleet customers. Here, we prioritize engagement by strategic importance of the individual customers.

Measure of success:

The reputation KPI is part of the TOGETHER 2025+ Group strategy and checks the extent to which our stakeholders see Volkswagen as a trustworthy company. The indicator shows the proportion of external stakeholders who state that they trust the Volkswagen Group in the annual Group reputation survey. In 2020 the Group achieved a figure of 57% of stakeholders in Germany (34% in 2019). In the USA, the figure was 78% (2019: 55%) and in China 92% (2019: 93%). Due to Covid-19, the survey was carried out on a shortened basis in 2020. The framework required to collect valid data maintained.

The questionnaire revision implied the deletion of introductory questions that had a so-called priming-effect in the past, which is the reason for the very positive developments in Germany and the USA. As in the years before, the result in China is persistently positive. Regarding participation in customer side ratings and ranking, we track rating results as a measure of success.

## W2. Business impacts

### W2.1

**(W2.1) Has your organization experienced any detrimental water-related impacts?**

Yes

### W2.1a

**(W2.1a) Describe the water-related detrimental impacts experienced by your organization, your response, and the total financial impact.**

**Country/Area & River basin**

| | |
|---|---|
| Germany | Weser |

**Type of impact driver & Primary impact driver**

| | |
|---|---|
| Regulatory | Regulation of discharge quality/volumes |

**Primary impact**

Increased operating costs

**Description of impact**

The wastewater treatment plant at our Salzgitter site is reaching the end of its service life, leading to more frequent failure of components. Repairs are therefore becoming more frequent and less sustainable regarding the success. Due to deficits and failures of individual parts of the wastewater treatment plant, discharge quality parameters (phosphorus parameter and pH values) were exceeded in 2020. pH exceedances were caused by the heavy sludge of the maturation pond in the summer months. There were no penal consequences, however, additional short-term repairs were necessary, e.g. mud removal from the maturation pond and establishment of duckweed, thus increasing the operating costs. Only a small amount of water was produced during the temporary plant closure due to Covid-19 lockdown. The wastewater plant was not operated during that time in order to prevent the receiving water from drying out. Scale of impact: Immediate impacts were not significant. Medium-term impacts caused by a potential new construction of the WWTP however are significant on a site level with costs of around € 4 million.

**Primary response**

Improve maintenance of infrastructure

**Total financial impact**

110000

**Description of response**

The primary response was the implementation of short-term repair and maintenance measures. For instance, the maturation ponds were de-sludged to prevent pH parameter exceedance (€ 100,000). Potable water was used for the cooling tower for 4 weeks which amounted to € 10,000. We have stated the total figure of € 110,000 above. As a medium-term remedy, internal pre-authorization was granted for a completely new construction of the WWTP (€ 4.05 million), which should be carried out in the following years.

**Country/Area & River basin**

| | |
|---|---|
| China | Other, please specify (Xiangjiang) |

**Type of impact driver & Primary impact driver**

| | |
|---|---|
| Physical | Other, please specify (water leakage) |

**Primary impact**
Increased operating costs

**Description of impact**
There has been a long-term water leakage of buried fire-fighting pipelines in Changsha, one of the production site of the Joint Venture between Volkswagen and SAIC Motor. The leakage has led to increased water consumption and thus, increased water bills. The unit price of tap water at the Changsha plant is 4 yuan/m³. After repairing the identified leaks, the current factory still has a daily leakage of about 750m³/day. In the whole year, the cost of tap water caused by water leakage is ¥1,080,000 (€138,780). In the medium-term, the fire-fighting pipeline need to be rebuilt in order to stop the leakage completely. The cost for rebuilding of pipelines is estimated to be ¥3 million Yuan (€385,500) and represents a significant cost.

**Primary response**
Improve maintenance of infrastructure

**Total financial impact**
524280

**Description of response**
The primary response was the implementation of short-term repair and maintenance measures. However, our suppliers continue to find leaks. The amount of leaked water is monitored daily and technical support is seeked out: The unit price of tap water at the Changsha plant is 4 yuan/m³. After repairing the identified leaks, the current factory still has a daily leakage of about 750m³/day. In the whole year, the cost of tap water caused by water leakage is 1,080,000 yuan (€138,780). In the medium-term, the fire-fighting pipeline need to be rebuilt in order to stop the leakage completely. The cost for rebuilding of pipelines is estimated to be ¥3 million (€385,500) and represents a significant cost. The total cost for water leakage and rebuilding of pipelines amounts to €524,280. This number is stated above.

**Country/Area & River basin**

| | |
|---|---|
| Spain | Other, please specify (Arga) |

**Type of impact driver & Primary impact driver**

| | |
|---|---|
| Regulatory | Regulation of discharge quality/volumes |

**Primary impact**
Increased operating costs

**Description of impact**
The fluoride discharge value for the chemico-physical wastewater treatment plant (WWTP) in the production site of Pamplona was recently tightened by local authorities who implemented the new European legislation standard STS BREF. The STS BREF allows for a range of 2-25 mg/l as discharge value for fluoride. The authorities set a strict value of 10 mg/l as a new discharge limit for fluoride, which led to an exceedance in 2020. In order to comply with the new discharge limit, the application of an expensive treatment chemical is necessary, doubling the operating costs of the WWTP.

**Primary response**
Comply with local regulatory requirements

**Total financial impact**
100000

**Description of response**
The primary response was an effectiveness test of a new chemical to decrease the fluoride value in the wastewater that proved to be successful. Furthermore, Volkswagen is now negotiating with the local authorities to change the discharge limit within the ample scope of the STS BREF, taking into account environmental as well as economic consequences. No environmental harm is to be expected by this, as the wastewater leaving the productions site undergoes further treatment in the municipal WWTP, where the fluoride is removed. The financial impact for the cost of response totals €100.000/year for the use of the new treatment chemical and is significant for the OPEX, as it is an annually reoccurring cost.

## W2.2

**(W2.2) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?**
Yes, fines, enforcement orders or other penalties but none that are considered as significant

## W2.2a

**(W2.2a) Provide the total number and financial value of all water-related fines.**

**Row 1**

**Total number of fines**
1

**Total value of fines**
200

**% of total facilities/operations associated**
1

**Number of fines compared to previous reporting year**
Lower

**Comment**
At the Audi Automobili Lamborghini plant a fine incurred for exceeding the water withdrawal limits. Due to the installation of a paint shop the water withdrawal has increased. Countermeasures for water saving are put in place and a new water withdrawal permit has been applied for. Note: Each factory is counted as one facility. Volkswagen has more than 100 factories. So, the proportion of one factory is less than 1% of the company-wide facilities. (Fines in €)

## W3. Procedures

## W3.3

**(W3.3) Does your organization undertake a water-related risk assessment?**
Yes, water-related risks are assessed

## W3.3a

**(W3.3a) Select the options that best describe your procedures for identifying and assessing water-related risks.**

**Direct operations**

**Coverage**
Full

**Risk assessment procedure**
Water risks are assessed as part of an enterprise risk management framework

**Frequency of assessment**
More than once a year

**How far into the future are risks considered?**
More than 6 years

**Type of tools and methods used**
Tools on the market
Enterprise Risk Management
International methodologies
Databases
Other

**Tools and methods used**
WRI Aqueduct
COSO Enterprise Risk Management Framework
Life Cycle Assessment
Maplecroft Global Water Security Risk Index
Internal company methods
External consultants
National-specific tools or standards
Other, please specify (GABI LCA database)

**Comment**
By promptly identifying, accurately assessing, and effectively and efficiently managing the risks and opportunities arising from our business activities we can ensure our sustainable success and the implementation of our future program TOGETHER – Strategy 2025+". Our Risk Management approach is designed to follow the standard for Risk Management Systems (RMS) and Internal Control Systems introduced by COSO. The management of water related risks is an integrative part of our RM approach.

### Supply chain

#### Coverage
Full

#### Risk assessment procedure
Water risks are assessed as part of an enterprise risk management framework

#### Frequency of assessment
More than once a year

#### How far into the future are risks considered?
More than 6 years

#### Type of tools and methods used
Enterprise Risk Management
International methodologies
Databases
Other

#### Tools and methods used
COSO Enterprise Risk Management Framework
Life Cycle Assessment
Internal company methods
Other, please specify (GABI LCA database)

#### Comment
Inclusion in Risk Management: Supply risks are identified (via the operational risk management) without delay in the procurement function through early warning systems and mitigated immediately by applying appropriate measures. In addition: One pillar of our “Sustainability in Suppliers Relations” (SiSR)–strategy is the contractually mandated integration of sustainability standards in the procurement process. These must be acknowledged by all suppliers before submitting a quotation.

### Other stages of the value chain

#### Coverage
Partial

#### Risk assessment procedure
Water risks are assessed in an environmental risk assessment

#### Frequency of assessment
More than once a year

#### How far into the future are risks considered?
More than 6 years

#### Type of tools and methods used
Enterprise Risk Management
International methodologies
Other

#### Tools and methods used
COSO Enterprise Risk Management Framework
Life Cycle Assessment
Internal company methods
Other, please specify (Stakeholder Dialogue / materiality analysis)

#### Comment
“Downstream” risks with regards to environmental issues are also covered through the risk focus area catalogue. The focus area “Risks arising from product responsibility” covers these issues. Being part of the mentioned risk focus area, we consider these risks as potential systemic risks for the group, and we cover these in the regular GRC risk monitoring and updating process, using standardized risk assessment questionnaires.

## W3.3b

### (W3.3b) Which of the following contextual issues are considered in your organization's water-related risk assessments?

| | Relevance & inclusion | Please explain |
|---|---|---|
| Water availability at a basin/catchment level | Relevant, always included | Relevance: Availability of sufficient water of a certain quality is a vital prerequisite for vehicle production, as e.g. paint shops, cooling processes and employees use freshwater. Method: The latest status as well as the future development of the fresh water availability and water scarcity (tools used: Maplecroft, WRI Aqueduct, internal company methods) is integrated in our risk management and belongs to the daily work of our facility management at each production site. Most Volkswagen sites get their fresh water from municipal suppliers. Therefore we are provided with all necessary information of the fresh water. Volkswagen is in close cooperation with these companies (e.g. LSW Energie GmbH and Co. KG for Wolfsburg site). For the water produced by our own wells Volkswagen operates a monitoring system to regularly check the water level and quality. Overall: Our Risk Management approach is designed to follow the standard for Risk Management Systems (RMS) and Internal Control Systems introduced by COSO. The management of water related risks is an integrative part of our RM approach. We cover related risks in the risk module procurement (risk of shortage of raw materials, incl. water). |
| Water quality at a basin/catchment level | Relevant, always included | Relevance: Availability of sufficient water of a certain quality is a vital prerequisite for vehicle production, as e.g. paint shops, cooling processes and employees use freshwater. Method: Most Volkswagen sites get their fresh water from municipal suppliers. Therefore, we are provided with all necessary information of the fresh water. Volkswagen is in close cooperation with these companies (e.g. LSW Energie GmbH & Co. KG for Wolfsburg site). Due to the fact that most water withdrawals are provided by external suppliers, the analysis of the water withdrawals quality is done by them. These analyses ensure that the fresh water quality parameters are in accordance to the national and international standards (e.g. German Drinking Water Regulation, Tools: national and international standards). For the water produced by our own wells Volkswagen operates a monitoring system to regularly check the water level and quality. This ensures a water quality within the legal requirements (tools: internal company knowledge: developed in stakeholder dialogue with the local government, community, NGO's and own company specific risk-questionnaire). In case of potential risks through non-compliance, plant management has to take preventive measures, and in case of relevant risks report these within the risk management framework. The global audit team also identifies cases of non-compliance and related risks, and reports these to plant management and the Group environmental protection/production unit. Our Risk Management approach is designed to follow the standard for Risk Management Systems (RMS) and Internal Control Systems introduced by COSO. The management of water related risks is an integrative part of our RM approach. We cover related risks in the risk module Sustainability (Environmental risks of operational processes/production). |
| Stakeholder conflicts concerning water resources at a basin/catchment level | Relevant, always included | Relevance: Good relations to local stakeholders and the prevention of conflicts are essential to the acceptance of our operations and to the preservation of our license to operate. This applies also to residential and business water users in vicinity of our plants. Some regions which are exposed to high water stress might get a problem due to decreasing water resources. Method: Tools: Maplecroft tool/database as well as WRI Aqueduct were used to identify the regions and sites. Volkswagen is taking countermeasures before a water problem occurs and tries to solve the water management in the identified regions in cooperation with its stakeholders. For example: Construction of rain water storage basin (Chemnitz), Groundwater project (Mexico). In addition: Our Risk Management approach is designed to follow the standard for Risk Management Systems (RMS) and Internal Control Systems introduced by COSO. The management of water related risks is an integrative part of our RM approach. We cover related risks in the risk module Sustainability (Environmental risks of operational processes/production), as well as in the risk module for legal risks. |
| Implications of water on your key commodities/raw materials | Relevant, always included | Relevance: Our LCA studies show that the supply chain, in particular obtaining and processing raw materials, is responsible for most of our water use. In order to reduce our resource consumption, we rely on environmentally friendly raw materials from renewable and non-renewable sources when manufacturing our vehicles. Wherever possible, our Group brands use renewable raw materials such as the natural fibers flax, cotton, wood and cellulose, if they comply with all the technical requirements and perform better than conventional materials over the life cycle. In addition, our strict sustainability standards naturally apply for our suppliers. Thus, we aim to avoid reputational, compliance as well as commercial risks through water-related impacts in our raw materials supply chain. Method: We observe our environmental impact over the entire life cycle and all value chain stages. This includes the manufacturing process with extraction of raw materials, manufacture of materials for the production process, the processes at our suppliers and our own production at our sites, the usage phase with vehicle emissions and necessary provision of fuel and the ultimate recycling of the vehicle at the end of its life cycle. In the next step, we identify hot spots in the life cycle and deduce suitable solutions with the greatest possible effect. We call this life cycle engineering. In line with our life-cycle approach, we involve our suppliers in our efforts to minimise our environmental impact early on. In particular, with our pioneering water footprint analysis in 2013 (tools: internal company methods; Life-cycle assessment, databases), calculated on the basis of extensive LCA data, we identified those processes and commodities that consume most water over the life cycle of a representative selection of Volkswagen brand models. To identify current developments and long-term challenges in the individual countries, we encourage dialog between our brands and regions through the Sustainability Procurement Network, in which more than 50 experts from five continents work together (tools: Internal company knowledge). Out Risk Management approach is designed to follow the standard for Risk Management Systems (RMS) and Internal Control Systems introduced by COSO. The management of water related risks is an integrative part of our RM approach. We cover related risks in the risk module procurement (risk of shortage of raw materials) and sustainability. |
| Water-related regulatory frameworks | Relevant, always included | Relevance: Volkswagen must comply with various regulatory requirements that are not always homogeneous or subject to varying interpretation from authorities, and which are subject to increasing governmental scrutiny and enforcement. The costs of compliance with regulatory requirements are considerable, and such costs are likely to increase further in the future, given the expected increased scrutiny, regulatory changes or novel interpretations of current regulations and stricter enforcement by regulators globally. A violation of applicable regulations could lead to the imposition of penalties, fines, damages, recalls, restrictions on or revocations of Volkswagen's permits and licenses. Method: Each factory has staff and external partners, who are responsible for tracking, implementing and checking the latest laws. Also, the implementation of current as well as future water regulatory frameworks is on the agenda of several environmental working groups. 1. Important new legislation or changes are rolled out by an internal environmental newsletter to all environmental experts. 2. There is a meeting of all environmental experts three times per year, where new environmental legislation is clarified and discussed. 3. The working group "water" is meeting twice a year to discuss all relevant issues regarding water at their sites including the new water legislation. In all these forums, it is ensured that potential risks are identified and, if relevant, reported within the Enterprise Risk Management (tools: internal company methods and external consultants), Our Risk Management approach is designed to follow the standard for Risk Management Systems (RMS) and Internal Control Systems introduced by COSO. The management of water related risks is an integrative part of our RM approach. We cover related risks in the risk module Sustainability (Environmental risks of operational processes/production), as well as in the risk module for Compliance risks. |
| Status of ecosystems and habitats | Relevant, always included | Relevance: Human interference in ecosystems, pollution, damage and the use of finite natural resources through economic activity are reaching levels that make a rethink and a change of direction unavoidable. The production of vehicles also requires many natural raw materials. That is why the conservation of resources along the entire life cycle of our products and mobility solutions is a central pillar of our "goTOzero" concept. Specifically, our environmental mission statement says: "For all our products and mobility solutions we aspire to minimise environmental impacts along the entire life cycle – from raw material extraction to end-of-life – in order to keep ecosystems intact and to create positive impacts on society. Compliance with environmental regulations, standards and voluntary commitments is a basic pre-requisite of our actions." The Volkswagen Group is bundling its activities for greater resource efficiency in the future in the "goTOzero – zero impact factory" initiative, which targets production with no impact on the environment. Method: An assessment system checks how far removed a factory is from zero impact on the environment. As well as the criteria of climate protection and energy, emissions, water and waste, this also includes aspects such as the commitment to biodiversity and protecting the soil. For instance, since 2008, the ecosystems of our €opean sites are regularly documented and assessed (tools: internal company methods and external consultants). All these ecosystems are assessed by an external environmental consultant together with an environmental expert of our Group. Essential parts of the assessment are the substances and processes used at the production sites. As one part of the risk strategy the assessment assists to minimise effects of our production to the surrounding area. The survey reports are continuously reviewed. One example is the project in the German Aller valley where the ecosystem is monitored at local level besides a general renaturation. Our Risk Management approach is designed to follow the standard for Risk Management Systems (RMS) and Internal Control Systems introduced by COSO. The management of water related risks is an integrative part of our RM approach. We cover related risks in the risk module sustainability (environmental risks of operational processes/production), as well as in the risk module for compliance risks. |
| Access to fully-functioning, safely managed WASH services for all employees | Relevant, always included | Relevance: Volkswagen did not take part in the WASH initiative yet. However, we want to strengthen not only our employees' specialist skills but also their health. This is important, if they are to perform well at work and cope with the stress on their bodies which is typical when working in a production company. In the area of health, sustainability means for us that as many employees as possible can retire from work healthy. Volkswagen's holistic approach to health management goes far beyond statutory preventive healthcare and occupational health and safety; it also includes aspects such as work organization, ergonomics, prevention, integration and rehabilitation, along with leadership culture. At our production sites at least the respective national standards for a safe and hygienic working environment are meet. Therefore, all Volkswagen sites offer sufficient supply of sanitary facilities to their employees. Lack of clean fresh water bears the risk of less motivation, illness and overall does not fit to our demands and codices. Method: E.g. due to section 1.7 of our social Charta sanitary facilities are an important part in the planning process of new factories or shop floors and are built depending on the number of employees working in these facilities (method: internal company method - usage of allocation formula). So, we guarantee all employees access to fully functioning sanitary facilities at our production sites. These sanitary facilities are built not only meeting all international standards but also including water-saving measures. Meanwhile existing production sites are upgraded regarding water-saving measures, if necessary. |
| Other contextual issues, please specify | Relevant, always included | Estimates of future changes in water ability at local level: We check constantly the current status of water stress and other water risks in the area as well as the outlook for the future (method: Maplecroft tool and WRI Aqueduct; internal company knowledge). Note: Water stress is increasing in many regions. This makes it important to have all relevant data of the current status, to define actions improving the situation and to decrease the water stress. To identify sites that are situated in an area of high water stress the data of Maplecroft and the WRI Aqueduct tool are used. Additionally, since 2015 a questionnaire has been sent annually to all production sites to gather all water related problems in the reporting year as well as the prediction of future water problems. The Maplecroft tool as well as the questionnaire are used to identify water stress regions and deviate countermeasures to minimise the future risks. WRI Aqueduct provides information on the future development of the water stress areas. Overall: Our Risk Management approach is designed to follow the standard for Risk Management Systems (RMS) and Internal Control Systems introduced by COSO. The management of water related risks is an integrative part of our RM approach. |

## W3.3c

### (W3.3c) Which of the following stakeholders are considered in your organization's water-related risk assessments?

| | Relevance & inclusion | Please explain |
|---|---|---|
| Customers | Relevant, always included | Relevance: As part of our strategic stakeholder management, we have identified ten stakeholder groups of equal value in our environment. Our customers, together with our employees, represent the innermost ring of the external stakeholder network. On water-related topics, we predominantly engage in active exchange with fleet customers, due to the high strategic interest we observe in this particular stakeholder group. This also reflects, for instance, in the requests by fleet customers to complete the CDP Water supply chain questionnaire, and water/effluent management is a key topic in several other supplier ratings that we undergo on behalf of fleet customers. (End) customers are also relevant stakeholders with regard to reducing water usage. Specifically, customers will use water for washing the car and most important use fuel to keep the engine working. We support our customers with information to save water while washing their car. On the other hand Volkswagen offers "fuel save trainings" by teaching the drivers how to reduce the fuel consumption. With the fuel saved by this training the water footprint per driven kilometer is decreased, too, because water is needed for fuel production. Method: One assessment method is our yearly conducted systematic materiality process with several stakeholder groups that are included via stakeholder dialogues. It shows that Water is a material issue for Volkswagen and one focus in the "environmental action plan". Consequently, within the Volkswagen Group we have several specialized functions engaged in observing megatrends in society, analyzing the overall economic environment, tracking emerging customer trends and continuously benchmarking our products and services against the competition. The results are brought together in a process known as the planning round, which ensures that the important decisions for production, purchasing and sales structures are made on the basis of a ten-year timeline. Another instrument for identifying challenges and expectations and for dealing with changing underlying conditions is the stakeholder dialog, which we cultivate at both Group and market Level. Customers are informed about water risks assessments in this Report and the Sustainability Report every year. |
| Employees | Relevant, always included | Relevance: As part of our strategic stakeholder management, we have identified ten stakeholder groups of equal value in our environment. Our employees, together with our customers, represent the innermost ring of the external stakeholder network. The Volkswagen Group therefore aims to be an excellent employer across all our brands and companies worldwide. Highly skilled and committed employees strive for excellence in innovation, value creation and customer focus. Sustainable work practices ensure optimal working conditions in factories and offices. Lack of clean fresh water bears the risk of less motivation, illness and overall does not fit to our demands and codices. Besides that, employees are an important stakeholder group when it comes to saving water at work and as well outside the factory. Method: One assessment method is our yearly conducted systematic materiality process with several stakeholder groups that are included via stakeholder dialogues. It shows that Water is a material issue for Volkswagen and one focus in the "environmental action plan". Thus employees are informed about water risks assessments in this Report and the Sustainability Report every year. There are several measures involving employees in environmental topics. Several factories (e.g. Wolfsburg, FoShan or Puebla) are organizing team events with their employees to improve the surrounding environment (e.g. planting trees at the river Aller, Germany, to shade the water body for improving the ecosystem). All these initiatives help to ensure enough and clean water for the employees at work as well as at home now and in the future. |
| Investors | Relevant, always included | Relevance: Analysts and investors are referring increasingly to company sustainability profiles when making their recommendations and decisions . This depends about 1/3 on the environmental performance including an ambitious water management. Method: Investors are informed about water risks assessments in this report, the Sustainability Report, the Annual Report and at roadshows every year. Also, they draw intensively on sustainability ratings to evaluate a company's environmental, social and governance performance. At the same time, sustainability ratings are instrumental in determining whether we are meeting our goal of being one of the world's leading providers of sustainable mobility. Furthermore, they provide the basis for implementing internal measures. |
| Local communities | Relevant, always included | Relevance: As per our stakeholder mapping, local residents represent a relevant stakeholder group, as we strive to build local acceptance and positive relationships in the immediate neighborhood of our sites and plants. Our yearly conducted systematic materiality process with several stakeholder groups shows that water is a material issue for Volkswagen and one focus in the "environmental action plan". Method: Local communities are informed about water risks assessments in this report and the Sustainability Report every year. Several projects are done together with local communities to create win-win-situations e.g. by expanding protected areas to "upgrade" their ecological quality or replenishing groundwater with the Izta-Popo-project in Mexico. The lack of groundwater may lead in extreme cases to production delays or downtimes. Volkswagen de México has funded the reforestation of 750 hectares in Iztaccíhuatl-Popocatépetl National Park. A total of 490,000 alpine conifers (native) have been planted since 2008, representing almost $2.65 million financed by Volkswagen. 39 suppliers from the Puebla region have also become involved and are supporting the initiative financially. Together the sponsors will ensure that the forest is cared for in years to come. One goal of the project is to channel rain and melt water into Puebla's groundwater reserves. A similar project has been initiated in Guanajuato, near the new engine plant. |
| NGOs | Relevant, always included | Relevance: As per our stakeholder mapping, NGOs represent a relevant stakeholder group. They can provide important input and feedback (e.g. the reports and assessments provided by CDP, a global non-profit organization), but also are valuable partners. Method: Our yearly conducted systematic materiality process with several stakeholder groups shows that Water is a material issue for Volkswagen and one focus in the "environmental action plan". NGOs are informed about water risks assessments in this Report and the Sustainability Report every year. Volkswagen is working together with several NGOs more than a decade. Volkswagen FS AG is currently engaged in several projects e.g. with: Nature and Biodiversity Conservation Union Germany e.V. (NABU) including, for example, a peatland conservation project in oder to support the German Peatland Conservation Fund (13 national project areas to date). We also sponsor the €opean Union's LIFE Peat Restore Project, organized jointly by NABU with partners in Poland, Lithuania, Latvia and Estonia as well as the International peatland conservation fund, initiated by NABU and Volkswagen Leasing GmbH. Fair Trade: A workforce initiative led to the sale of sustainably produced fair-trade products in the company's cafes and restaurants, where the sale of products bearing the Fair Trade seal has been promoted since 1999. |
| Other water users at a basin/catchment level | Relevant, always included | Relevance: Water is one important material issue for Volkswagen. Like for many topics, our responsibility does not end at the factory gate: we also pay attention to the influence our business activities have on our neighborhood, local communities and society. Through dedicated actions, we seek to minimise the risk of poor water supply for all water users (population, industry, agriculture etc.) at the basin/catchment level including Volkswagen. The worst case scenario "a stop of production" for Volkswagen is being reduced by this approach. Method: Our yearly conducted systematic materiality process with several stakeholder groups shows that water is a material issue for Volkswagen and one focus in the "environmental action plan". Water users at a basin/catchment level are informed about water risks assessments in this report and the Sustainability Report every year. One area of activity of the concept for sustainable water management is the social and ecological work through projects to protect water reserves and raise public awareness of environmental issues by seeking the dialog with all water users (e. g. Stakeholder Dialog, conference) and encourage our employees to take responsibility for the resources used (at work and at home; e.g. Kariega (Uitenhage) site broschure to efficient water usage at home/work). |
| Regulators | Relevant, always included | Relevance: Regulators play an important role for shaping the general legal conditions under which our facilities can operate and are important partners in securing sustainable water use for Volkswagen and other water users. Maintaining close exchange with regulators provides early warning against regulatory risks. Method: We maintain contact to politics and other regulatory stakeholders via our Public Affairs function, which is represented on Group level, at the company's locations and in several capitals worldwide. Stakeholder input – including that from regulators and public authorities - is also considered and reflected in our Environmental Compliance Management System and in our operations, products and services. We commit to providing transparent and reliable information in our dialogue with and reporting to our stakeholders: Regulators are informed about water risks assessments in this Report and the Sustainability Report every year. |
| River basin management authorities | Relevant, always included | Relevance: Management authorities play an important role for shaping the specific regulatory conditions under which our facilities can operate and are important partners in securing sustainable water use for Volkswagen and other water users. Maintaining close exchange with River basin management authorities provides early warning against regulatory, as well as operational or reputational water-related risks. As a consequence, residents as well as local authorities have been identified as stakeholders with a material influence on or are materially influenced by the Group within our strategic stakeholder management. Method: Authorities are informed about water risks assessments in this Report and the Sustainability Report every year. We maintain contact to politics and other regulatory stakeholders via our Public Affairs function, which is represented on Group level, at the company's locations and in several capitals worldwide. Stakeholder input – including that from public authorities - is considered and reflected in our Environmental Compliance Management System and in our operations, products and services. We commit to providing transparent and reliable information in our dialogue with and reporting to our stakeholders. |
| Statutory special interest groups at a local level | Relevant, always included | Relevance: Residents, as well as NGOs have been identified as stakeholders with a material influence on or are materially influenced by the Group within our strategic stakeholder management. This also applies to local special interest groups. Maintaining close exchange with such groups provides early warning against legal, as well as reputational water-related risks. Method: Stakeholder input – including that from local communities and special interest groups - is considered and reflected in our Environmental Compliance Management System and in our operations, products and services. We commit to providing transparent and reliable information in our dialogue with and reporting to our stakeholders: Special interest groups are informed about water risks assessments in this report and the Sustainability Report every year. Example: A water biotope in the grounds of a production facility: In Pacheco, Argentina, this has long been reality. Environmental protection was put into action with the creation of an artificial lake to collect rainwater and provide a habitat for indigenous flora and fauna. 62 species of birds have already been counted here. Pacheco is only one example of how Volkswagen complements its global drinking water resource conservation initiatives with local projects. The project represents a win-win situation for Volkswagen (reputation) and the organizations dealing with species protection at local level. Water is a material issue for Volkswagen and one focus in the "environmental action plan". |
| Suppliers | Relevant, always included | Relevance: One assessment method is our yearly conducted systematic materiality process with several stakeholder groups that are included via stakeholder dialogues. It shows that Water is a material issue for Volkswagen and one focus in the "environmental action plan". Our water footprint analysis indicates that a great amount of water is used in the supply chain. Suppliers/business partners have also been identified as stakeholders with a material influence on or are materially influenced by the Group within our strategic stakeholder management. Method: Our aim is to know and effectively address the material sustainability risks in our supply chain at all times. A sustainability rating (S rating) was introduced as a key measure in mid-2019 and has since been implemented across the Group. It is used to audit the sustainability performance of suppliers and show opportunities for continuous improvement. It assesses the environmental performance of suppliers among other factors. The S rating is directly relevant to awarding contracts: if a supplier does not meet our requirements for compliance with sustainability standards, it is fundamentally not eligible for the award of contracts. There is thus a direct incentive for suppliers to improve their sustainability performance. Following an initial analysis of the supplier data, in-depth audits are carried out on site, based on risk. If the results of the audit reveal serious shortcomings in the implementation of our sustainability requirements, the supplier in question is generally given a negative rating. This means that the award of a contract is generally not possible. Also, stakeholder input – including that from suppliers and other business partners - is considered and reflected in our Environmental Compliance Management System and in our operations, products and services. Suppliers are informed about water risks assessments in this report and the Sustainability Report every year. |

| | Relevance & inclusion | Please explain |
|---|---|---|
| Water utilities at a local level | Relevant, always included | Relevance: Our yearly conducted systematic materiality process with several stakeholder groups shows that Water is a material issue for Volkswagen and one focus in the "environmental action plan". Suppliers/business partners (which includes water utilities) have also been identified as stakeholders with a material influence on or are materially influenced by the Group within our strategic stakeholder management. Maintaining close exchange with water utilities provides early warning against operational and technical risks. Method: Stakeholder input – including that from suppliers and other business partners (like local water utilities) - is considered and reflected in our Environmental Compliance Management System and in our operations, products and services. Water utilities/suppliers at a local level are informed about water risks assessments in this report and the Sustainability Report every year. The monitoring and sustainable operation of used drinking water resources is essential. Their quality and volume are getting forecasted regularly. This minimises the risk for the local suppliers to stop production due to water scarcity. |
| Other stakeholder, please specify | Not considered | |

## W3.3d

**(W3.3d) Describe your organization's process for identifying, assessing, and responding to water-related risks within your direct operations and other stages of your value chain.**

Application of tools, incl. level of coverage and practical implementation:

Our Group Risk Management approach is designed to follow the standard for Risk Management Systems and Internal Control Systems introduced by COSO. The management of water related risks is an integrative part of our RM approach. The time horizons and monitoring frequencies differ from the two risk management processes „regular Governance, Risk & Compliance" (GRC) and "Quarterly Risk Process" (RQP). The GRC process is focusing on systemic (inherent) risks with a longer time horizon. To ensure that sustainability risks are considered within risk assessments, the Volkswagen list of risk focus areas comprises the separate risk module "sustainability". The module "sustainability" was updated for the process in 2018 on a very detailed level. The quarterly RQP is focusing on acute or imminent material risks, including sustainability and therefore also water related risks. Focus is the current financial year respectively the next 24 months. In case of long-term risk which need urgent decision regarding the countermeasures also these risks are part of the quarterly process.

The Volkswagen regular GRC process represents our concept to identify systemic risks (including water risks) that might have an impact on the group. Group relevant risks are defined to have an impact which exceeds a predefined quantitative threshold. Supply risks are identified (via the operational risk management) without delay in the procurement function through early warning systems and mitigated immediately by applying appropriate measures. This covers our total supplier base of over 40 000 suppliers groupwide. In addition: One pillar of our "Sustainability in Suppliers Relations" (SiSR)–strategy is the contractually mandated integration of sustainability standards in the procurement process. These must be acknowledged by all suppliers before submitting a quotation.

A relevant tool we use to identify and assess water-related risks is Maplecroft/Aqueduct: All production sites of the Group worldwide are requested to report on water use once a year. This environmental data query enables Volkswagen to identify production sites with critical water demands and to implement countermeasures to prevent water problems in future. With the tools on the market (Maplecroft and WRI Aqueduct) we are able to identify the water stress regions and assist the production sites on the way to a sustainable water management. Maplecroft water risk index represents the ratio between water withdrawals and water regeneration. The result is multiplied with a factor of ten. Zero (0) represents areas of extreme water stress and ten (10) areas with no water stress. The Water Stress Index pinpoints areas of water stress down to 10km² worldwide and was developed for companies to identify risk of water interruptions to supply chains, operations and investments. The Maplecroft tool was chosen, because of the detailed data which makes it possible to receive individual information for extreme local issues like water.

Process for informing the internal decision-making process:

The identification & documentation of individual risks takes place within the companies/central departments in scope, based on the centrally provided risk catalogue. If, for example, an entity of the Volkswagen Group faces the risk of production interruptions because of increased weather extremes, it will attach the risk to a pre-defined focus area within the Volkswagen risk management process. The persons in charge to document risks are asked to provide information on risk drivers & details on qualitative valuation elements, e.g. reputational impact.

# W4. Risks and opportunities

## W4.1

**(W4.1) Have you identified any inherent water-related risks with the potential to have a substantive financial or strategic impact on your business?**

Yes, both in direct operations and the rest of our value chain

## W4.1a

### (W4.1a) How does your organization define substantive financial or strategic impact on your business?

As part of the Regular Governance, Risk & Compliance (GRC) process, each systemic risk inherent to the process or inherent to the business that is reported is recorded and assessed in our RICORS IT system. The risk assessment is made by multiplying the criterion of likelihood of occurrence with the potential extent of the damage. The extent of the damage is calculated from the criteria of financial loss and reputational damage and criminal relevance (Penal). A score between 0 and 10 is assigned to each of these criteria. The measures taken to manage and control risk are taken into account in the risk assessment (net perspective).

The score for a likelihood of occurrence of more than 50% in the analysis period is classified as high; for a medium classification the likelihood of occurrence is at least 25%. For the criterion of financial loss, the score rises with an increasing scale. The criterion of reputational damage can have characteristics ranging from local erosion of confidence and loss of trust at local level to loss of reputation at regional or international level. Criminal relevance is classified based on the influence on the local company, the brand or the Group.

The result is a risk score between 0 and 200 that expresses the risk (score 0-10 for likelihood of occurrence, multiplied by a score 0-20 for extent of damage - financial impact, reputational impact and penal relevance).

Risk reporting to the committees of Volkswagen AG depends on materiality thresholds. Systemic risks from a risk score of 20 and above are regularly presented to the Board of Management and the Audit Committee of the Supervisory Board of Volkswagen AG. For acute risks, the threshold is a risk score of 40, plus any acute risks with potential financial damages of €1 billion or more regardless of the risk score.

These thresholds can serve as a proxy definition of “substantive financial or strategic impact” in the sense of CDP, however these terms are not used in the Volkswagen Group risk management processes. The Quarterly Risk Process offers the opportunity to report strategic risks up to the group board depending on the implemented thresholds.

Example of substantive impact:

Temporary production downtime at one or more of our sites (which could be caused by natural disasters like flooding, or interrupted water supply), going along with high expenditure would likely result in a substantive financial impact for the Group

## W4.1b

### (W4.1b) What is the total number of facilities exposed to water risks with the potential to have a substantive financial or strategic impact on your business, and what proportion of your company-wide facilities does this represent?

| | Total number of facilities exposed to water risk | % company-wide facilities this represents | Comment |
|---|---|---|---|
| Row 1 | 6 | 1-25 | The sites listed represent all Volkswagen factories fitting in the following definition: All Volkswagen production sites are requested once a year to answer the questions W2.1a, 4.1 and 5. This annual environmental data query enables Volkswagen to identify production sites with critical water demands and to implement countermeasures to prevent water problems in the future. The production sites listed are all sites that reported exposition to risks (4.1 and 5) and produced more than 2% of the total amount of Volkswagen cars in the reporting year ((W2.1a: with exception of one site, which was selected because the medium-term impacts are significant on group level). The selection was chosen to focus only on potentially significant impacts within the Volkswagen Group and cut off the sites with minor impacts. Our latest review indicates t that 41% (around 17,1 Mio m³) of our entire freshwater consumption is attributable to sites located in regions where water resources are at risk (database: Maplecroft, sites situated in areas of high or extreme water stress). Disclaimer: The description of the risk factor, and its potential impact on the Volkswagen business, including the estimates of potential financial impact and cost of management, amount to forward-looking statements. Although Volkswagen believes that the expectations reflected in these forward-looking statements are reasonable, it can give no assurance that they will materialize or prove to be correct. Because these statements involve risks and uncertainties, the actual result or outcome could differ materially from those set out in the forward-looking statements as a result of, among other things: the Volkswagen Group's ability to successfully develop, introduce and expand its products; changes in international and local economic, business and industry conditions; significant changes in economic, political and market conditions in China, including the effect of competition from new market entrants, on Volkswagen Group's vehicle sales and market position in China; the Volkswagen Group's ability to manage the legal and regulatory proceedings faced by it; and the Volkswagen Group's ability to manage the legal and regulatory aspects of its operations, including environmental compliance. Additional factors could cause the Volkswagen Group's actual financial impact or cost of management to differ materially from that described above. |

## W4.1c

### (W4.1c) By river basin, what is the number and proportion of facilities exposed to water risks that could have a substantive financial or strategic impact on your business, and what is the potential business impact associated with those facilities?

#### Country/Area & River basin

| | |
|---|---|
| Slovakia | Danube |

#### Number of facilities exposed to water risk
1

#### % company-wide facilities this represents
Less than 1%

#### Production value for the metals & mining activities associated with these facilities
<Not Applicable>

#### % company’s annual electricity generation that could be affected by these facilities
<Not Applicable>

#### % company’s global oil & gas production volume that could be affected by these facilities
<Not Applicable>

**% company's total global revenue that could be affected**
11-20

**Comment**
Each factory is counted as one facility. Volkswagen has more than 100 factories. So the proportion of one factory is less than 1% of the company-wide facilities. Figures regarding the revenue for each production site are confidential; share of production output is stated as a proxy. The description of the risk factor, and its potential impact on the Volkswagen business, including the estimates of potential financial impact and cost of management, amount to forward-looking statements. Although Volkswagen believes that the expectations reflected in these forward-looking statements are reasonable, it can give no assurance that they will materialize or prove to be correct. Because these statements involve risks and uncertainties, the actual result or outcome could differ materially from those set out in the forward-looking statements as a result of, among other things: the Volkswagen Group's ability to successfully develop, introduce and expand its products; changes in international and local economic, business and industry conditions; significant changes in economic, political and market conditions in China, including the effect of competition from new market entrants, on Volkswagen Group's vehicle sales and market position in China; the Volkswagen Group's ability to manage the legal and regulatory proceedings faced by it; and the Volkswagen Group's ability to manage the legal and regulatory aspects of its operations, including environmental compliance. Additional factors could cause the Volkswagen Group's actual financial impact or cost of management to differ materially from that described above.

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**Country/Area & River basin**

| | |
|---|---|
| Mexico | Other, please specify (Rio Atoyac) |

**Number of facilities exposed to water risk**
1

**% company-wide facilities this represents**
Less than 1%

**Production value for the metals & mining activities associated with these facilities**
<Not Applicable>

**% company's annual electricity generation that could be affected by these facilities**
<Not Applicable>

**% company's global oil & gas production volume that could be affected by these facilities**
<Not Applicable>

**% company's total global revenue that could be affected**
11-20

**Comment**
Each factory is counted as one facility. Volkswagen has more than 100 factories. So the proportion of one factory is less than 1% of the company-wide facilities. Figures regarding the revenue for each production site are confidential; share of production output is stated as a proxy. The description of the risk factor, and its potential impact on the Volkswagen business, including the estimates of potential financial impact and cost of management, amount to forward-looking statements. Although Volkswagen believes that the expectations reflected in these forward-looking statements are reasonable, it can give no assurance that they will materialize or prove to be correct. Because these statements involve risks and uncertainties, the actual result or outcome could differ materially from those set out in the forward-looking statements as a result of, among other things: the Volkswagen Group's ability to successfully develop, introduce and expand its products; changes in international and local economic, business and industry conditions; significant changes in economic, political and market conditions in China, including the effect of competition from new market entrants, on Volkswagen Group's vehicle sales and market position in China; the Volkswagen Group's ability to manage the legal and regulatory proceedings faced by it; and the Volkswagen Group's ability to manage the legal and regulatory aspects of its operations, including environmental compliance. Additional factors could cause the Volkswagen Group's actual financial impact or cost of management to differ materially from that described above.

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**Country/Area & River basin**

| | |
|---|---|
| South Africa | Other, please specify (Swartskops river) |

**Number of facilities exposed to water risk**
1

**% company-wide facilities this represents**
Less than 1%

**Production value for the metals & mining activities associated with these facilities**
<Not Applicable>

**% company's annual electricity generation that could be affected by these facilities**
<Not Applicable>

**% company's global oil & gas production volume that could be affected by these facilities**
<Not Applicable>

**% company's total global revenue that could be affected**
11-20

**Comment**
Each factory is counted as one facility. Volkswagen has more than 100 factories. So the proportion of one factory is less than 1% of the company-wide facilities. Figures regarding the revenue for each production site are confidential; share of production output is stated as a proxy. The description of the risk factor, and its potential impact on the Volkswagen business, including the estimates of potential financial impact and cost of management, amount to forward-looking statements. Although Volkswagen believes that the expectations reflected in these forward-looking statements are reasonable, it can give no assurance that they will materialize or prove to be correct. Because these statements involve risks and uncertainties, the actual result or outcome could differ materially from those set out in the forward-looking statements as a result of, among other things: the Volkswagen Group's ability to successfully develop, introduce and expand its products; changes in international and local economic, business and industry conditions; significant changes in economic, political and market conditions in China, including the effect of competition from new market entrants, on Volkswagen Group's vehicle sales and market position in China; the Volkswagen Group's ability to manage the legal and regulatory proceedings faced by it; and the Volkswagen Group's ability to manage the legal and regulatory aspects of its operations, including environmental compliance. Additional factors could cause the Volkswagen Group's actual financial impact or cost of management to differ materially from that described above.

### Country/Area & River basin

| | |
|---|---|
| Belgium | Seine |

### Number of facilities exposed to water risk
1

### % company-wide facilities this represents
Less than 1%

### Production value for the metals & mining activities associated with these facilities
<Not Applicable>

### % company's annual electricity generation that could be affected by these facilities
<Not Applicable>

### % company's global oil & gas production volume that could be affected by these facilities
<Not Applicable>

### % company's total global revenue that could be affected
11-20

### Comment
Each factory is counted as one facility. Volkswagen has more than 100 factories. So the proportion of one factory is less than 1% of the company-wide facilities. Figures regarding the revenue for each production site are confidential; share of production output is stated as a proxy. The description of the risk factor, and its potential impact on the Volkswagen business, including the estimates of potential financial impact and cost of management, amount to forward-looking statements. Although Volkswagen believes that the expectations reflected in these forward-looking statements are reasonable, it can give no assurance that they will materialize or prove to be correct. Because these statements involve risks and uncertainties, the actual result or outcome could differ materially from those set out in the forward-looking statements as a result of, among other things: the Volkswagen Group's ability to successfully develop, introduce and expand its products; changes in international and local economic, business and industry conditions; significant changes in economic, political and market conditions in China, including the effect of competition from new market entrants, on Volkswagen Group's vehicle sales and market position in China; the Volkswagen Group's ability to manage the legal and regulatory proceedings faced by it; and the Volkswagen Group's ability to manage the legal and regulatory aspects of its operations, including environmental compliance. Additional factors could cause the Volkswagen Group's actual financial impact or cost of management to differ materially from that described above.

### Country/Area & River basin

| | |
|---|---|
| Czechia | Other, please specify (Jizera) |

### Number of facilities exposed to water risk
1

### % company-wide facilities this represents
Less than 1%

### Production value for the metals & mining activities associated with these facilities
<Not Applicable>

### % company's annual electricity generation that could be affected by these facilities
<Not Applicable>

### % company's global oil & gas production volume that could be affected by these facilities
<Not Applicable>

### % company's total global revenue that could be affected
11-20

### Comment
Each factory is counted as one facility. Volkswagen has more than 100 factories. So the proportion of one factory is less than 1% of the company-wide facilities. Figures regarding the revenue for each production site are confidential; share of production output is stated as a proxy. The description of the risk factor, and its potential impact on the Volkswagen business, including the estimates of potential financial impact and cost of management, amount to forward-looking statements. Although Volkswagen believes that the expectations reflected in these forward-looking statements are reasonable, it can give no assurance that they will materialize or prove to be correct. Because these statements involve risks and uncertainties, the actual result or outcome could differ materially from those set out in the forward-looking statements as a result of, among other things: the Volkswagen Group's ability to successfully develop, introduce and expand its products; changes in international and local economic, business and industry conditions; significant changes in economic, political and market conditions in China, including the effect of competition from new market entrants, on Volkswagen Group's vehicle sales and market position in China; the Volkswagen Group's ability to manage the legal and regulatory proceedings faced by it; and the Volkswagen Group's ability to manage the legal and regulatory aspects of its operations, including environmental compliance. Additional factors could cause the Volkswagen Group's actual financial impact or cost of management to differ materially from that described above.

### Country/Area & River basin

| | |
|---|---|
| Czechia | Other, please specify (Bela) |

### Number of facilities exposed to water risk
1

### % company-wide facilities this represents
Less than 1%

### Production value for the metals & mining activities associated with these facilities
<Not Applicable>

### % company's annual electricity generation that could be affected by these facilities

<Not Applicable>

**% company's global oil & gas production volume that could be affected by these facilities**
<Not Applicable>

**% company's total global revenue that could be affected**
11-20

**Comment**
Each factory is counted as one facility. Volkswagen has more than 100 factories. So the proportion of one factory is less than 1% of the company-wide facilities. Figures regarding the revenue for each production site are confidential; share of production output is stated as a proxy. The description of the risk factor, and its potential impact on the Volkswagen business, including the estimates of potential financial impact and cost of management, amount to forward-looking statements. Although Volkswagen believes that the expectations reflected in these forward-looking statements are reasonable, it can give no assurance that they will materialize or prove to be correct. Because these statements involve risks and uncertainties, the actual result or outcome could differ materially from those set out in the forward-looking statements as a result of, among other things: the Volkswagen Group's ability to successfully develop, introduce and expand its products; changes in international and local economic, business and industry conditions; significant changes in economic, political and market conditions in China, including the effect of competition from new market entrants, on Volkswagen Group's vehicle sales and market position in China; the Volkswagen Group's ability to manage the legal and regulatory proceedings faced by it; and the Volkswagen Group's ability to manage the legal and regulatory aspects of its operations, including environmental compliance. Additional factors could cause the Volkswagen Group's actual financial impact or cost of management to differ materially from that described above.

## W4.2

**(W4.2) Provide details of identified risks in your direct operations with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.**

**Country/Area & River basin**

| | |
|---|---|
| Slovakia | Danube |

**Type of risk & Primary risk driver**

| | |
|---|---|
| Regulatory | Tighter regulatory standards |

**Primary potential impact**
Increased compliance costs

**Company-specific description**
The Bratislava plant of Volkswagen Slovakia is the only car-producing plant in the world to manufacture five brands under one roof. It is the exclusive producer of the Volkswagen Touareg, Audi Q7, Audi Q8, Porsche Cayenne, Volkswagen up!, Volkswagen e-up!, ŠKODA Citigo and SEAT Mii models. The site has significant water withdrawals at 624,996 m3, covered predominantly by groundwater. Due to potential changes in the water legislation, difficulties in getting the operating permits (wells for water withdrawals, wastewater discharge standards for quality and quantity, rainwater retention) could accrue in future. The maximum amount of water (treated wastewater or rainwater) is limited by the legal authorities. Because of that rainwater retention has to be built for each additional building in the factory. This will lead to higher operation costs and investment in new technology e.g. additional water recycling facilities in the factory to reduce the amount of wastewater sent to the river as well as the water withdrawal. Exceeding the legal limit values would end up in a legal noncompliance which is not acceptable for our Group. For instance, for groundwater withdrawals without a permit, penalties of €2 per m3 would accrue. So the water demand of the factory needs to be reduced by the measures described above. Additionally, when the permit for existing groundwater wells will be revoked by the end of 2021, it will be required to plan and construct additional groundwater wells, including hydrogeological surveys, a 3-week pumping experiment etc. Project costs for this measure alone may be in the magnitude of around € 1 million.

**Timeframe**
Current up to one year

**Magnitude of potential impact**
Medium

**Likelihood**
Likely

**Are you able to provide a potential financial impact figure?**
Yes, a single figure estimate

**Potential financial impact figure (currency)**
1250000

**Potential financial impact figure - minimum (currency)**
<Not Applicable>

**Potential financial impact figure - maximum (currency)**
<Not Applicable>

**Explanation of financial impact**
For groundwater withdrawals without a permit, penalties of €2 per m3 would accrue. So the water demand of the factory needs to be reduced by the measures described above. In case that cannot be done, the penalty for the water withdrawal of 624,996 m3 in 2020 consumption would be roughly €1.25 Mio.

**Primary response to risk**
Increase investment in new technology

**Description of response**
We establish preventive actions to start minimizing the potential risks now. Site-specific targets will support these actions and ensure that we reach our goals. Increased investment in new technology and infrastructure as follows: - operating permit for freshwater wells will include advanced measurement and monitoring equipment - higher investment in leakage searching and elimination to increase the security of sufficient water supply and decrease the water losses - usage of reverse osmosis permeate as input for the cooling tower with the aim to reduce the freshwater demand - use of recycled water in water tests - wastewater reuse in the washout of the paint shop -

process optimization of the body washer and passivation - installation of membrane technique in the paint shop for industrial wastewater recycling - increase of the treatment capacity of the biological WWTP .These actions should minimise the water demand of the production site further and secure the water supply. An additional recycling plant to produce good quality recycling water from biological treated wastewater with a capacity of around 25 m³/h would be a possible end-of-pipe solution to reduce the water withdrawals as well as the wastewater discharge.

**Cost of response**
1065000

**Explanation of cost of response**
The €1,065,000 are the potential costs for the planning and construction of additional groundwater wells incl. hydrogeological surveys, a 3 week pumping experiment as well as the approval process. Furthermore, the investment in new wastewater technologies in the paint shop is covered in the figure as well.

**Country/Area & River basin**

| | |
|---|---|
| Mexico | Other, please specify (Rio Atoyac) |

**Type of risk & Primary risk driver**

| | |
|---|---|
| Physical | Increased water stress |

**Primary potential impact**
Reduction or disruption in production capacity

**Company-specific description**
The headquarters and the vehicle and component plants of Volkswagen de México are located in Puebla, the capital of the federal state of the same name, 74 miles south east of Mexico City. The Volkswagen plant in Puebla is the largest automobile production facility in Mexico and also one of the largest vehicle plants in the Volkswagen Group. All the production processes needed, including the stamping of body parts and the production of engines, axles and catalytic converters, take place here. The plant is built on an area of 300 hectares. Nowadays the Puebla plant produces the models: Jetta, Golf, Tiguan Long Version and the Beetle model versions. This production site is also situated in a region of Puebla which is has a high water stress and so freshwater is as well a scarce resource. The groundwater levels of the whole area as well as our own well are declining every year. The established countermeasures of the last years were able to reduce the speed of the ground water declining but were not able to stop it or did end up in rising ground water levels. In the last years the production site and the surrounding municipalities were exposed to several water shortages. Water intensive production steps such as paint shops or processes using water as cooling agent would become the bottleneck in the entire production chain and thus, production may have to be reduced or temporarily stopped. Disruption in production of the Puebla plant, which produced 443,435 vehicles in 2019 (2020 was not representative in terms of production due to the impacts of the Covid-19 pandemic) will lead to a decrease of sales. Due to the water shortages a close cooperation between the production site and the local authorities has been developed over the last years and the water management of the region could be improved as well as the impacts of the water stress reduced. As one consequence the legal regulations for the wastewater discharge to the receiving water body were tightened by the authorities to reduce the river pollution as well as improve the groundwater quality. In future further improvement is necessary, because the water shortages are expected to become worse.

**Timeframe**
More than 6 years

**Magnitude of potential impact**
Medium

**Likelihood**
Likely

**Are you able to provide a potential financial impact figure?**
Yes, a single figure estimate

**Potential financial impact figure (currency)**
130000000

**Potential financial impact figure - minimum (currency)**
<Not Applicable>

**Potential financial impact figure - maximum (currency)**
<Not Applicable>

**Explanation of financial impact**
The gross risk profile (without considering actions in place to mitigate the risk) shows a difference between the material and immaterial evaluation. While the potential material damage equals a high impact, the immaterial criteria are rated at a medium level. This is because the resilience against natural catastrophes will not be considered a critical organisation´s ability by investors and customers compared to e.g. compliance with new CO2 regulations. To illustrate the potential magnitude of impact of this risk: The mentioned example of our production plant in Puebla/Mexico is the largest automobile production facility in Mexico and also one of the largest vehicle plants in the Volkswagen Group, where we produced over 440,000 vehicles in 2019 (the 2020 production figure is not representative due to the effects of Covid-19 on production). A hypothetical downtime of 1 week would reduce output by approx. 8,800 vehicles, assuming no mitigating measures were taken. Assuming a market value of approx. €15,000 per vehicle, this could be translated into a decrease in revenue by roughly €130 million.

**Primary response to risk**
Increase investment in new technology

**Description of response**
We establish preventive actions to start minimizing the potential risks. Site-specific targets will support these actions and ensure that we reach our goals. Increased investment in new technology and infrastructure as follows: - usage of washing water for the air conditioning (saving ~18,000 m³/a) - improved filtration of rain water for reverse osmosis (RO) water production (saving ~10,000 m³/a) - replacement of the pre-treatment and painting equipment of the paint shop (saving ~36,000 m³/a) - improved water recycling due to the usage of Dissolved air flotation (DAF) (saving ~40,000 m³/a) - more applications for the rainwater (saving ~7,500 m³/a). These actions should minimise the water demand of the site further and secure the water supply. Furthermore, the production site is encouraged in two projects. 1. The Izta-Popo-Project includes the reforestation of 7.5 km² of Izta-Popo hillsides and a monitoring of the local fauna, which increases the groundwater renewal. Involved in the project are Volkswagen, its suppliers, the government and local water suppliers. 2. Eco Chavos: A joint project of Volkswagen, the Mexican nature conservation authority and the GIZ (German international association for cooperation) focuses on environmental education as well as the improvement of biodiversity and the connection of habitats.The project area has a size of around 40,000 km² and is situated between Puebla, Hidalgo, Querétaro and San Luis Potosí. As of today, Volkswagen has supported the project with about $2.8 million, with joint support by 39 suppliers of VW Mexico, as well as by Puebla's water and sewage services provider . Together, the sponsors will ensure that the forest is protected for years to come.

**Cost of response**
110000

**Explanation of cost of response**
The Izta Popo Project considers different works to the restoration, protection and conservation of natural resources like reforesting, construction and maintenance of water and soil retention works, excavation of fire-stopping grooves and perimeter fencing, monitoring of biodiversity and an environmental education program. These activities amount to €110,000 annually. In 2020, the main focus was put on the environmental education program (40% of the annual cost) and maintenance work regarding fire breaks, trails, roads and prevention and protection (45% of annual cost)..

---

**Country/Area & River basin**

| | |
|---|---|
| South Africa | Other, please specify (Swartskops River) |

**Type of risk & Primary risk driver**

| | |
|---|---|
| Physical | Drought |

**Primary potential impact**
Reduction or disruption in production capacity

**Company-specific description**
The Volkswagen Group South Africa (VWSA) plant is situated in Uitenhage, an industrial town which lies approximately 750 kilometers east of Cape Town and 1,000 km south of Johannesburg. Just over half (294,713 m²) of the plant's 520,963 m² area consist of production facilities. Apart from producing components for the entire Volkswagen Group, the Kariega (Uitenhage) plant currently produces the Polo and Cross Polo. In 2019, the plant produced around 162,000 vehicles. This production site is situated in the Nelson Mandela bay area which is exposed to water stress due low rainfall and several industries as well as the population that consume more than the renewable supply of water from precipitation, streams, rivers and groundwater in that area. So freshwater is a scarce resource. If risk materializes, reduced water availability in extreme drought periods could lead to production reductions, if water supply through the local utility cannot be mainained. Water intensive production steps such as paint shops or processes using water as cooling agent would become the bottleneck in the entire production chain and thus, production may have to be reduced or temporarily stopped. Apart from the Polo models the plant also produces components for the entire Group, which in case of loss of production might also have adverse effects beyond the plant. Due to the water shortages, a close cooperation between the production site and the local authorities has been developed over the last years. Therefore, the water management of the region could be improved as well as the impacts of the water stress reduced. To further mitigate the water scarcity risk, businesses in the metro region are requested to reduce their water consumption by 20%.

**Timeframe**
1-3 years

**Magnitude of potential impact**
Medium

**Likelihood**
Likely

**Are you able to provide a potential financial impact figure?**
Yes, a single figure estimate

**Potential financial impact figure (currency)**
46500000

**Potential financial impact figure - minimum (currency)**
<Not Applicable>

**Potential financial impact figure - maximum (currency)**
<Not Applicable>

**Explanation of financial impact**
To illustrate the potential magnitude of impact of this risk: the production plant in Kariega (Uitenhage) produced around 162,000 vehicles in 2019. A hypothetical downtime of 1 week caused by water scarcity would reduce output by approx. 3,100 vehicles, assuming no mitigating measures were taken. Assuming a market value of approx. €15,000 per vehicle, this could be translated into a decrease in revenue by roughly €46.5 million.

**Primary response to risk**
Increase investment in new technology

**Description of response**
We establish preventive actions to start minimizing the potential risks now. Site-specific targets will support these actions and ensure that we reach our goals. Increased investment in new technology and infrastructure as follows: - the shutting down of old solvent based paint shop and increasing of the new water based paint shop capacity – optimization of the general water usage in vehicle body pre-treatment and painting and – optimization of the bleeding off in the cooling tower – rainwater harvesting – implementation of a conditioning unit for the input water of the RO These actions should minimise the water demand of the production site further and secure the water supply. A wastewater recycling facility will be initiated in 2021, with the aim to recycle production wastewater and re-use in production processes. Initial phase will cover the 20% reduction requested and more, with further phases including groundwater harvesting adding to the reduction in the amount of fresh water used. Through Think Blue Factory/Zero Impact Factory we have already achieved a 65% reduction in water usage

**Cost of response**
1350000

**Explanation of cost of response**
The €1,350,000 are one-time costs based on supplier quotations for the wastewater recycling facility and the water storage facilities descried above as well as estimations by plant engineering.

---

**Country/Area & River basin**

| | |
|---|---|
| Belgium | Other, please specify (Senne) |

### Type of risk & Primary risk driver

| | |
|---|---|
| Physical | Increased water stress |

### Primary potential impact
Upfront costs to adopt/deploy new practices and processes

### Company-specific description
The Audi plant in Brussels produced over 43,000 cars in 2019 (2020 was not representative in terms of production due to the impacts of the Covid-19 pandemic), and series production of the Audi e-tron Sportback, the first battery-electric Audi model, started here in early 2018. The facility has a significant water withdrawal of 127 megaliters, coming predominantly (100%) from the municipal water suppy. Potable water is currently used in production incl. paint shop, heat exchange processes and quality testing. Brussels is located in an area with high water stress (with a Maplecroft water stress index value of just over three). Water shortage would lead to a reduction or temporary halt in production as above-mentioned production processes highly depend on sufficient water supply. Disruption in production of the plant, which produced over 43,000 vehicles in 2019 (2020 was not representative in terms of production due to the impacts of the Covid-19 pandemic) will lead to a decrease in sales. As a possible primary impact to mitigate water stress, local authorities may push companies like Volkswagen for higher water saving measures. In this case, extended water reuse and recycle practices, as well as rainwater usage would have to be implemented at our facility, which would imply significant upfront costs for infrastructure investments. If these measures are not deemed sufficient, there is also the risk that local authorities might introduce limits or other restrictions on drinking water withdrawals, which could impose a challenge to secure the water supply.

### Timeframe
4-6 years

### Magnitude of potential impact
Medium

### Likelihood
Unlikely

### Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

### Potential financial impact figure (currency)
64000000

### Potential financial impact figure - minimum (currency)
<Not Applicable>

### Potential financial impact figure - maximum (currency)
<Not Applicable>

### Explanation of financial impact
To illustrate the potential magnitude of impact of this risk: the production plant in Brussels produced over 43,000 vehicles in 2019 (the 2020 production figure is not representative due to the effects of Covid-19 on production). A hypothetical downtime of 1 week caused by water scarcity would reduce output by approx. 800 vehicles, assuming no mitigating measures were taken. Assuming a market value of approx. €80,000 per vehicle (Audi e-tron), this could be translated into a decrease in revenue by roughly €64 million.

### Primary response to risk
Adopt water efficiency, water reuse, recycling and conservation practices

### Description of response
Our response strategy is threefold: 1. We implement water efficiency measures to lower water withdrawals as far as possible. For instance, in the paint shop, we have introduced a cascading wash water management. By re-using water, the amount used per vehicle could be reduced by 60%. 2. Also, we are actively investigating and assessing different alternative water supply / recycling options, so that in case the risk materializes, we can react quickly and in the economically most sensible way. To this end, we have undertaken feasibility studies and detailed cost/benefit calculations of different possible measures. First measure is the use of grey water leading to savings of 100 megaliters drinking water p.a. Grey water delivered by the sewage treatment plant of the City of Brussels, which would signify investments of over €500,000 and a running cost of approx. €1/m3. Second measure (which may have to be combined with the first option depending on the external requirements) is a concept for rainwater use, leading to savings of 20 megaliters of drinking water p.a. and an investment of €750,000. 3. We engage with the local authorities on the current and future situation, in order to have a clear perspective on upcoming changes in regulation.

### Cost of response
600000

### Explanation of cost of response
In order to use grey water supplied by the sewage treatment plant of the City of Brussels and to use rain water, investment in new connecting pipes and adaptation of the service water network are required (roughly €500,000). Grey water purchase amounts to €1/m³. Based on an estimated grey water consumption of 100,000 m³ from 2022 the operating cost would amount to €100,000. The figure stated above covers these investment costs as well as the purchase of grey water.

---

### Country/Area & River basin

| | |
|---|---|
| Czechia | Other, please specify (Jizera) |

### Type of risk & Primary risk driver

| | |
|---|---|
| Regulatory | Increased difficulty in obtaining withdrawals/operations permit |

### Primary potential impact
Upfront costs to adopt/deploy new practices and processes

### Company-specific description
The Skoda plants in the Czech Republic based in Mladá Boleslav as the Skoda headquarter, Kvasiny and Vrchlabí produced around 750,000 cars in 2020, corresponding to nearly 80% of production world wide. The Mladá Boleslav plant manufactures the Fabia, Scala, Kamiq, Octavia, Karoq And Enyaq iV models and the plant portfolio in Kvasiny currently comprises the Škoda Superb, Škoda Superb Iv, Škoda Karoq, Škoda Kodiaq And Seat Ateca models. In the Czech Republic the number and intensity of drought has been increasing over the years due to an increase in the evaporative demand of the atmosphere driven by high temperature and global radiation. The

northwestern part of the country where the Skoda plants are located is especially affected by drought . To address the risk of water scarcity, a new law has been adopted that addresses water take and preferential consumption during drought conditions. The industry Skoda operates in is however not a priority sector for preferential consumption and hence will face significant risks of water shortage. Since river water is the only source of water for industrial purposes for the Mladá Boleslav plant, this would lead to a reduction or temporary halt in production as manufacturing steps such as paint shop and cooling processes highly depend on sufficient water supply. Disruption in production of the Czech plants, which produced over 750,000 vehicles in will lead to a decrease of sales. As a counter measure, water recycling has been implemented so that over 45% of total water consumption comes from recycling. Furthermore, a feasibility study for sustainable water supply has been conducted and a connection to the wells of the water supplier for emergency ground water supply has been prepared.

**Timeframe**
1-3 years

**Magnitude of potential impact**
Medium

**Likelihood**
Likely

**Are you able to provide a potential financial impact figure?**
Yes, a single figure estimate

**Potential financial impact figure (currency)**
270000000

**Potential financial impact figure - minimum (currency)**
<Not Applicable>

**Potential financial impact figure - maximum (currency)**
<Not Applicable>

**Explanation of financial impact**
To illustrate the potential magnitude of impact of this risk: the production plant in Mladá Boleslav produced over 480,000 vehicles in 2020. A hypothetical downtime of 1 week caused by water scarcity would reduce output by approx. 9,000 vehicles, assuming no mitigating measures were taken. Assuming a market value of approx. €30,000 per vehicle, this could be translated into a decrease in revenue by roughly €270 million.

**Primary response to risk**
Increase investment in new technology

**Description of response**
We establish preventive actions to start minimizing the potential risks now. Site-specific targets will support these actions and ensure that we reach our goals. Increased investment in new technology and infrastructure as follows: Use of the new technologies such as ultrafiltration, reverse osmosis, and evaporator for water treatment of industrial water from the city BWWTP so that treated water can be reused for the plant. A feasibility study has been conducted and a technical study will be conducted to analyse selected measures for water treatment from the BWWTP in more detail. A pilot testing will be carried out in 2021 and 2022. Furthermore, a connection to the wells of the water company is to be established for emergency groundwater supply.

**Cost of response**
442980

**Explanation of cost of response**
The figure stated above includes the building costs to finish connection to the wells of the water company for emergency groundwater supply (€58,000) as well as the costs for pilot testing (€384,980) in 2021 and 2022. If the pilot study confirms feasibility, the cost estimation to implement the new technologies from 2022-2028 would be €38,32 million.

---

**Country/Area & River basin**

| | |
|---|---|
| Czechia | Other, please specify (Bela) |

**Type of risk & Primary risk driver**

| | |
|---|---|
| Regulatory | Increased difficulty in obtaining withdrawals/operations permit |

**Primary potential impact**
Upfront costs to adopt/deploy new practices and processes

**Company-specific description**
The Skoda plants in the Czech Republic based in Mladá Boleslav as the Skoda headquarter, Kvasiny and Vrchlabí produced around 750,000 cars in 2020, corresponding to nearly 80% of production world wide. The Mladá Boleslav plant manufactures the Fabia, Scala, Kamiq, Octavia, Karoq And Enyaq iV models and the plant portfolio in Kvasiny currently comprises the Škoda Superb, Škoda Superb Iv, Škoda Karoq, Škoda Kodiaq And Seat Ateca models. In the Czech Republic the number and intensity of drought has been increasing over the years due to an increase in the evaporative demand of the atmosphere driven by high temperature and global radiation. The northwestern part of the country where the Skoda plants are located is especially affected by drought. To address the risk of water scarcity, a new law has been adopted that addresses water take and preferential consumption during drought conditions. The industry Skoda operates in is however not a priority sector for preferential consumption and hence will face significant risks of water shortage. Since river water is the only source of water for industrial purposes for the Kvasiny plant, this would lead to a reduction or temporary halt in production as manufacturing steps such as paint shop and cooling processes highly depend on sufficient water supply. Disruption in production of the Czech plants, which produced over 750,000 vehicles in will lead to a decrease of sales. As a counter measure, water recycling has been implemented so that over 71% of total water consumption comes from recycling. Furthermore, a feasibility study for sustainable water supply has been conducted and a connection to the wells of the water supplier for emergency ground water supply has been prepared.

**Timeframe**
1-3 years

**Magnitude of potential impact**
Medium

**Likelihood**
Likely

**Are you able to provide a potential financial impact figure?**
Yes, a single figure estimate

**Potential financial impact figure (currency)**
150000000

**Potential financial impact figure - minimum (currency)**
<Not Applicable>

**Potential financial impact figure - maximum (currency)**
<Not Applicable>

**Explanation of financial impact**
To illustrate the potential magnitude of impact of this risk: the production plant in Mladá Boleslav produced around 270,000 vehicles in 2020. A hypothetical downtime of 1 week caused by water scarcity would reduce output by approx. 5,000 vehicles, assuming no mitigating measures were taken. Assuming a market value of approx. €30,000 per vehicle, this could be translated into a decrease in revenue by roughly €150 million.

**Primary response to risk**
Increase investment in new technology

**Description of response**
We establish preventive actions to start minimizing the potential risks now. Site-specific targets will support these actions and ensure that we reach our goals. Increased investment in new technology and infrastructure as follows: Use of the new technologies such as ultrafiltration, reverse osmosis, and evaporator for water treatment of industrial water from the city BWWTP so that treated water can be reused for the plant. A feasibility study has been conducted and a technical study will be conducted to analyse selected measures for water treatment from the BWWTP in more detail. A pilot testing will be carried out in 2021 and 2022. Furthermore, a connection to the wells of the water company is to be established for emergency groundwater supply.

**Cost of response**
484096

**Explanation of cost of response**
The figure stated above includes the building costs to finish connection pipelines to the new wells as backup water supply (€14,846) as well as the costs for pilot testing (€469,250) in 2021 and 2022. If the pilot study confirms feasibility, the cost estimation to implement the new technologies from 2022-2025 would be € 23,22 Mio.

## W4.2a

**(W4.2a) Provide details of risks identified within your value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.**

### Country/Area & River basin

| | |
|---|---|
| Mexico | Other, please specify (Rio Atoyac) |

### Stage of value chain
Supply chain

### Type of risk & Primary risk driver

| | |
|---|---|
| Physical | Increased water stress |

### Primary potential impact
Disruption to sales due to value chain dissruption

### Company-specific description
Volkswagen has production facilities in 30 countries, some are exposed to varying levels and types of climate related physical risks, such as floods, tropical storms, water scarcity etc., which may cause temporary production downtime/unavailability of facilities, of our local suppliers and thus our own. The impact for our facilities may be direct through physical damage and indirect, where large numbers of workers are affected and therefore unavailable. Also, local infrastructure needed to sustain the automotive production process (transportation, energy, water etc.) may be affected. Our latest review indicates that 41% (around 17.1 million m³) of our entire freshwater consumption is attributable to sites located in regions where groundwater resources are at risk. An example is the Volkswagen plant in Puebla/Mexico, which is the largest automobile production facility in Mexico and also one of the largest vehicle plants of the Volkswagen Group, where we produced over 440,000 vehicles in 2019 (2020 was not representative in terms of production due to the impacts of the Covid-19 pandemic): Due to a depletion of water resources in the area of Puebla, being exposed to water stress, ground water levels were decreasing in the past decades. The area around our plant in Puebla is home to a large number of Volkswagen suppliers, whose in-time delivery of components are crucial for the operation of the plant. If not managed properly, Volkswagen might have a problem with the water supply and supply of materials as well as components in the future that would lead to a stop of production.

### Timeframe
Current up to one year

### Magnitude of potential impact
Medium-high

### Likelihood
About as likely as not

### Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

### Potential financial impact figure (currency)
130000000

### Potential financial impact figure - minimum (currency)
<Not Applicable>

### Potential financial impact figure - maximum (currency)
<Not Applicable>

### Explanation of financial impact
The gross risk profile (without considering actions in place to mitigate the risk) shows a difference between the material and immaterial evaluation. While the potential material damage equals a high impact, the immaterial criteria are rated at a medium level. This is because the resilience against natural catastrophes will not be considered a critical organisation´s ability by investors and customers compared to e.g. compliance with new CO2 regulations. To illustrate the potential magnitude of impact of this risk: The mentioned example of our production plant in Puebla/Mexico is the largest automobile production facility in Mexico and also one of the largest vehicle plants in the Volkswagen Group, where we produced over 440,000 vehicles in 2019 (the 2020 production figure is not representative due to the effects of Covid-19 on production). A hypothetical downtime of 1 week would reduce output by approx. 8,800 vehicles, assuming no mitigating measures were taken. Assuming a market value of approx. €15,000 per vehicle, this could be translated into a decrease in revenue by roughly €130 million.

### Primary response to risk

| | |
|---|---|
| Supplier engagement | Work with supplier to engage with local communities |

### Description of response
Volkswagen has established various central and local actions to mitigate the risks caused by natural disasters. To be best prepared in emergency situations, good relationships with local suppliers and authorities are considered to be of high importance. Regarding water stress we conducted an analysis for all production sites using sub national level Maplecroft water stress index data. Sites were prioritized depending on fresh water demand and water stress index. Consequently, measures to improve the situation at risk sites are determined, taking other local stakeholders into account and fostering collaboration of local authorities and businesses, especially automotive suppliers that deliver to the Group sites. We also asked suppliers to review the water resource, as well as disclose the procedures and requirements in place for water risk assessment via CDP's Water Security Questionnaire. Particularly we are interested in whether suppliers have set a public policy on water. Example, case study Mexico, Puebla: Groundwater from "Izta-Popo" surrounding is used as a water supply. Volkswagen has funded reforestation of 750 hectares with about 490,000 Alpine conifers since 2008. The trees promote formation of top soil and support growth of secondary vegetation. 350 dams are constructed to limit the flow speed of the channels. 2.6 million m³ of rain water is collected each year.

### Cost of response
110000

### Explanation of cost of response
As of today, Volkswagen has supported the project with about $2.8 million, with joint support by 39 suppliers of VW Mexico, as well as by Puebla's water and sewage services provider. Together, the sponsors will ensure that the forest is protected for years to come. The Izta Popo Project considers different works to the restoration, protection and conservation of natural resources like reforesting, construction and maintenance of water and soil retention works, excavation of fire-stopping grooves and perimeter fencing, monitoring of biodiversity and an environmental program education. These activities amount to €110,000 annually.

## W4.3

**(W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?**
Yes, we have identified opportunities, and some/all are being realized

## W4.3a

**(W4.3a) Provide details of opportunities currently being realized that could have a substantive financial or strategic impact on your business.**

**Type of opportunity**
Resilience

**Primary water-related opportunity**
Increased resilience to impacts of climate change

**Company-specific description & strategy to realize opportunity**
47 of our production sites are located in high or extreme water stress areas (Maplecroft Water Risk Index). Many of these areas have long been confronted with a limitation of water resources, e.g. our plants in Kariega (Uitenhage)/South Africa. Due to this situation, we have gained valuable experience over the past decades in managing water resources successfully. In the context of advancing climate change this is an opportunity, because we will be able to transfer knowledge and implement innovative technical solutions, if water scarcity should affect more areas. This may help to mitigate production downtimes due to lack of water and it is a protection against rising costs for water supply. Strategic importance: The Volkswagen Group bundles all its measures in environmental protection under the new “goTOzero” environmental mission statement. This concept sets the agenda for a way of doing business that is as environmentally friendly and with a footprint that is as carbon-free as possible. The Volkswagen Group has set itself the Group-wide goal of achieving this by 2050. Within the Sustainability Report, we have provided a structured reference of contents based on the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). This is in response to growing investor demand for companies to disclose actual and potential impacts of climate-related risks and opportunities on the Group’s businesses, strategy and financial planning. Showing that the Volkswagen Group is committed to mitigate climate change, but at the same time is resilient to changing physical climate conditions is therefore of high strategic importance. Strategy to realize: Environmental impact reduction per produced unit (UEP) was defined as part of our environmental production strategy. Target values were specified for the Group and brands. We are encouraging close integration and communication between the brands worldwide in order to create synergies. Successful measures taken include direct optimization of processes, water free processes (paint shop) and WWTP with water recycling. Case study: At our Urumqi site with extreme water stress, effluent water is recycled after physical, chemical, and biological treatment and reused for irrigation and toilet flushing. The actual water reduction is round about 90,000 m³/a.

**Estimated timeframe for realization**
4 to 6 years

**Magnitude of potential financial impact**
Low-medium

**Are you able to provide a potential financial impact figure?**
Yes, a single figure estimate

**Potential financial impact figure (currency)**
40500000

**Potential financial impact figure – minimum (currency)**
<Not Applicable>

**Potential financial impact figure – maximum (currency)**
<Not Applicable>

**Explanation of financial impact**
We record and catalog environmental measures in an IT-system and make these available for a Group-wide exchange of best practice. These activities are worthwhile not just from an environmental perspective: they also lead to significant annual savings. For instance, savings of around €40.5 million through 1.500 individual measures were recorded in 2020. If a project is found to be highly promising, it can be applied to other brands. Thanks to these synergy effects, we save considerable time and money. In the final resort each innovation must also add value.

# W5. Facility-level water accounting

## W5.1

**(W5.1) For each facility referenced in W4.1c, provide coordinates, water accounting data, and a comparison with the previous reporting year.**

**Facility reference number**
Facility 1

**Facility name (optional)**
Bratislava

**Country/Area & River basin**

| | |
|---|---|
| Slovakia | Danube |

**Latitude**
48.23472

**Longitude**
16.98777

**Located in area with water stress**
Yes

**Primary power generation source for your electricity generation at this facility**
<Not Applicable>

**Oil & gas sector business division**
<Not Applicable>

**Total water withdrawals at this facility (megaliters/year)**
753

**Comparison of total withdrawals with previous reporting year**
Lower

**Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes**
0

**Withdrawals from brackish surface water/seawater**
0

**Withdrawals from groundwater - renewable**
625

**Withdrawals from groundwater - non-renewable**
0

**Withdrawals from produced/entrained water**
0

**Withdrawals from third party sources**
128

**Total water discharges at this facility (megaliters/year)**
452

**Comparison of total discharges with previous reporting year**
Much lower

**Discharges to fresh surface water**
452

**Discharges to brackish surface water/seawater**
0

**Discharges to groundwater**
0

**Discharges to third party destinations**
0

**Total water consumption at this facility (megaliters/year)**
301

**Comparison of total consumption with previous reporting year**
Lower

**Please explain**
Variations in production output and physical operating conditions (e.g. outside air temperature) affect water withdrawal, discharge and consumption. Due to the Covid-19 pandemic, the overall water withdrawal decreased with production capacity and thus consumption was lower as well.

---

**Facility reference number**
Facility 2

**Facility name (optional)**
Puebla

**Country/Area & River basin**

| | |
|---|---|
| Mexico | Other, please specify (Rio Atoyac) |

**Latitude**
19.12555

**Longitude**
-98.25416

**Located in area with water stress**
Yes

**Primary power generation source for your electricity generation at this facility**
<Not Applicable>

**Oil & gas sector business division**
<Not Applicable>

**Total water withdrawals at this facility (megaliters/year)**
814

**Comparison of total withdrawals with previous reporting year**
Much lower

**Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes**
16

**Withdrawals from brackish surface water/seawater**
0

**Withdrawals from groundwater - renewable**
798

**Withdrawals from groundwater - non-renewable**
0

**Withdrawals from produced/entrained water**
0

**Withdrawals from third party sources**
0

**Total water discharges at this facility (megaliters/year)**
962

**Comparison of total discharges with previous reporting year**
Much lower

**Discharges to fresh surface water**
962

**Discharges to brackish surface water/seawater**
0

**Discharges to groundwater**
0

**Discharges to third party destinations**
0

**Total water consumption at this facility (megaliters/year)**
-148

**Comparison of total consumption with previous reporting year**
Much lower

**Please explain**
Variations in production output and physical operating conditions (e.g. outside air temperature) affect water withdrawal, discharge and consumption. The site's rainwater of the surface is discharged through a rainwater sewer into the official drain of the wastewater treatment plant (WWTP effluent and rainwater are measured together). So the rainwater is an essential factor of the total amount of wastewater and leads to a negative total water consumption for the site.

---

**Facility reference number**
Facility 3

**Facility name (optional)**
Kariega (Uitenhage)

**Country/Area & River basin**

| | |
|---|---|
| South Africa | Other, please specify (Swartskops River) |

**Latitude**
-33.78527

**Longitude**
25.41805

**Located in area with water stress**
Yes

**Primary power generation source for your electricity generation at this facility**
<Not Applicable>

**Oil & gas sector business division**
<Not Applicable>

**Total water withdrawals at this facility (megaliters/year)**
241

**Comparison of total withdrawals with previous reporting year**
Much lower

**Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes**
0

**Withdrawals from brackish surface water/seawater**
0

**Withdrawals from groundwater - renewable**
0

**Withdrawals from groundwater - non-renewable**
0

**Withdrawals from produced/entrained water**
0

**Withdrawals from third party sources**
241

**Total water discharges at this facility (megaliters/year)**
125

**Comparison of total discharges with previous reporting year**
About the same

**Discharges to fresh surface water**
0

**Discharges to brackish surface water/seawater**
0

**Discharges to groundwater**
0

**Discharges to third party destinations**
125

**Total water consumption at this facility (megaliters/year)**
116

**Comparison of total consumption with previous reporting year**
Much lower

**Please explain**
Variations in production output and physical operating conditions (e.g. outside air temperature) affect water withdrawal, discharge and consumption. Due to the Covid-19 pandemic, the overall water withdrawal decreased with production capacity and thus consumption was lower as well.

---

**Facility reference number**
Facility 4

**Facility name (optional)**
Brussels

**Country/Area & River basin**

| | |
|---|---|
| Belgium | Other, please specify (Senne) |

**Latitude**
50.80947

**Longitude**
4.31141

**Located in area with water stress**
Yes

**Primary power generation source for your electricity generation at this facility**
<Not Applicable>

**Oil & gas sector business division**
<Not Applicable>

**Total water withdrawals at this facility (megaliters/year)**
117

**Comparison of total withdrawals with previous reporting year**
Lower

**Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes**
0

**Withdrawals from brackish surface water/seawater**
0

**Withdrawals from groundwater - renewable**
0

**Withdrawals from groundwater - non-renewable**
0

**Withdrawals from produced/entrained water**
0

**Withdrawals from third party sources**
117

**Total water discharges at this facility (megaliters/year)**
32

**Comparison of total discharges with previous reporting year**
Lower

**Discharges to fresh surface water**
0

**Discharges to brackish surface water/seawater**
0

**Discharges to groundwater**
0

**Discharges to third party destinations**
32

**Total water consumption at this facility (megaliters/year)**
85

**Comparison of total consumption with previous reporting year**
Lower

**Please explain**
Variations in production output and physical operating conditions (e.g. outside air temperature) affect water withdrawal, discharge and consumption. Due to the Covid-19 pandemic, the overall water withdrawal decreased with production capacity and thus consumption was lower as well.

---

**Facility reference number**
Facility 5

**Facility name (optional)**
Mladá Boleslav

**Country/Area & River basin**

| | |
|---|---|
| Czechia | Other, please specify (Jizera) |

**Latitude**
50.42369

**Longitude**
14.91769

**Located in area with water stress**
No

**Primary power generation source for your electricity generation at this facility**
<Not Applicable>

**Oil & gas sector business division**
<Not Applicable>

**Total water withdrawals at this facility (megaliters/year)**
949

**Comparison of total withdrawals with previous reporting year**
Lower

**Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes**
0

**Withdrawals from brackish surface water/seawater**
0

**Withdrawals from groundwater - renewable**
0

**Withdrawals from groundwater - non-renewable**
0

**Withdrawals from produced/entrained water**
0

**Withdrawals from third party sources**
949

**Total water discharges at this facility (megaliters/year)**
679

**Comparison of total discharges with previous reporting year**
Lower

**Discharges to fresh surface water**
0

**Discharges to brackish surface water/seawater**
0

**Discharges to groundwater**
0

**Discharges to third party destinations**
679

**Total water consumption at this facility (megaliters/year)**
270

**Comparison of total consumption with previous reporting year**
Much lower

**Please explain**
Variations in production output and physical operating conditions (e.g. outside air temperature) affect water withdrawal, discharge and consumption. Due to the Covid-19 pandemic, the overall water withdrawal decreased with production capacity and thus consumption was lower as well.

---

**Facility reference number**
Facility 6

**Facility name (optional)**
Kvasiny

**Country/Area & River basin**

| | |
|---|---|
| Czechia | Other, please specify (Bela) |

**Latitude**
50.20611

**Longitude**
16.2572

**Located in area with water stress**
No

**Primary power generation source for your electricity generation at this facility**
<Not Applicable>

**Oil & gas sector business division**
<Not Applicable>

**Total water withdrawals at this facility (megaliters/year)**
318

**Comparison of total withdrawals with previous reporting year**
Lower

**Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes**
0

**Withdrawals from brackish surface water/seawater**
0

**Withdrawals from groundwater - renewable**
0

**Withdrawals from groundwater - non-renewable**
0

**Withdrawals from produced/entrained water**
0

**Withdrawals from third party sources**
318

**Total water discharges at this facility (megaliters/year)**
208

**Comparison of total discharges with previous reporting year**
Lower

**Discharges to fresh surface water**
0

**Discharges to brackish surface water/seawater**
0

**Discharges to groundwater**
0

**Discharges to third party destinations**
208

**Total water consumption at this facility (megaliters/year)**
110

**Comparison of total consumption with previous reporting year**
Lower

**Please explain**

Variations in production output and physical operating conditions (e.g. outside air temperature) affect water withdrawal, discharge and consumption. Due to the Covid-19 pandemic, the overall water withdrawal decreased with production capacity and thus consumption was lower as well.

## W5.1a

**(W5.1a) For the facilities referenced in W5.1, what proportion of water accounting data has been externally verified?**

**Water withdrawals – total volumes**

**% verified**

76-100

**What standard and methodology was used?**

The environmental data are collected, checked and approved in the course of the internal standard (VW Standard 98000). The approach of data determination and aggregation is defined in the standard. The absolute figures include all sites, the power stations and boiler plants operated by VW AG. Externally the data are verified and proved by the ISO 14001/EMAS certification process. 100% are verified.

**Water withdrawals – volume by source**

**% verified**

76-100

**What standard and methodology was used?**

The environmental data are collected, checked and approved in the course of the internal standard (VW Standard 98000). The approach of data determination and aggregation is defined in the standard. The absolute figures include all sites, the power stations and boiler plants operated by VW AG. Externally the data are verified and proved by the ISO 14001/EMAS certification process. 100% are verified

**Water withdrawals – quality**

**% verified**

76-100

**What standard and methodology was used?**

100 % of the water withdrawals quality is measured. Due to the external supply of fresh water the analysis is done by the supplier. Volkswagen's own water withdrawals are analyses in internal or external laboratories. These laboratories and analyses are corresponding to national and international standards. We are only using accredited laboratories, so that the laboratories as well as the analyses are external verified (see W1.2).

**Water discharges – total volumes**

**% verified**

76-100

**What standard and methodology was used?**

The environmental data are collected, checked and approved in the course of the internal standard (VW Standard 98000). The approach of data determination and aggregation is defined in the standard. The absolute figures include all sites, the power stations and boiler plants operated by VW AG. Externally the data are verified and proved by the ISO 14001/EMAS certification process. 100% are verified.

**Water discharges – volume by destination**

**% verified**

76-100

**What standard and methodology was used?**

The environmental data are collected, checked and approved in the course of the internal standard (VW Standard 98000). The approach of data determination and aggregation is defined in the standard. The absolute figures include all sites, the power stations and boiler plants operated by VW AG. Externally the data are verified and proved by the ISO 14001/EMAS certification process. 100% are verified.

**Water discharges – volume by treatment method**

**% verified**

76-100

**What standard and methodology was used?**

The environmental data are collected, checked and approved in the course of the internal standard (VW Standard 98000). The approach of data determination and aggregation is defined in the standard. The absolute figures include all sites, the power stations and boiler plants operated by VW AG. Externally the data are verified and proved by the ISO 14001/EMAS certification process. 100% are verified.

**Water discharge quality – quality by standard effluent parameters**

**% verified**

76-100

**What standard and methodology was used?**

The environmental data are collected, checked and approved in the course of the internal standard (VW Standard 98000). The approach of data determination and aggregation is defined in the standard. The absolute figures include all sites, the power stations and boiler plants operated by VW AG. Externally the data are verified and proved by the ISO 14001/EMAS certification process. 100% are verified.

**Water discharge quality – temperature**

**% verified**

Not verified

**What standard and methodology was used?**

<Not Applicable>

### Water consumption – total volume

#### % verified
Not verified

#### What standard and methodology was used?
<Not Applicable>

### Water recycled/reused

#### % verified
76-100

#### What standard and methodology was used?
The environmental data are collected, checked and approved in the course of the internal standard (VW Standard 98000). The approach of data determination and aggregation is defined in the standard. The absolute figures include all sites, the power stations and boiler plants operated by VW AG. Externally the data are verified and proved by the ISO 14001/EMAS certification process. 100% are verified.

## W6. Governance

## W6.1

### (W6.1) Does your organization have a water policy?
Yes, we have a documented water policy that is publicly available

## W6.1a

### (W6.1a) Select the options that best describe the scope and content of your water policy.

| | Scope | Content | Please explain |
|---|---|---|---|
| Row 1 | Company-wide | Description of business dependency on water<br>Description of business impact on water<br>Description of water-related performance standards for direct operations<br>Description of water-related standards for procurement<br>Reference to international standards and widely-recognized water initiatives<br>Company water targets and goals<br>Commitment to align with public policy initiatives, such as the SDGs<br>Commitments beyond regulatory compliance<br>Commitment to water-related innovation<br>Commitment to stakeholder awareness and education<br>Commitment to water stewardship and/or collective action<br>Acknowledgement of the human right to water and sanitation<br>Recognition of environmental linkages, for example, due to climate change | The implementation of the strategy “TOGETHER 2025+” with regard to the environment is carried out via our Mission Statement Environment “goTozero”. One action area is to maximize resource efficiency & promote circular economy in the areas of materials, energy & water. Based on that, the Group Environmental Policy Statement sets out our commitment to become an environmental role model outlined in five principles: leadership conduct (incl. awareness rising & education of employees), compliance with legal & regulatory requirements, environmental protection (incl. water targets/goals), collaboration with stakeholders, continual improvement (incl. implementation of water-related innovations). Hereby, we set a clear scope of action & outline our position on environmental protection, also acknowledging linkages between water and climate change . The brands & entities develop their own environmental policies, in line with the framework set by the Group. To guarantee comparable requirements in our production worldwide, our “Group Environmental Principles” have been established in 2006. They describe our business dependency on water, set water related performance standards for our global operations & commit to significant long-term water conservation. We set standards for procurement in our global Group requirements regarding sustainability that include efficient use of resources (incl. water) & the avoidance of damage to the environment and are minimum requirements for all suppliers. We acknowledge the human right to water, sanitation & hygiene, as by our globally valid Social Charter. We refer to international standards & initiatives, commit to water stewardship, public policy initiatives & collective action, via our signature (on Group level) of the UN CEO Water Mandate & our commitment to the SDGs. The concept for sustainable water management approved by the Group Steering Committee for the Environment & Energy defines 4 areas of activity: safe supply & disposal of water by protecting groundwater reserves against pollution, efficient water use through closed loops over the life cycle, social & ecological work through projects to protect water reserves & raise public awareness of environmental issues (incl. engagement with stakeholders), transparency through supporting CEO Water Mandate & CDP Water Program. The Group’s readmission to the UN Global Compact early 2021 is a signal of confidence for our stakeholders and proof of our strategy’s effectiveness. |

## W6.2

**(W6.2) Is there board level oversight of water-related issues within your organization?**

Yes

## W6.2a

**(W6.2a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for water-related issues.**

| Position of individual | Please explain |
|---|---|
| Other C-Suite Officer | Rationale: The Member of the Group Board of Management responsible for 'Production' is the responsible for Group environmental affairs. The Group Board of Management is the highest internal decision-making authority on environmental matters; it also functions as the Group's Sustainability Board. Responsibilities related to water: The mentioned Board member oversees the Group's status and progress regarding environmental topics, including risk and governance status, tracking of KPIs, potential compliance violations and relevant impacts. To ensure oversight, the Board member is informed case by case on several environmental topics - one being water. The Group-wide operational management of environmental protection is the responsibility of the Corporate Environment and Energy Steering Committee. It coordinates our brands and companies and provides information on environmental topics (incl. water topic) to the Board member as well as into the Board of Management case by case. The group production committee consisting of all chief production officers of the brands (except Scania and MAN) is regularly informed about environmental objectives (incl. water) and tracks the KPI's like UEP (environmental impact reduction production per unit). Example of water-related decision: An example of a water-related decision that was made, is the refurbishment of the existing power plant operation at the Volkswagen plant Wolfsburg into a gas and steam turbine power plant. Through this the water consumption can be reduced by approximately 28%, from 4,175,000 m3/a to ca. 3,000,000 m3/a. |
| Chief Executive Officer (CEO) | The Group Board of Management also constitutes the Sustainability Board, which is the highest-ranking sustainability body in the company. The CEO chairs the Group Board of Management and as such is also chairman of the Sustainability Board. The Sustainability Board is informed by the Corporate Sustainability Steering Committee about corporate responsibility and sustainability issues (e.g. dealing with water risks and opportunities), As chair of the Sustainability Board, as well as the Group Board of Management, the highest-level responsibility for coordinating sustainability-related decisions lies with the CEO. Example of sustainability-related decisions: The Group Board of Management, chaired by the CEO, made several important sustainability-related decisions in the reporting year. For example by 2025, the Group plans to have reduced the production-related environmental impact with respect to energy, water, waste and volatile organic compounds by 45% per vehicle compared to 2010. |

## W6.2b

**(W6.2b) Provide further details on the board's oversight of water-related issues.**

| | Frequency that water-related issues are a scheduled agenda item | Governance mechanisms into which water-related issues are integrated | Please explain |
|---|---|---|---|
| Row 1 | Scheduled - some meetings | Monitoring implementation and performance<br>Overseeing acquisitions and divestiture<br>Reviewing and guiding annual budgets<br>Reviewing and guiding business plans<br>Reviewing and guiding major plans of action<br>Reviewing and guiding risk management policies<br>Reviewing and guiding strategy<br>Reviewing and guiding corporate responsibility strategy<br>Setting performance objectives | The Group Board of Management is the highest internal decision-making authority on environmental matters; it also functions as the Group's Sustainability Board. Our aim is to operate responsibly along the entire value chain. This means our corporate governance must be sustainable and transparent to its core. Largely in line with the recommendations of the German Corporate Governance Code, we practice Group-wide sustainability coordination, integrated compliance and risk management, the continued development of a culture of integrity, and responsible supply chain management. The Group-wide management of environmental protection is the responsibility of the Group Environment and Energy Steering Committee, with the support of numerous specialist bodies. The Group Environment and Energy Steering Committee coordinates our brands and companies, and provides information to the Board of Management on environmental topics (incl. water topics) case by case. The information is on the guiding strategy, the implementation and performance and on performance objectives (KPI's, including water). Employees are incentivized by our idea management for conducting improving processes as well concerning water efficiency. The Group production committee (KPA), consisting of all chief production officers of the brands Volkswagen, VWN, SEAT, Skoda, Audi and Porsche icl. the respective daughter brands is informed about environmental objectives (incl. water) and tracks the KPI's like UEP (environmental impact reduction production per unit). How the selected points contribute to Board's oversight: Through the monitoring and oversight of implementation and performance, the Management Board can keep track of the progress of the company's efforts to tackle environmental challenges (including water) and working towards the points of our environmental mission statement. In case of a clear underperformance, the Board is then able to initiate corrective measures or realign operational priorities, e.g. via the review and guidance of major plans of actions, annual budgets etc. |

## W6.3

**(W6.3) Provide the highest management-level position(s) or committee(s) with responsibility for water-related issues (do not include the names of individuals).**

**Name of the position(s) and/or committee(s)**
Other C-Suite Officer, please specify (Member of the Group Board of Management responsible for 'Production' (corresponding to "Chief Production Officer")

**Responsibility**
Both assessing and managing water-related risks and opportunities

**Frequency of reporting to the board on water-related issues**
Quarterly

**Please explain**
The Member of the Group Board of Management responsible for production is part of the corporate management of the Group, as well of the Board of Management which functions as the Sustainability Board. The position reports to the CEO/Chair of the Group Board of Management and regularly updates the Board on issues to environmental and energy matters. The Board member is responsible for Group environmental affairs, overseeing the Group's status and progress regarding environmental topics (incl. water), incl. risk and governance status, KPIs, potential compliance violations and relevant impacts. The Board member is also responsible for upholding the TOGETHER 2025+ Group strategy. One action area is to maximize resource efficiency and promote circular economy of materials, energy and water. Reporting to Board: information on environmental topics (incl. water), incl. risk status, are presented quarterly. Critical ad-hoc topics are immediately reported to the board if necessary.

**Name of the position(s) and/or committee(s)**
Chief Executive Officer (CEO)

**Responsibility**
Managing water-related risks and opportunities

**Frequency of reporting to the board on water-related issues**
Quarterly

**Please explain**
The CEO chairs the Group Board of Management and as such is also chairman of the Sustainability Board. The Sustainability Board is informed by the Corporate Sustainability Steering Committee about corporate responsibility and sustainability issues (e.g. dealing with water risks and opportunities), As chair of the Sustainability Board, as well as the Group Board of Management, the highest-level responsibility for coordinating sustainability-related decisions lies with the CEO.

## W6.4

**(W6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?**

| | Provide incentives for management of water-related issues | Comment |
|---|---|---|
| Row 1 | Yes | |

## W6.4a

**(W6.4a) What incentives are provided to C-suite employees or board members for the management of water-related issues (do not include the names of individuals)?**

| | Role(s) entitled to incentive | Performance indicator | Please explain |
|---|---|---|---|
| Monetary reward | Chief Executive Officer (CEO) Other C-suite Officer (Member of the Group Board of Management responsible for 'Production' ) | Improvements in efficiency - direct operations | The conservation of resources along the life cycle of our products and mobility solutions is a central pillar of our "goTOzero" concept. We want to maximize resource efficiency, promote circular economy approaches and set ourselves measurable targets. By 2025, we want to reduce energy and water consumption, waste for disposal (production-specific volumes), and CO2, VOC emissions in production by 45% per vehicle produced based on 2010 levels. We pursue these goals at each management level up to the Board chairman (CEO). The remuneration system of the Board of Management comprises non-performance and performance-related components. The latter consist of an annual bonus with a 1-year assessment period and a long-term incentive in the form of a performance share plan with a forward-looking 3-year term. The performance share plan is linked to business development in the next 3 years and is on a multiyear, forward-looking assessment that reflects positive and negative developments. The non-performance-related component creates an incentive for the Board to perform their duties in the best interests of the Company. The performance-related components serve to ensure the long-term impact of behavioral incentives. In December 2020 the Supervisory Board resolved a revised remuneration system for the Board of Management. Starting with the financial year 2021 the annual bonus includes an ESG multiplier. The ESG multiplier takes environmental targets (Decarbonization Index) into account. |
| Non-monetary reward | Other C-suite Officer | Improvements in efficiency - direct operations | Rationale for the indicator chosen: The conservation of resources along the entire life cycle of our products and mobility solutions is a central pillar of our "goTOzero" concept. In this context, we want to maximize resource efficiency, promote circular economy approaches and set ourselves measurable targets. Details of incentivized indicator: By 2025, we want to reduce energy and water consumption, waste for disposal (production-specific volumes only), and CO2 and VOC emissions in production by 45% for each vehicle produced – starting from 2010 levels and throughout the whole Group. This target figure – the environmental impact reduction production per unit (UEP) – was defined as part of the production strategy and includes targets for the Group and its brands. This includes water consumption per vehicle produced (i.e. improvement of efficiency) as one of the indicators. We are pursuing these goals at all production-related management levels up to the Member of the Board of Management responsible for production (corresponding to "Other C-Suite officer"), including via monetary and/or non-monetary incentives. |

## W6.5

**(W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?**
Yes, direct engagement with policy makers
Yes, trade associations

## W6.5a

**(W6.5a) What processes do you have in place to ensure that all of your direct and indirect activities seeking to influence policy are consistent with your water policy/water commitments?**

We consider it our responsibility to actively participate in shaping the framework for our economic activity in politics and civil society in dialog with our stakeholders. In the process, we ensure consistent communication of all brands and companies (“One Voice Policy”), including in associations

Rules for the representation of the Group’s political interests in associations have also been developed as part of the Group-wide policy. Firstly, all areas in the group that carry out the tasks of representing political interests inform the Public Affairs Division of their activities. Secondly, within the associations our representatives are committed to the same principles and guidelines. They undertake to contribute the Group’s positions for dialog with politicians to the discussions within these organizations (within the framework of what is permitted under competition and antritrust law) without change. If the positions for the dialogue with politicians that are decided in the group of members differ substantially from the positions brought forward by the group, this is noted as dissent. This process also fully applies to any policy engagement on the topic of water management and related topics. In the case of a violation of our principles and guidelines escalation into the Group Steering Committee (KSK) will take place. The KSK is directly connected to the Board of Management of the Volkswagen Group.

## W6.6

**(W6.6) Did your organization include information about its response to water-related risks in its most recent mainstream financial report?**

Yes (you may attach the report - this is optional)

Y_2020_e.pdf

# W7. Business strategy

## W7.1

**(W7.1) Are water-related issues integrated into any aspects of your long-term strategic business plan, and if so how?**

| | Are water-related issues integrated? | Long-term time horizon (years) | Please explain |
|---|---|---|---|
| Long-term business objectives | Yes, water-related issues are integrated | 11-15 | Climate change, resource availability and urbanization are among the major global challenges facing the Volkswagen Group as one of the biggest car producers. Our TOGETHER – Strategy 2025+ aims to make a significant contribution to ensuring that mobility has less impact on the environment. We also want to help attain the Sustainable Development Goals (SDGs) until 2030 (hence the stated long-term time horizon). Our aim is to become a role model for environmental protection. We believe the transformation of our core business is the right way to meet these objectives. Environmental protection is firmly embedded in our Strategy as one of our 4 corporate objectives. With this in mind, we have defined the following targets: Tto continuously improve our carbon footprint, reduce our pollutant emissions (incl. those to water), reduce resource consumption (incl. water). We focus on water withdrawals for our own factories, expressed in amount of water withdrawal per car produced. We have set a target for 2025 to reduce the environmental impact reduction production per unit for the Group and its brands by 45% per vehicle compared with 2010. This includes the consumption of energy and water, emissions of $CO_2$ and VOCs, as well as waste for disposal. We also consider environmental impact (like indirect water consumption) throughout the entire product life cycle. For passenger vehicles we assume a vehicle useful life of 15 years, another reason why we have set the time horizon accordingly.. |
| Strategy for achieving long-term objectives | Yes, water-related issues are integrated | 11-15 | One element of our production strategy is the environmentally exemplary production initiative. This involves us working on 4 key areas: - Setting / achieving ambitious environmental targets for production, incl. water use - Developing a long-term vision for environmental targets in production (incl. water use), rolling it out across the Group - Strengthening employees’ environmental awareness and integrating relevant environmental aspects into processes (incl. water conservation, emissions to water) - Achieving top positions in renowned environmental rankings (incl. water stewardship/management, e.g. CDP Water). The concept for sustainable water management approved by the Group Steering Committee for the Environment and Energy takes these aspects into account and defines 4 areas of activity: - safe supply and disposal of water by protecting groundwater reserves against pollution, - efficient water use through closed loops over the life cycle, - social and ecological work through projects to protect water reserves and raise public awareness of environmental issues, - transparency through supporting CEO Water Mandate and CDP Water Program. Environmental aspects like water security are assessed in the planning regarding construction or extension of production infrastructure, which have a typical lifetime of several decades. This is why have stated the time horizon accordingly. |
| Financial planning | Yes, water-related issues are integrated | 11-15 | In investment decisions, like the planning of new factories or extension/remodeling of existing ones, we take necessary water related CAPEX and OPEX into account, e.g. for freshwater supply or wastewater treatment. To give a sense for the magnitude: Investment for environmental protection at our Volkswagen AG production sites in Germany was €4 million in 2020. Operating costs for environmental protection were about €225 million, 30% of that for sewage management and 14% for soil and water pollution control. Furthermore, Volkswagen is using an internal water price for freshwater and de-ionized water to divide the costs for supply and production to the relevant cost center according to their water usage. The prices are calculated using the costs for the freshwater supply or rather production of de-ionized water. This leads to site-specific water prices. Such cost effects are considered in the long-term planning. Also, environmental aspects like water security are assessed in the investment planning regarding construction or extension of production infrastructure, which have a typical lifetime of several decades. This is why we have stated the long-term time horizon accordingly. |

## W7.2

**(W7.2) What is the trend in your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?**

**Row 1**

**Water-related CAPEX (+/- % change)**

-82.1

**Anticipated forward trend for CAPEX (+/- % change)**

50

**Water-related OPEX (+/- % change)**

-3.3

**Anticipated forward trend for OPEX (+/- % change)**

4

**Please explain**

Data is calculated using the environmental statistics law (Umweltstatistikgesetz 07/2016). The reported data includes the 6 German sites of the Volkswagen AG and refers to water & wastewater treatment systems. CAPEX change: -82,1%. Due to the Covid-19 pandemic, investments were reduced to secure liquidity (no lifting date yet), whereas in 2019 significant investments in water related projects (piping system for reused water, replacement of oil and grease separators, cooling plant and water treatment) were made. Investments will be taken up again after the pandemic, to renew existing infrastructure. The anticipated CAPEX is +50%. OPEX change: -3.3%. Decrease is caused by a lesser amount of treated waste water due to the Covid-19 pandemic, concomitant reduction of production and home office options. OPEX was spent on water & wastewater treatment plant operation, service & maintenance. OPEX will return to pre-pandemic magnitudes in the future, therefore the anticipated OPEX is +4%.

## W7.3

**(W7.3) Does your organization use climate-related scenario analysis to inform its business strategy?**

| | Use of climate-related scenario analysis | Comment |
|---|---|---|
| Row 1 | Yes | Volkswagen welcomes the Paris Agreement on climate change, which aims to limit global warming to less than 2°C. Referring to international climate agreements, our CEO is calling upon the automotive industry to ensure that all fleet CO2 emissions "are steadily reduced to zero by 2050." VW is a stakeholder in the IEA Mobility Model (MoMo) working group, and as such has contributed to the development of the model and is using the model data and assumptions in various contexts. MoMo uses the various IEA ETP scenarios, including the 2DS as a below-2-degree pathway. These scenario forecasts are conducted at regional level. It was combined with Volkswagen data and forecasts regarding production output, energy consumption and vehicle life cycle data, to develop a Volkswagen-specific model, taking into account the specific regional characteristics of production, sales, and vehicle operation. Aqueduct scenarios are used for future development of sites in water stress areas. |

## W7.3a

**(W7.3a) Has your organization identified any water-related outcomes from your climate-related scenario analysis?**

Yes

## W7.3b

**(W7.3b) What water-related outcomes were identified from the use of climate-related scenario analysis, and what was your organization's response?**

| | Climate-related scenarios and models applied | Description of possible water-related outcomes | Company response to possible water-related outcomes |
|---|---|---|---|
| Row 1 | 2DS<br>Other, please specify (Aqueduct - Water risk atlas) | Not reaching the 2 degree° goal will likely lead to aggravated climate change which can have a range of effects on ecosystems, including rising of sea levels, severe weather events, and droughts that render landscapes. Aqueduct scenarios are based on the IPCC 5th assessment report. They are used for scenario analysis of future development of water stress areas, in which our production sites are located. The average water stress for all production sites will increase from today 0.45 to 0.54 in 2040 (scenario: business as usual). This shows a dramatic declining of the available water resources. So water related problems will become more frequent and especially the supply with good quality fresh water will be under pressure. Climate change-induced variances in the availability of water might affect plant operations at several of Volkswagen's sites, leading to effects from higher water-related OPEX and CAPEX to temporary reductions of production, if no sufficient mitigation measures are taken. | Using the outcomes of the Aqueduct scenario analysis Volkswagen is going to identify hot spot production sites where most effort will be taken to reduce the water demand of those factories to lower the pressure on the water resources of these areas with extreme water stress. Nevertheless, the water withdrawals of Volkswagen sites is minor compared with other users in the river basin e.g. use for agriculture, water supply of the local inhabitants, energy. So, solutions for a sustainable water management and less water stress in the future are only achievable if all water users within a watershed establish and follow a water management plan. For all factories Volkswagen will reduce the specific water demand per vehicle produced by 45% from 2010-2025. Regarding mitigation of climate change, in 2020 The Volkswagen Group has set milestones in all areas to be achieved in the coming years on the road to complete decarbonisation by 2050. Volkswagen is thus fully committed to the Paris climate targets. The 2025 target is to reduce the CO2 footprint of the vehicle feet by 30 percent across the life cycle compared to 2015. At the same time, specific CO2 emissions at all plants are to be cut 50 percent by 2025 compared to 2010. Thus, we are taking decisive action in mitigating climate change. |

## W7.4

### (W7.4) Does your company use an internal price on water?

**Row 1**

**Does your company use an internal price on water?**

Yes

**Please explain**

VW is using an internal water price for freshwater and de-ionized water to divide the costs for supply and production to the relevant cost center according to their water usage. The prices are calculated using the costs for the freshwater supply or rather production of de-ionized water. This leads to site-specific water prices. For the apportionment of costs, a dense measurement infrastructure is needed, which creates transparency and encourages the implementation of water reducing technologies in the particular cost center. At some production sites the direct budgeting is used for the costs of the sewage disposal according to the disposal quantity of the relevant cost center. This requires a complex infrastructure for quantity recording and is therefore not universally applied. Even so the impact of direct budgeting of sewage disposal is significantly higher, because the costs of sewage disposal depend on the kind of wastewater and exceed the costs of the freshwater supply clearly.

## W8. Targets

## W8.1

### (W8.1) Describe your approach to setting and monitoring water-related targets and/or goals.

| | Levels for targets and/or goals | Monitoring at corporate level | Approach to setting and monitoring targets and/or goals |
|---|---|---|---|
| Row 1 | Company-wide targets and goals<br>Business level specific targets and/or goals<br>Site/facility specific targets and/or goals<br>Brand/product specific targets and/or goals | Targets are monitored at the corporate level<br>Goals are monitored at the corporate level | Targets and goals are developed by the central environmental department based on analysis of our production sites, future development of the sites, products and technologies as well as science based targets of external organizations. These suggestions are discussed with all brands to create an optimal solution as well as a high acceptance for all participants. Afterwards these targets and goals are disclosed. The targets are measured by the sites and the aggregated data are reported depending on the parameter monthly, quarterly or annually to a central IT-system. This information will be evaluated by the central environmental department and depending on the status of the targets additional measures or countermeasures are established. Due to the fact that goals are more long-term or ongoing parts of the policy of a brand, the status as well as the full implementation has to be confirmed and rechecked frequently. This is done by the internal and external environmental audits. On factory level frequent round trips in the cost center by the cost center manager and their safety and environmental experts in the production and storage areas ensure that all goals are checked continuously. |

## W8.1a

**(W8.1a) Provide details of your water targets that are monitored at the corporate level, and the progress made.**

**Target reference number**
Target 1

**Category of target**
Water use efficiency

**Level**
Business

**Primary motivation**
Reduced environmental impact

**Description of target**
A reduction of 45% in our 5 main environmental impacts (CO2 emissions, energy demand, waste for disposal, VOC emissions and total freshwater demand) per vehicle produced (cars & light commercial vehicles over all brands & regions, therefore target level “business” was selected) until 2025. Note that this is a composite target, in which the mentioned impacts are included with a specific weighting factor, and that the reduction target applies to the resulting composite indicator called “environmental impact reduction production per unit” (UEP). The target was set to reduce direct environmental impact of all Volkswagen sites. Freshwater reduction can be one step to minimise water stress in the surrounding areas of Volkswagen sites. Therefore, the target is seen as a measure to mitigate water stress and thus contribute to water security.

**Quantitative metric**
Other, please specify (% reduction per unit of production)

**Baseline year**
2010

**Start year**
2011

**Target year**
2025

**% of target achieved**
73

**Please explain**
Over the last years the environmental impacts of production per vehicle, including freshwater demand, could be continuously reduced. The reduction of the composite indicator was 32.8% (2010-2020). In 2020, the success of many activities that have a positive influence on reducing our factories’ environmental impact are not directly reflected in the UEP indicator because the production quantities have fallen significantly due to the impact of the coronavirus pandemic. These lower production quantities have an opposite effect in the UEP when calculating the specific environmental indicators that disguises the positive influence of the measures. This leads to lower values compared to 2019, with the exception of VOC emissions. Regarding water intensity, additional efforts have to be taken at all sites with a freshwater demand of 3 m³/car or more to reach 45% reduction of environmental impact until 2025

## W8.1b

**(W8.1b) Provide details of your water goal(s) that are monitored at the corporate level and the progress made.**

**Goal**
Engagement with suppliers to help them improve water stewardship

**Level**
Company-wide

**Motivation**
Reduced environmental impact

**Description of goal**
A certified environmental management system in accordance with ISO14001 and/or EMAS is one of the ecological requirements our tier 1 suppliers have to meet. Relevance for company: Stable availability of sustainable supply is a main target of the strategic goal “Supply Chain Excellence”. To get to the next level of sustainability in supplier relationships, we capitalize on group wide sustainability standards for all suppliers and strong relationships with our strategic partners to bring sustainability further down the supply chain. Implementation: We ask our business partners to fill in the sustainability questionnaire in order to document the steps taken in selected areas. We have incorporated our sustainability questionnaire into the sector-wide self-assessment questionnaire (SAQ) developed for use throughout the industry in a joint project with other automotive corporations involved in the DRIVE Sustainability Working Group organized by CSR €ope. Starting July 2019, we make sustainability mandatory for the overwhelming share of our suppliers through our newly launched sustainability rating “S-Rating”. Relevance for water security: Our LCA activities show that >50% of total lifecycle water consumption of our products take place in the upstream value chain. As requirements for ISO 14001/EMAS certification for management/improvement of environmental impacts also extend to water/effluent management, where relevant, this contributes to the goal of increasing water security.

**Baseline year**
2007

**Start year**
2007

**End year**
2020

**Progress**
The S-Rating was introduced as a key measure in 2019, and implementation is to be completed by the end of 2021 for all relevant suppliers ( defined by e.g. the size of the company or the risk exposure derived from the type of service). Every supplier that the S rating applies to must meet the requirements enshrined in the questionnaire in the areas of corporate governance, the environment, social issues, human rights, compliance and supplier management. A total of more than 13,000 suppliers submitted a sustainability questionnaire in 2020. In the reporting period, 1,369 suppliers improved their sustainability performance through taking appropriate steps. More than 65% of our highest revenue suppliers documented that they have a certified environmental management system in accordance with ISO 14001 and/or EMAS. Our objective is for 100% of suppliers with a production location and more than 100 employees to have a certified environmental management system by 2025.

## W9. Verification

### W9.1

**(W9.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1a)?**
Yes

### W9.1a

**(W9.1a) Which data points within your CDP disclosure have been verified, and which standards were used?**

| Disclosure module | Data verified | Verification standard | Please explain |
|---|---|---|---|
| W1 Current state | Provided water accounting data (withdrawal/discharge totals and breakdowns) | ISAE 3000 | Such data is provided within our 2020 Non-Financial / Sustainability Report, and thus has been audited with limited assurance. |
| W8 Targets | Progress on environmental targets | ISAE 3000 | Such data is provided within our 2020 Non-Financial / Sustainability Report, and thus has been audited with limited assurance. |

## W10. Sign off

## W-FI

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

For all described risks:

The description of the risk factor, and its potential impact on the Volkswagen business, including the estimates of potential financial impact and cost of management, amount to forward-looking statements. Although Volkswagen believes that the expectations reflected in these forward-looking statements are reasonable, it can give no assurance that they will materialize or prove to be correct. Because these statements involve risks and uncertainties, the actual result or outcome could differ materially from those set out in the forward-looking statements as a result of, among other things: the Volkswagen Group's ability to successfully develop, introduce and expand its products; changes in international and local economic, business and industry conditions; significant changes in economic, political and market conditions in China, including the effect of competition from new market entrants, on Volkswagen Group's vehicle sales and market position in China; the Volkswagen Group's ability to manage the legal and regulatory proceedings faced by it; and the Volkswagen Group's ability to manage the legal and regulatory aspects of its operations, including environmental compliance. Additional factors could cause the Volkswagen Group's actual financial impact or cost of management to differ materially from that described above.

## W10.1

**(W10.1) Provide details for the person that has signed off (approved) your CDP water response.**

| | Job title | Corresponding job category |
|---|---|---|
| Row 1 | Chief Executive Officer / Chairman of the Board of Management | Chief Executive Officer (CEO) |

## W10.2

**(W10.2) Please indicate whether your organization agrees for CDP to transfer your publicly disclosed data on your impact and risk response strategies to the CEO Water Mandate's Water Action Hub [applies only to W2.1a (response to impacts), W4.2 and W4.2a (response to risks)].**

Yes

# SW. Supply chain module

## SW0.1

**(SW0.1) What is your organization's annual revenue for the reporting period?**

| | Annual revenue |
|---|---|
| Row 1 | 222884000000 |

## SW0.2

**(SW0.2) Do you have an ISIN for your organization that you are willing to share with CDP?**

Yes

## SW0.2a

**(SW0.2a) Please share your ISIN in the table below.**

| | ISIN country code | ISIN numeric identifier (including single check digit) |
|---|---|---|
| Row 1 | DE | 0007664005 |

## SW1.1

**(SW1.1) Could any of your facilities reported in W5.1 have an impact on a requesting CDP supply chain member?**

This is confidential

## SW1.2

### (SW1.2) Are you able to provide geolocation data for your facilities?

| | Are you able to provide geolocation data for your facilities? | Comment |
|---|---|---|
| Row 1 | Yes, for all facilities | The geolocation data is available, but we do not disclose it at this point. Customers requesting geolocation data will receive this information individually. Maplecroft: Volkswagen has implemented a risk analysis for all existing production sites regarding water stress. The Maplecroft data were used for the water stress index on subnational base. We chose this tool due to the high quality of the data, narrow gridlines and its high international acceptance. With Maplecroft we have the opportunity to identify potential regional water problems in our direct operations. Internal Knowledge: A questionnaire has been sent to all production sites in regions of risk potential (identified by maplecroft) to evaluate the perception of water stress. The internal knowledge has provided us with detailed information on the circumstances at the respective sites. The evaluation of the questionnaire was followed by a classification depending on the annual fresh water demand, water stress index. |

## SW1.2a

### (SW1.2a) Please provide all available geolocation data for your facilities.

| Identifier | Latitude | Longitude | Comment |
|---|---|---|---|

## SW2.1

### (SW2.1) Please propose any mutually beneficial water-related projects you could collaborate on with specific CDP supply chain members.

## SW2.2

### (SW2.2) Have any water projects been implemented due to CDP supply chain member engagement?

No

## SW3.1

### (SW3.1) Provide any available water intensity values for your organization's products or services.

**Product name**

Vehicle

**Water intensity value**

3.74

**Numerator: Water aspect**

Water consumed

**Denominator**

Freshwater consumption per vehicle has declined since 2010

**Comment**

Freshwater consumption per vehicle has declined since 2010, thanks to a range of recycling measures and the introduction of manufacturing processes requiring little water. 4.54 m3/car to 3.74 m3/car (2010-2020). The water management strategy adopted by the Corporate Environment and Energy Steering Committee defines four areas of activity: ensuring safe, reliable water supply and disposal by protecting groundwater resources from pollutants, using water efficiently throughout the product life cycle by implementing closed loops, engaging in social and environmental projects to protect water resources and promote public environmental awareness, enhancing transparency by supporting the CEO Water Mandate and the CDP Water Disclosure Project. In 2020, we were included in the CDP Water A-List with an "A". It includes those companies which were identified over the last CDP reporting year as global leaders in sustainable water management.

## Submit your response

### In which language are you submitting your response?

English

### Please confirm how your response should be handled by CDP

| | I am submitting to | Public or Non-Public Submission | Are you ready to submit the additional Supply Chain questions? |
|---|---|---|---|
| I am submitting my response | Investors<br>Customers | Public | Yes, I will submit the Supply Chain questions now |

### Please confirm below

I have read and accept the applicable Terms