

## W0. Introduction

### W0.1

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

#### COMPANY PROFILE

ZF is a global technology company. We supply mobility systems for passenger cars, commercial vehicles and industrial technology. In the four technology domains of Vehicle Motion Control, Integrated Safety, Automated Driving and Electric Mobility, ZF offers comprehensive product and software solutions for established vehicle manufacturers and newly emerging transport and mobility service providers.

Digitalization will continue to strongly influence the mobility sector. The paradigm shift caused by software will also change ZF. Therefore, digital networking and automation are key areas of system development at ZF on its path to become a software- and cloud-based company. ZF allows vehicles to see, think and act.

We see climate change as one of the greatest challenges of our time. To provide clean and sustainable mobility, which is also comfortable, safe and affordable, we develop innovative products for Next Generation Mobility. Accordingly, we invest a significant share of our sales in research and development – last year almost eight percent. The ZF Group is represented with 168 production locations in 32 countries. With some 164,900 employees worldwide, ZF reported sales of €43.8 billion in fiscal year 2022.

#### CORPORATE STRUCTURE

ZF Friedrichshafen AG is a corporation headquartered in Friedrichshafen (Germany). The Zeppelin Foundation owns 93.8% of the company. These shares are managed by the city of Friedrichshafen. The remaining 6.2% is owned by the Dr. Jürgen and Irmgard Ulderup Foundation, Lemförde (Germany). The shareholders exercise their voting rights at the ordinary annual shareholders' meeting and/or at extraordinary shareholders' meetings that are held upon requirement.

In order to manage our business activities as customer-oriented, market-specific and innovative as possible, we are working in a global network consisting of divisions, regions and corporate functions. The corporate functions and divisions are managed by the Board of Management. The same applies to the responsibilities with regard to the Regions of North America, South America, Asia-Pacific and India. The regions provide local guidelines as well as corresponding services for the business activities in their regions.

In the ZF Group, business activities by product segments are organized by divisions. The divisions Active Safety Systems, Car Chassis Technology, Electrified Powertrain Technology, Electronics and ADAS as well as the Passive Safety Systems Division operate in the passenger car and light commercial vehicle sector.

On January 1, 2022, ZF announced the launch of its new commercial vehicle division: Commercial Vehicle Solutions. The new division pools expertise in the commercial vehicle industry and will significantly promote solutions for safe, sustainable and digitalized transport.

Activities in the area of industrial applications are pooled in the Industrial Technology Division and include market segments such as construction and agricultural machinery, wind power, marine propulsion, rail drives, special drives and test systems.

The Aftermarket Division makes our OEM expertise available to the aftermarket, drawing on a global service network of more than 15,000 workshop partners.

#### CORPORATE STRATEGY

Our Next Generation Mobility strategy continues to provide the right framework for our actions. In a difficult environment, it provided important orientation. Our strategic focus is on technology transformation, sustainability and digitalization.

Sustainability is an integral part of this strategy. Central to the implementation of the ZF sustainability strategy "Acting now. Sustainability@ZF" is the goal-oriented cooperation within the Group and with external partners.

In addition to its commitment to the principles of the UN Global Compact, ZF is committed to the Sustainable Development Goals (SDG) of the United Nations. Goal 17, which calls for partnership to achieve the 2030 agenda, underlines the importance of cooperation to meet the complex and diverse challenges of the future.

As a founding member of the First Movers Coalition in the World Economic Forum (WEF), ZF aims to jumpstart the demand for zero-emission technologies and to help these technologies achieve wide-scale market penetration faster. In this way, ZF is supporting the goal of achieving climate neutrality along the value chain by 2040.

To shape human rights due diligence beyond legal obligations, ZF is involved in associations and initiatives, such as the industry dialogue for Business and Human Rights, comprising stakeholders from the automotive industry and civil society.

To efficiently enforce requirements and values in the automotive supply chain, ZF became a member of the Responsible Supply Chain Initiative e.V. (RSCI) last year to advance the development of suitable mechanisms and tools. This collective action helps those involved to progress in a targeted and efficient manner.

### 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 2022	December 31 2022

W0.3

(W0.3) Select the countries/areas in which you operate.

- Argentina
- Australia
- Austria
- Belgium
- Brazil
- Canada
- China
- Czechia
- Denmark
- France
- Germany
- Hungary
- India
- Italy
- Japan
- Malaysia
- Mexico
- Netherlands
- Poland
- Portugal
- Republic of Korea
- Romania
- Serbia
- Singapore
- Slovakia
- South Africa
- Spain
- Switzerland
- Taiwan, China
- Thailand
- Turkey
- United Arab Emirates
- United Kingdom of Great Britain and Northern Ireland
- United States of America
- Viet Nam

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
Locations in Russia (OOO ZF Russia, Saint Petersburg, Russia)	As a result of the Russia-Ukraine war, the shares of OOO ZF Kama, headquartered in Naberezhnye Chelny (Russia), were sold with effect from September 12, 2022. Disclosure excludes data for the whole reporting year.

W0.7

(W0.7) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization.	Provide your unique identifier
Yes, an ISIN code	DE000A14J7G6

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	Not very important	Have not evaluated	Water is used at ZF locations for production, e.g. for surface treatment processes, washing, rinsing, and cleaning, as a coolant, or for non-production purposes such as sanitary water, drinking water, in the canteen, or during construction projects. Locations with higher water demand (because of water intense processes) are not located in water-stress areas or areas with poor water quality.
Sufficient amounts of recycled, brackish and/or produced water available for use	Not very important	Have not evaluated	By using recycled water, we significantly reduce the amount of freshwater withdrawal. Locations that need water of good quality have their own water treatment plant to achieve the required standard, if necessary.

W1.2

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

	% of sites/facilities/operations	Frequency of measurement	Method of measurement	Please explain
Water withdrawals – total volumes	76-99	Other, please specify (Measurement is performed locally, and the measurement interval depends on the local conditions/ regulations. At least two times a year due to internal reporting requirements.)	Invoice, water meter	There are only a few small service locations/ office branches that have flat-rate rental contracts and therefore cannot break down water data separately.
Water withdrawals – volumes by source	76-99	Other, please specify (Measurement is performed locally, and the measurement interval depends on the local conditions/ regulations. At least two times a year due to internal reporting requirements.)	Invoice, water meter	There are only a few small service locations/office branches that have flat-rate rental contracts and therefore cannot break down water data separately.
Entrained water associated with your metals & mining and/or coal sector activities - total volumes [only metals and mining and coal sectors]	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Produced water associated with your oil & gas sector activities - total volumes [only oil and gas sector]	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Water withdrawals quality	76-99	Other, please specify (Measurement is performed locally, and the measurement interval depends on the local conditions/ regulations. At least two times a year due to internal reporting requirements.)	Invoice, water meter	Water quality is monitored locally in all cases.
Water discharges – total volumes	76-99	Other, please specify (Measurement is performed locally, and the measurement interval depends on the local conditions/ regulations. At least two times a year due to internal reporting requirements.)	Invoice, water meter, water-balance	There are only a few small service locations/office branches that have flat-rate rental contracts and therefore cannot break down water data separately.
Water discharges – volumes by destination	76-99	Other, please specify (Measurement is performed locally, and the measurement interval depends on the local conditions/ regulations. At least two times a year due to internal reporting requirements.)	Invoice, water meter, water-balance	There are only a few small service locations/office branches that have flat-rate rental contracts and therefore cannot break down water data separately.
Water discharges – volumes by treatment method	76-99	Other, please specify (Measurement is performed locally, and the measurement interval depends on the local conditions/ regulations.)	water meter, water balance	All sites which have a permit for direct discharge of wastewater measure its volume of the respective waste water treatment plant on-site for documentation and because of different legal requirements.
Water discharge quality – by standard effluent parameters	76-99	Other, please specify (Measurement is performed locally, and the measurement interval depends on the local conditions/ regulations.)	testing method chosen according to legal requirement	All sites which have a permit for direct discharge of wastewater measure its effluents regularly according to the respective legal requirements (water discharge permit).
Water discharge quality – emissions to water (nitrates, phosphates, pesticides, and/or other priority substances)	Not relevant	<Not Applicable>	<Not Applicable>	Discharge parameters are measured regularly and limits are approved by the respective authorities.
Water discharge quality – temperature	51-75	Other, please specify (Measurement is performed locally, and the measurement interval depends on the local conditions/ regulations.)	testing method chosen according to legal requirement, e.g. measuring of input and output temperature	All sites which have a permit for direct discharge of wastewater into a receiving water in connection with a temperature limit, measure and document the quantity and temperature.
Water consumption – total volume	76-99	Other, please specify (Measurement is performed locally, and the measurement interval depends on the local conditions/ regulations.)	Invoice, water meter, water-balance	There are only a few small service locations that have flat-rate rental contracts and therefore cannot break down water data separately.
Water recycled/reused	1-25	Other, please specify (Measurement is performed locally and the measurement interval depends on the local conditions.)	water meter, water balance, mathematical approach	All locations with facilities for water recycling / water reuse measure, monitor and report water volumes.
The provision of fully-functioning, safely managed WASH services to all workers	76-99	Other, please specify (Measurement is performed locally, and the measurement interval depends on the local conditions/ regulations.)	acc. to risk assesment and legal requirements	All sites offer WASH services for workers, ensured by obligatory risk assessment on a regular basis.

W1.2b

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

	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Please explain
Total withdrawals	9687	Lower	Increase/decrease in efficiency	Lower	Increase/decrease in efficiency	corporate water target aims for improving water efficiency
Total discharges	8315	Higher	Increase/decrease in business activity	Lower	Increase/decrease in efficiency	As a result of increasing production in 2022, the amount of water discharge at ZF locations has also increased, which only takes place with the approval of authorities.
Total consumption	1372	Lower	Increase/decrease in efficiency	Lower	Increase/decrease in efficiency	corporate water target aims for improving water efficiency

W1.2d

(W1.2d) Indicate whether water is withdrawn from areas with water stress, provide the proportion, how it compares with the previous reporting year, and how it is forecasted to change.

	Withdrawals are from areas with water stress	% withdrawn from areas with water stress	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Five-year forecast	Primary reason for forecast	Identification tool	Please explain
Row 1	Yes	Less than 1%	Higher	Other, please specify (Construction activity and associated legal requirement for dust control.)	Higher	Change in accounting methodology	WWF Water Risk Filter	In 2020, ZF locations were assessed for their water risk using the WWF Water Risk Filter. 22 locations were identified as possibly being located in high or medium water scarcity areas due to their geographical position. In the first quarter of 2021, nine of these plants were verified by means of the WWF questionnaire. The data of the production sites surveyed showed a water utilization profile of 1 to 2 (on a WWF scale of up to 5). Decreasing the water withdrawal intensity by 2% per year at these locations is a priority. An updated assessment of all locations is currently being prepared; it will be finished in 2023 (many more locations will be part of the assessment and accounting methodology will be stricter).

## W1.2h

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	5184	Lower	Increase/decrease in efficiency	corporate water target aims for improving water efficiency
Brackish surface water/Seawater	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	no water source
Groundwater – renewable	Relevant	853	Higher	Increase/decrease in business activity	Recovery of the economy
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	We do not withdraw water from non-renewable sources.
Produced/Entrained water	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	not relevant for sector ZF is working in
Third party sources	Relevant	3650	Lower	Increase/decrease in efficiency	corporate water target aims for improving water efficiency

## W1.2i

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

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water	Relevant	4861	Lower	Increase/decrease in efficiency	corporate water target aims for improving water efficiency
Brackish surface water/seawater	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	no water discharge destination for ZF
Groundwater	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	no water discharge destination for ZF
Third-party destinations	Relevant	3453	Higher	Change in accounting methodology	corporate water target aims for improving water efficiency

## 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	Primary reason for comparison with previous reporting year	% of your sites/facilities/operations this volume applies to	Please explain
Tertiary treatment	Relevant but volume unknown	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	wastewater treatment plants on-site acc. to legal requirements and discharge permit. Volumes measured locally but not available on corporate level.
Secondary treatment	Relevant but volume unknown	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	wastewater treatment plants on-site acc. to legal requirements and discharge permit. Volumes measured locally but not available on corporate level.
Primary treatment only	Relevant but volume unknown	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	wastewater treatment plants on-site acc. to legal requirements and discharge permit. Volumes measured locally but not available on corporate level.
Discharge to the natural environment without treatment	Relevant but volume unknown	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	acc. to legal requirement and discharge permit. Volumes measured locally but not available on corporate level.
Discharge to a third party without treatment	Relevant but volume unknown	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	acc. to legal requirement and discharge permit. Volumes measured locally but not available on corporate level.
Other	Not relevant	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	other previous answered aspects cover situation at ZF

## W1.3

(W1.3) Provide a figure for your organization's total water withdrawal efficiency.

	Revenue	Total water withdrawal volume (megaliters)	Total water withdrawal efficiency	Anticipated forward trend
Row 1	43801	9687	4.52162692267988	corporate water target aims for improving water efficiency thus we are anticipating a positiv trend (Revenue in Mio EUR)

## W1.4

(W1.4) Do any of your products contain substances classified as hazardous by a regulatory authority?

	Products contain hazardous substances	Comment
Row 1	Yes	<Not Applicable>

## W1.4a

(W1.4a) What percentage of your company's revenue is associated with products containing substances classified as hazardous by a regulatory authority?

Regulatory classification of hazardous substances	% of revenue associated with products containing substances in this list	Please explain
Candidate List of Substances of Very High Concern for Authorisation above 0.1% by weight (EU Regulation)	Less than 10%	This is an estimation based on ongoing evaluation.

## W1.5

(W1.5) Do you engage with your value chain on water-related issues?

	Engagement	Primary reason for no engagement	Please explain
Suppliers	No	Important but not an immediate business priority	Water-related engagement to be considered in the future taking into account regulatory developments and business requirements.
Other value chain partners (e.g., customers)	No	Important but not an immediate business priority	Water-related engagement to be considered in the future taking into account regulatory developments and business requirements.

## W2. Business impacts

### W2.1

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

No

### 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?

	Water-related regulatory violations	Fines, enforcement orders, and/or other penalties	Comment
Row 1	No	<Not Applicable>	no water-related violations in 2022

## W3. Procedures

### W3.1

(W3.1) Does your organization identify and classify potential water pollutants associated with its activities that could have a detrimental impact on water ecosystems or human health?

	Identification and classification of potential water pollutants	How potential water pollutants are identified and classified	Please explain
Row 1	Yes, we identify and classify our potential water pollutants	ZF EHS-Management System acc. to ISO 14001 implemented at each location. The pollutants are determined in the course of the approval procedure for the discharge. Within the framework of the discharge permit, the pollutants are regularly identified, classified and measured in accordance with the legal requirements. If necessary, wastewater treatment is carried out upstream.	<Not Applicable>

### W3.1a

(W3.1a) Describe how your organization minimizes the adverse impacts of potential water pollutants on water ecosystems or human health associated with your activities.

#### Water pollutant category

Other physical pollutants

#### Description of water pollutant and potential impacts

Thermal pollutant discharge into surface water which has not an detrimental impact on the ecosystem because legal discharge permit ensures that no negative impact on ecosystem can occur.

#### Value chain stage

Direct operations

#### Actions and procedures to minimize adverse impacts

Water recycling

Upgrading of process equipment/methods

#### Please explain

Closing loop and heat recovery

### 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.

#### Value chain stage

Direct operations

#### Coverage

Full

#### Risk assessment procedure

Water risks are assessed as part of other company-wide risk assessment system

#### Frequency of assessment

More than once a year

#### How far into the future are risks considered?

1 to 3 years

#### Type of tools and methods used

Enterprise risk management

International methodologies and standards

#### Tools and methods used

Enterprise Risk Management

ISO 14001 Environmental Management Standard

#### Contextual issues considered

Water availability at a basin/catchment level

Water quality at a basin/catchment level

Stakeholder conflicts concerning water resources at a basin/catchment level

Implications of water on your key commodities/raw materials

Water regulatory frameworks

Status of ecosystems and habitats

Access to fully-functioning, safely managed WASH services for all employees

#### Stakeholders considered

Customers

Employees

Local communities

NGOs

Regulators

Water utilities at a local level  
Other water users at the basin/catchment level

#### Comment

ZF EHS-Management System acc. to ISO 14001/ 50001/ 18001. Semi-annual report to member of BoM. Each location undertakes at least once a year an environmental aspect/ risk evaluation acc. to group standard. Climate change risks and opportunities are integrated in the multi-disciplinary company-wide risk management process which includes all relevant departmental functions. Some facilities, that are located in "water risk areas", undertake additional water risk assessment and adequate measures.

In 2020, ZF locations were assessed for their water risk using the WWF Water Risk Filter. 22 locations were identified as possibly being located in high or medium water scarcity areas due to their geographical position. In the first quarter of 2021, nine of these plants were verified by means of the WWF questionnaire. The data of the production sites surveyed showed a water utilization profile of 1 to 2 (on a WWF scale of up to 5). Decreasing the water withdrawal intensity by 2% per year at these locations is a priority.

An updated assessment of all locations is currently being prepared; it will be finished in 2023 (many more locations will be part of the assessment and accounting methodology will be stricter).

Contextual issues: Water is a resource for production processes; water availability and quality are monitored on local level. Defined target to improve water efficiency is monitored on local and group level. Further contextual issues are considered, if they are identified as relevant within the local environmental aspect evaluation (EHS Management System acc. ISO 140001).

Stakeholders are factored in local procedures for identification and assessing of water-related risks if they were identified as relevant within the local environmental aspect evaluation (EHS management system acc. ISO 14001).

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#### Value chain stage

Supply chain

#### Coverage

Full

#### Risk assessment procedure

Other, please specify (Sustainability Criterion (supplier approval process))

#### Frequency of assessment

Annually

#### How far into the future are risks considered?

1 to 3 years

#### Type of tools and methods used

Other

#### Tools and methods used

Internal company methods

#### Contextual issues considered

Other, please specify (water usage)

#### Stakeholders considered

Suppliers

#### Comment

Sustainability as a key element for supplier approval and sourcing of production material:

In May 2020, ZF introduced an additional sustainability criterion as a mandatory requirement for the approval of new suppliers and for ongoing sourcing.

The sustainability criterion covers the topics of climate footprint, human rights and compliance, as well as environment, health and safety (EHS). Regarding the environmental management of its suppliers, ZF also carefully reviews energy consumption, water usage, air emissions, waste management and the handling of restricted substances and chemicals. A corresponding questionnaire was developed based on the Self-Assessment Questionnaire on CSR and Sustainability developed by the Drive Sustainability initiative.

Since its introduction, all production material suppliers with an upcoming approval or sourcing case must fulfil this requirement.

As part of the continuous development of our approach, ZF decided in 2021 to gradually replace its Self-Assessment Questionnaire. In future, we will request that our suppliers (production and non-production material suppliers) submit the standardized, industry-specific Self-Assessment Questionnaire (SAQ) via the global NQC platform. The use of standardized tools makes processes more efficient for ZF and its suppliers. At the same time, subcontractors get an overall impression of the Group's sustainability expectations. This makes it possible to prioritize key topics more effectively. The rollout with approximately 2,500 suppliers was completed by the end of 2022.

The reviewed questionnaire is a mandatory element of the new supplier approval process. It is also a mandatory deliverable for new sourcing from existing suppliers. If a supplier does not provide a completed questionnaire, if the score achieved lies below 25 percent or if there is no signed acceptance sheet of the ZF Business Partner Principles submitted, the sourcing case will not be processed.

Thanks to ZF sustainability criteria for suppliers, we now have a central steering element that is a mandatory part of our sourcing process. Our next step is to intensify our monitoring of, and collaboration with, suppliers to improve our joint sustainability performance based on the NQC self-assessment questionnaire. Based on the validated answers, we can agree on a specific action plan with our suppliers and on tracking the progress.

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#### Value chain stage

Direct operations

Supply chain

#### Coverage

Full

#### Risk assessment procedure

Other, please specify (Scenario analysis to identify and quantify physical climate-related risks)

#### Frequency of assessment

Not defined

#### How far into the future are risks considered?

More than 6 years

#### Type of tools and methods used

Enterprise risk management



International methodologies and standards  
Other

#### Tools and methods used

Scenario analysis

#### Contextual issues considered

Water availability at a basin/catchment level  
Stakeholder conflicts concerning water resources at a basin/catchment level  
Implications of water on your key commodities/raw materials

#### Stakeholders considered

Customers  
Employees  
Local communities  
Regulators  
Suppliers  
Water utilities at a local level  
Other water users at the basin/catchment level

#### Comment

In order to assess physical risks, ZF follows the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and conducted a first scenario analysis for the Group in 2022. Natural hazards are a company-wide risk but they heavily depend on regional and local conditions. Therefore, 24 sites out of ca. 200 ZF locations (thereof 168 production locations) have been preselected for deeper analysis in a 2.7°C global warming scenario in 2050 based on various materiality criteria. Those included, but were not limited to, materiality for the ZF business model (i.e. internal and external sales for 2021, site value, usage as headquarter) and coverage of regions already affected by hazards today. Latter was derived from global systems, that are used in-house to obtain and track real-time risk information about global safety-related events such as natural disasters.

First results of the scenario analysis indicate flooding events as key hazard for ZF in terms of production and business interruption risk, affecting both inbound and outbound logistics and intercompany transactions. This is especially true for certain ZF sites in China and Poland where the geographical location is widely exposed to this risk. The greatest risk is found in the Yangtze river delta area, where risks from flood could increase by more than 10% until 2050. In addition to decreased sales due to disrupted production and reduced capacities, flooding events may also destroy a certain percentage of our fixed assets, i.e. damage on our building, machinery and inventories which leads to an increase in repair costs and capital expenditure. Also, our employees could be hindered to come to work due to destroyed infrastructure in the site's surrounding.

### W3.3b

**(W3.3b) 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.**

	Rationale for approach to risk assessment	Explanation of contextual issues considered	Explanation of stakeholders considered	Decision-making process for risk response
Row 1	We run a decentral Enterprise Risk Management (ERM) approach to ensure that risks are managed where they occur. Our risk management process is standardized via a centrally governed ERM Policy that applies to all employees of ZF Friedrichshafen AG and all of its directly and indirectly controlled subsidiaries (collectively, the "ZF Group"). We define risks as deviation from our planning and include opportunities in the ERM approach if they have a direct material link to a risk. The ERM is implemented as part of an integrated Governance, Risk and Compliance (GRC) approach, which aims to align the activities and foster cooperation of the core governance functions for Enterprise Risk Management, Internal Control System, Compliance and Internal Audit. The Corporate Risk Report is an integral part of the GRC Report that is provided to the BoM and the Audit Committee of the SB. We regularly aggregate the overall risk landscape in order to compare it with our risk bearing capacity. Our ERM approach is based on common standards, like e.g., ISO 22301 and COSO. Upon year end close the Enterprise Risk Management System is audited on compliance with the standard IDW PS 340 by the Financial System Auditor.	Divisions, Global Domain Functions and Regions apply the ERM process adhering to the policy guardrails and considering specificities of the different risk categories to cover. The ZF Risk Catalog comprises all risk categories that need to be managed. Every newly identified risk has to be allocated to a risk category. ESG risks have been considered in the ZF Risk Catalog in a structured way. This also includes climate and water related risks. Due to the increased and strategic importance, ZF has started a comprehensive scenario analysis in line with the TCFD requirements to identify and evaluate climate-related risks and opportunities throughout the value chain, i. e. considering upstream activities (e.g. supplier risks), own activities and downstream activities (e.g. product risks). Risk responses are derived for implementation to enable ZF Group to prevent risks to occur and react accordingly to reduce the impacts as far as possible, once a risk realizes.	Corporate Risk & Resilience Management is the central Governance & Assurance instance for risk management, while the Global Domain Functions (GDF) act as "Risk Category Owners", that govern the specific risk management approaches, such as Sustainability, Environmental, Health and Safety, IT, Legal, Production etc. GRC Managers are responsible touchpoints in Divisions, GDFs and Regions to ensure proper implementation and performance of the risk management process. We document, monitor, and manage risks using a common tool as single source of truth. Relating to time projection of the risk landscape, we take into account both operational (upcoming 3 years) and strategic (7 and more years ahead) risks. At least every three months and additionally ad hoc, if required, the Divisions, GDFs and Regions identify, assess, and report operational risks with a short term (1-3 years) time-horizon. Due to the current very dynamic situation, we assess strategic risks, that have a medium and long-term impact on ZF (3-7 years and more) also on quarterly basis. Risks are considered as top risks, i. e. those with substantive or strategic impact for ZF, if they exceed an occurrence probability > 25% and an impact > 10 mEUR. Those risks are included in our quarterly Corporate Risk Report to the Board of Management (BoM) and Supervisory Board (SB).	Risks are assessed via a standardized approach enabling both quantified (one- and three-point distributions) and qualitative (using a qualitative impact matrix) evaluation methods. Quantified risk impacts are related to the Group Management Profit, which equals the EBIT adjusted for ZF. On Corporate level we distinguish between four impact levels: Minor (up to 20 mEUR); Low (> 20 mEUR and <50 mEUR); Moderate (> 50 mEUR and < 200 mEUR); Significant (> 200 mEUR). For qualitatively assessing impacts we offer a qualitative impact matrix which is commonly used by ERM, ICS, Compliance and Corporate Audit to evaluate risks, control issues, compliance cases and audit findings. There the qualitative impact clusters minor, low, moderate and significant are described along the impact categories "Business/Financial Impact", "Health, Life and Limb", "Legal/Compliance Relevance", "Impact on Reputation", "Strategic Impact". Based on the risk assessment, we strive to reduce or completely avert risks by means of appropriate countermeasures and to seize associated opportunities. For each individual risk, the responsible Risk Owner is requested to define and initiate treatment measures. The Board of Management and the Risk Committee review the opportunity and risk situation on ZF Group level at least on quarterly basis. Corporate Risk & Resilience Management is tasked with continuously tracking the development of the risk situation of ZF and the status of the risk treatment measures initiated.

### 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, only within our direct operations

W4.1a

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

At ZF Group we offer the possibility to evaluate risks quantitatively and qualitatively. Risk Owners are asked to point out, on which organizational level the risk exists (on group, divisional, site level). We differentiate risks according to their gross risk value (before risk treatment) and net risk value (after risk treatment).

Risks are considered as top risks, i. e. those with substantive or strategic impact for ZF Group, if they exceed an occurrence probability  $\geq 25\%$  and an impact  $\geq 10$  mEUR, related to the internal profit figure of the effected reference unit. Those risks are included in our quarterly Corporate Risk Report to the Board of Management (BoM) and Supervisory Board (SB). For non-quantified, i. e. qualitatively assessed risks, no specific thresholds are defined as they shall be included in Corporate Risk Report if they have a relevance for ZF Group.

Quantified risk impacts are related to the Group Management Profit, which equals the EBIT adjusted for ZF Group. On Corporate level we distinguish between four impact levels: Minor (up to 20 mEUR impact on Group Management Profit); Low ( $\geq 20$  mEUR and  $< 50$  mEUR); Moderate ( $\geq 50$  mEUR and  $< 200$  mEUR); Significant ( $\geq 200$  mEUR).

For qualitatively assessing impacts we offer a qualitative impact matrix which is commonly used by Enterprise Risk Management (ERM), Internal Control System (ICS), Compliance and Corporate Audit to evaluate risks, control issues, compliance cases and audit findings. There the qualitative impact clusters minor, low, moderate and significant are described along the impact categories "Business/Financial Impact", "Health, Life and Limb", "Legal/Compliance Relevance", "Impact on Reputation", "Strategic Impact".

To assess the likelihood of risks we use likelihood categories that cluster ranges of probabilities of occurrence. We distinguish between Unlikely (1-5%; equals an average occurrence between 20 and 100 years), Rare (6-24%), Possible (25-50%), Probable (51-74%), Very likely/Certain (75-100%; equals an average occurrence in the current/every year).

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	24	1-25	<p>Certain types of extreme weather events have increased significantly worldwide in frequency, intensity, and duration. This can be also observed across several locations of ZF. The most prominent example is our Ahrweiler plant in the German Ahrtal valley, which was severely affected by a flood disaster in July 2021. All our assembly facilities were destroyed. Moreover, a site of ZF's marine business in Florida, US, got hit by a hurricane in fall 2022. In August 2022, the Korean peninsula experienced the most severe flooding for the last 100 years – all employees of our site in Changwon had been requested to work from home for their safety and due to damage of the infrastructure.</p> <p>In order to assess those physical risks, ZF follows the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and conducted a first scenario analysis for ZF Group in 2022. Natural hazards are a company-wide risk, but they heavily depend on regional and local conditions. Therefore, based on various materiality criteria, 24 sites out of approx. 200 ZF locations (thereof 168 production locations) have been preselected for deeper analysis in a 2.7°C global warming scenario in 2050. The materiality criteria included, but were not limited to, relevance for the ZF business model (i.e. internal and external sales for 2021, site value, usage as headquarter) and coverage of regions already affected by hazards today. Latter was derived from global systems, that are used in-house to obtain and track real-time risk information about global safety-related events such as natural disasters. First results of the scenario analysis indicate flooding events as key hazard for ZF in terms of production and business interruption risk, affecting both inbound and outbound logistics and intercompany transactions. This is especially true for certain ZF sites in China and Poland where the geographical location is widely exposed to this risk. The greatest risk is found in the Yangtze river delta area, where risks from flood could increase by more than 10% until 2050. In addition to decreased sales due to disrupted production and reduced capacities, flooding events may also destroy a certain percentage of our fixed assets, i.e. damage on our building, machinery and inventories which would lead to an increase in repair costs and capital expenditure. Also, our employees could be hindered to get to their workplace due to destroyed infrastructure in the site's surrounding.</p>

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

China	Yangtze River (Chang Jiang)
-------	-----------------------------

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

Less than 1%

Comment

The greatest risk is found in the Yangtze river delta area, where risks from flood could increase by more than 10% until 2050. In addition to decreased sales due to disrupted production and reduced capacities, flooding events may also destroy a certain percentage of our fixed assets, i.e. damage on our building, machinery and inventories which would lead to an increase in repair costs and capital expenditure. Also, our employees could be hindered to get to their workplace due to destroyed infrastructure in the site's surrounding.

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

China	Yangtze River (Chang Jiang)
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Type of risk & Primary risk driver

Acute physical	Flood (coastal, fluvial, pluvial, groundwater)
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Primary potential impact

Reduction or disruption in production capacity

Company-specific description

The greatest risk is found in the Yangtze river delta area, where risks from flood could increase by more than 10% until 2050. In addition to decreased sales due to disrupted production and reduced capacities, flooding events may also destroy a certain percentage of our fixed assets, i.e. damage on our building, machinery and inventories which would lead to an increase in repair costs and capital expenditure. Also, our employees could be hindered to get to their workplace due to destroyed infrastructure in the site's surrounding.

Timeframe

More than 6 years

Magnitude of potential impact

Medium-high

Likelihood

About as likely as not

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure - minimum (currency)

1

Potential financial impact figure - maximum (currency)

500000000

Explanation of financial impact

Whereas a precise evaluation of the net financial impact of any climate-related disruption to our manufacturing and supply processes is not possible, ZF is aware that even a little decline in our production capabilities due to extreme weather events would result in a substantial negative impact on our figures. A first physical climate risk scenario analysis following the TCFD recommendations showed that in a 2.7°C scenario ZF could face a gross sales loss of 500 mEUR in 2050, mainly due to flooding events at one specific site in China. The figure constitutes a gross business interruption risk, not considering existing adaptation or protection measures (e.g., flood protection walls) that might already be in place. Potential asset damage is not included. The calculation is based on the assumption that the risk does either not impact our operations at the location at all (impact 1 EUR) or substantially impacts our operations and causes sales losses due to the (partially or entirely) reduced production capacity over a period of approx. 3 months (equals estimated average duration of business interruption for the site due to a 100-year flood).

Primary response to risk

Other, please specify (ZF Group's target path towards climate neutrality)

Description of response

Situation: ZF responses to and mitigates climate-related risks from extreme weather events by setting science-based carbon reduction targets and implementing group-wide decarbonization pathways. ZF Group's target path towards climate neutrality is defined considering the UN Sustainable Development Goals (SDGs), and in accordance with the requirements of the Science Based Targets initiative (SBTi).

Task: In January 2022, the SBTi confirmed that the targets for reducing ZF's CO2e emissions are consistent and robust, comply with the GHG Protocol and are planned in line with what the latest climate science deems necessary in order to achieve the objectives of the Paris Agreement.

Action: In order to achieve its climate targets approved by the SBTi, ZF invests in carbon reduction initiatives (i.e., energy reduction and energy efficiency) and low-carbon energy consumption across the organization.

Result: Overall, about 800 energy efficiency projects were implemented or initiated in 2022, which led to more than 121 GWh in energy savings, avoiding ca. 46,600 tons of CO2e emissions. In 2022, associated investment for the implementation of the ~800 energy efficiency projects accounted for €18.5 million.

In addition, ZF invests in the expansion of low-carbon energy consumption. Renewables made up 23% of our total electricity in 2022, under guaranteed certified green power contracts. Following our ZF Green Power Roadmap, purchased electricity shall be procured from purely renewable sources by 2030. The amount of self-generated electricity from renewable sources increased to 5,729 MWh due to new photovoltaic power plants installed in 2022 on several sites e.g., in South Africa, Germany, Great Britain and Poland.

Those investments strongly support the ZF vision to sustain a low-carbon, sustainable business model.

Cost of response

18500000

Explanation of cost of response

In order to achieve its climate targets approved by the SBTi, ZF invests in carbon reduction initiatives (i.e., energy reduction and energy efficiency) and low-carbon energy consumption across the organization.

Overall, about 800 energy efficiency projects were implemented or initiated in 2022, which led to more than 121 GWh in energy savings, avoiding ca. 46,600 tons of CO2e emissions. In 2022, associated investment for the implementation of the ~800 energy efficiency projects accounted for €18.5 million.

**(W4.2c) Why does your organization not consider itself exposed to water risks in its value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact?**

	Primary reason	Please explain
Row 1	Evaluation in progress	<p>At ZF Group we offer the possibility to evaluate risks quantitatively and qualitatively. Risk Owners are asked to point out, on which organizational level the risk exists (on group, divisional, site level). We differentiate risks according to their gross risk value (before risk treatment) and net risk value (after risk treatment).</p> <p>Risks are considered as top risks, i. e. those with substantive or strategic impact for ZF Group, if they exceed an occurrence probability &gt; 25% and an impact &gt; 10 mEUR, related to the internal profit figure of the effected reference unit. Those risks are included in our quarterly Corporate Risk Report to the Board of Management (BoM) and Supervisory Board (SB). For non-quantified, i. e. qualitatively assessed risks, no specific thresholds are defined as they shall be included in Corporate Risk Report if they have a relevance for ZF Group.</p> <p>Quantified risk impacts are related to the Group Management Profit, which equals the EBIT adjusted for ZF Group. On Corporate level we distinguish between four impact levels: Minor (up to 20 mEUR impact on Group Management Profit); Low (&gt; 20 mEUR and &lt;50 mEUR); Moderate (&gt; 50 mEUR and &lt; 200 mEUR); Significant (&gt; 200 mEUR).</p> <p>For qualitatively assessing impacts we offer a qualitative impact matrix which is commonly used by Enterprise Risk Management (ERM), Internal Control System (ICS), Compliance and Corporate Audit to evaluate risks, control issues, compliance cases and audit findings. There the qualitative impact clusters minor, low, moderate and significant are described along the impact categories "Business/Financial Impact", "Health, Life and Limb", "Legal/Compliance Relevance", "Impact on Reputation", "Strategic Impact".</p> <p>To assess the likelihood of risks we use likelihood categories that cluster ranges of probabilities of occurrence. We distinguish between Unlikely (1-5%; equals an average occurrence between 20 and 100 years), Rare (6-24%), Possible (25-50%), Probable (51-74%), Very likely/Certain (75-100%; equals an average occurrence in the current/every year).</p> <p>Supply chain: Increasing climate hazards can lead to asset damages (AD) and business interruptions (BI) at our ~12,000 suppliers (for production materials) and can negatively affect transport routes (e.g. floodings of streets). Yet, we see that those interruptions often occur very regionally and temporarily, so that alternative suppliers or routes can be found in our global network.</p>

## 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**

Efficiency

**Primary water-related opportunity**

Improved water efficiency in operations

**Company-specific description & strategy to realize opportunity**

ZF considers water withdrawal for production at all ZF locations a major environmental issue since the use of freshwater will become increasingly restricted in the future.

Water is used in production, e.g., for surface treatment processes, washing, rinsing and cleaning, and as a coolant. It is also required for non-production purposes, such as sanitation and construction projects and as drinking water in the cafeteria. ZF is committed to installing water-saving equipment that exceeds statutory requirements.

Some of ZF's production locations, e.g., in Brazil, Mexico, India and China, are in areas with significant water scarcity or with significant water shortage. In these areas, permits for water withdrawal for production purposes are occasionally restricted. If water scarcity persists, this situation could worsen or affect further regions. This may result in a need for increased investment or expenses to cover the technical modernization of production equipment.

In 2020, ZF assessed all locations for their water risk using the WWF Water Risk Filter. An updated assessment of all locations is currently being prepared; it will be finished in 2023. 22 locations were identified as possibly being in high or medium water scarcity areas due to their geographical position. Nine of these plants were verified by means of the WWF questionnaire. The data of the production sites surveyed showed a water utilization profile of 1 to 2 (on a WWF scale up to 5).

The Group has therefore set itself the target of reducing the intensity of water withdrawal at these sites by 2% per year as a matter of priority.

The Group's water management objective goes beyond reducing withdrawal in risk areas: The goal is to continuously reduce water withdrawal throughout the Group. The target is a water withdrawal reduction at ZF locations in areas where water scarcity determines public life of 2% annually relative to value added until 2025. For all other locations, a 1% reduction is being targeted on an annual basis. The base year for both targets is 2019. All water sources will be considered when assessing target achievement. Location-specific projects are focusing on water reuse and water conservation when it comes to the use of freshwater. Progress is monitored and managed in line with ZF's environmental management system at individual locations and at Group level.

**Estimated timeframe for realization**

1 to 3 years

**Magnitude of potential financial impact**

Medium

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

<Not Applicable>

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact**

The impact of this opportunity has not been quantified financially on group level yet. Sites report the environmental impact (reduction of water withdrawal) on group level, but the financial impact of an opportunity only on local level.

## 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.

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	Commitment to reduce water withdrawal and/or consumption volumes in direct operations Commitment to water stewardship and/or collective action Reference to company water-related targets Recognition of environmental linkages, for example, due to climate change Other, please specify (Commitment to respect our planet's natural habitat and to conserve resources, reducing environmental pollution (including waste minimization and adapting circular economy principles), and preventing environmental damages.)	The water policy is company-wide in scope and an integrated part of the company-wide environmental policy, which has to be publicly available according to the ISO 14001 standard. It is published on the ZF website. Since March 2018 there is the ZF Environmental, Health, and Safety (EHS) Policy in place, including the resource water, signed by the Board of Management. The mission is to promote energy efficiency, responsible use of resources including water and minimization of our impact on the environment including climate change considerations. Another aspect is to continually measure and improve ZFs EHS systems and performance by establishing and accurately measuring meaningful EHS metrics and targets for performance. Moreover, it describes the responsibilities within the company. Within our ZF Code of Conduct (see page 16) and the ZF Business Partner Principles (see page 8) we commit to respect our planet's natural habitat and to conserve resources, reducing environmental pollution (including waste minimization and adapting circular economy principles), and preventing environmental damages. 1_ZF_Compliance_Code_of_Conduct_EN.pdf zf_business_partner_principles_en.pdf ZF_EHS Policy_EN.pdf

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 or committee	Responsibilities for water-related issues
Other C-Suite Officer	Chief Human Resources Officer  ZF's Chief Human Resources Officer (CHRO) holds responsibility within the Board of Management for water-related issues. The CHRO is responsible for Human Resources, Sustainability, Legal Affairs, and Compliance for the Group. ZF's Sustainability and Environment, Health, & Safety (EHS) Department that drives ZF's water ambition directly reports to the CHRO.

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 - all meetings	Monitoring implementation and performance Monitoring progress towards corporate targets Overseeing the setting of corporate targets Reviewing and guiding corporate responsibility strategy Reviewing and guiding major plans of action Setting performance objectives	Sustainability Ambition Committee  In coordinating sustainability topics within the company, the sustainability department is supported by a cross-divisional and cross-functional committee. Comprised of the sustainability leads of all divisions and the most material corporate domain functions, this group meets on a bi-weekly basis. Through the sustainability department the committee regularly reports into senior management up to the Board of Management. The tasks of the sustainability department include: <ul style="list-style-type: none"> <li>• Developing and implementing an appropriate sustainability strategy and monitoring progress for the ZF Group. In this endeavour, it assists the Board of Management in fulfilling its responsibility for oversight of relevant sustainability and corporate social responsibility aspects of the company.</li> <li>• Regularly reviewing the materiality matrix.</li> <li>• Drawing up an annual review of ZF's sustainability strategy.</li> <li>• Anchoring the top issues in the sustainability program as well as in the respective departmental strategy and management.</li> <li>• Regularly reviewing the appropriateness and effectiveness of ZF's strategy, targets and measures.</li> <li>• Providing regular progress reports on target achievements or related measures.</li> <li>• Monitoring external trends and requirements and recommending additional actions in response.</li> <li>• Within the context of risk management, identifying, assessing and managing risks associated with sustainability issues.</li> <li>• Reviewing and approving the annual Sustainability Report.</li> <li>• Coordinating the internal and external communication of sustainability – stakeholder dialogue.</li> </ul>

## W6.2d

**(W6.2d) Does your organization have at least one board member with competence on water-related issues?**

	Board member(s) have competence on water-related issues	Criteria used to assess competence of board member(s) on water-related issues	Primary reason for no board-level competence on water-related issues	Explain why your organization does not have at least one board member with competence on water-related issues and any plans to address board-level competence in the future
Row 1	Yes	ZF's Chief Human Resources Officer (CHRO) holds responsibility within the Board of Management for sustainability. ZF's CHRO assumes responsibility for Human Resources, Sustainability, Legal Affairs, and Compliance. Under CHRO's leadership over the last years, a comprehensive sustainability strategy was developed including the protection of climate and nature.	<Not Applicable>	<Not Applicable>

## 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)**

Environmental, health, and safety manager

**Water-related responsibilities of this position**

Assessing water-related risks and opportunities  
Managing water-related risks and opportunities  
Setting water-related corporate targets  
Monitoring progress against water-related corporate targets

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

Half-yearly

**Please explain**

ZF has environmental protection and energy policy, objectives and a Corporate Environmental Protection and Energy Management System (EHS-Management System) in place according to the following standards: ISO 14001 / ISO 50001 / ISO 18001. Semi-annually report to member of Board of Management. Climate change and water risks and opportunities are integrated in the multi-disciplinary company-wide risk management process which includes all relevant global domain functions.

## 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	No, and we do not plan to introduce them in the next two years	In 2022, ZF decided to link the reduction of Scope 1 and Scope 2 emissions as an indicator for the long-term incentive of ZF's Board of Management and senior management from 2023 onwards. A specific consideration of water-related issues is currently not planned.

## 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, trade associations  
Yes, funding research organizations

## 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?**

The global ZF Corporate Environmental Protection and Energy Management System (EHS-Management System) according to the standards ISO 14001/ ISO 50001/ ISO 18001 and committees (Sustainability Steering committee; Environmental Managers Committee; Product Resource Efficiency Committee) ensure a consistent position for internal and external communication.

## W6.6

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

No, but we plan to do so in the next two years

## 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	5-10	ZF Corporate Environmental, Health and Safety Targets 2021 - 2025 Time horizon of strategic financial planning: 7 years. Strategic risks can be projected to longer time periods in the future. In that regard, we consider resilience related risks, such as, e. g. physical risks due to climate change. Climate risk analyses even included a longer timeframe of projection.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	5-10	ZF Corporate Environmental, Health and Safety Targets 2021 - 2025 Time horizon of strategic financial planning: 7 years. Definition is based on the time horizon of strategic planning, which comprises 7 years. The strategic risk landscape is regularly updated in the course of the annual strategic planning. Strategic risks are included in the Corporate Risk Report.
Financial planning	Yes, water-related issues are integrated	5-10	ZF Corporate Environmental, Health and Safety Targets 2021 – 2025 include water saving target for all locations. Sites have to include water saving measures into their financial planning. Time horizon of operational financial planning: 1-3 years. Definition is based on the time horizon of operational financial planning (current year, next year, next to next year). Top operational risks are included in the Corporate Risk Report based on defined thresholds.

### 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)**

0

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

0

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

19

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

0

**Please explain**

Invest remained roughly the same as in the previous year. The operating costs have increased slightly due to the decrease in the restriction because of COVID.

### W7.3

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

	Use of scenario analysis	Comment
Row 1	Yes	Yes, qualitative, but we plan to add quantitative in the next two years

### W7.3a



(W7.3a) Provide details of the scenario analysis, what water-related outcomes were identified, and how they have influenced your organization's business strategy.

	Type of scenario analysis used	Parameters, assumptions, analytical choices	Description of possible water-related outcomes	Influence on business strategy
Row 1	Climate-related	Climate-related scenario: Physical climate scenarios RCP 4.5 Scenario analysis coverage: company-wide - conducted a qualitative scenario analysis (in 2022) to identify physical climate-related risks, quantitative scenario analysis on site-level is ongoing to quantify these risks - latest science in accordance with the IPCC - includes the SSP (Shared Socioeconomic Pathways) concept of the IPCC - alignment with the emission levels assumed in the IEA stated policies scenario - severe implications by extreme weather events and at the same time a very likely scenario	By conducting a qualitative (in 2022) and quantitative scenario analysis (ongoing), we improve our understanding of climate-related risks & opportunities impact on the entire value chain. Initial results: Physical: - Supply chain: Increasing climate hazards can lead to asset damages (AD) and business interruptions (BI) at our ~12,000 suppliers (for production materials) and can negatively affect transport routes (e.g. floodings of streets). Yet, we see that those interruptions often occur very regionally and temporarily, so that alternative suppliers or routes can be found in our global network. - Production: Greatest impact is expected on our production since both AD and BI can be the direct result. - A deep dive site-analysis identified floods, tropical cyclones and sea level rise as the most material physical risks for preselected 24 ZF sites, especially in China, South Korea and Poland. Selection criteria included, but were not limited to, materiality for the ZF business model (i.e. internal and external sales for 2021, site value) and coverage of regions already affected by hazards today. - A more profound site-analysis will measure and validate the financial net effects of these risks.	How ZF benefits from scenario analysis results: - Initial physical results support Production Resilience and prioritization of Corp. Security activities - Consistent climate data basis strengthen Supply Chain Resilience & Supplier Risk Mgmt

## W7.4

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

Row 1

Does your company use an internal price on water?

No, and we do not anticipate doing so within the next two years

Please explain

Within the ZF materiality analysis water use in production was identified as a field of action with relevance for ZF business, but with no severity with need for internal pricing of water.

## W7.5

(W7.5) Do you classify any of your current products and/or services as low water impact?

	Products and/or services classified as low water impact	Definition used to classify low water impact	Primary reason for not classifying any of your current products and/or services as low water impact	Please explain
Row 1	No, and we do not plan to address this within the next two years	<Not Applicable>	Judged to be unimportant, explanation provided	Within the ZF materiality analysis water use in production was identified as a field of action with relevance for ZF business, but with no severity with need for product classification.

## W8. Targets

### W8.1

(W8.1) Do you have any water-related targets?

Yes

### W8.1a

(W8.1a) Indicate whether you have targets relating to water pollution, water withdrawals, WASH, or other water-related categories.

	Target set in this category	Please explain
Water pollution	No, and we do not plan to within the next two years	The pollution of the discharged wastewater is regulated via wastewater discharge permits and controlled by our own experts and by the local authority. Plants have wastewater treatment facilities installed, if necessary.
Water withdrawals	Yes	<Not Applicable>
Water, Sanitation, and Hygiene (WASH) services	No, and we do not plan to within the next two years	All sites offer WASH services for workers, ensured by obligatory risk assessment on a regular basis.
Other	Yes	<Not Applicable>

### W8.1b

(W8.1b) Provide details of your water-related targets and the progress made.

**Target reference number**

Target 1

**Category of target**

Water withdrawals

**Target coverage**

Other, please specify (ZF locations in areas where water scarcity determines public life )

**Quantitative metric**

Other, please specify (Reduction in withdrawals per value added (m<sup>3</sup>/ Mio€ value added))

**Year target was set**

2020

**Base year**

2019

**Base year figure**

440

**Target year**

2025

**Target year figure**

396

**Reporting year figure**

482

**% of target achieved relative to base year**

-95.4545454545454

**Target status in reporting year**

Underway

**Please explain**

The Group's water management objective goes beyond reducing withdrawal in risk areas: The goal is to continuously reduce water withdrawal throughout the Group. The target is a water withdrawal reduction at ZF locations in areas where water scarcity determines public life of 2% annually relative to value added until 2025. For all other locations, a 1% reduction is being targeted on an annual basis (see Target 2). The base year for both targets is 2019. All water sources will be considered when assessing target achievement. Location-specific projects are focusing on water reuse and water conservation when it comes to the use of freshwater. Progress is monitored and managed in line with ZF's environmental management system at individual locations and at Group level.

The significant increase in water withdrawals in water scarce areas in 2022 is mainly due to construction work. In accordance with legal requirements, larger volumes were used on an one-off basis, among other things for dust control.

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**Target reference number**

Target 2

**Category of target**

Water withdrawals

**Target coverage**

Company-wide (direct operations only)

**Quantitative metric**

Other, please specify (Reduction in withdrawals per value added (m<sup>3</sup>/ Mio€ value added))

**Year target was set**

2020

**Base year**

2019

**Base year figure**

742

**Target year**

2025

**Target year figure**

705

**Reporting year figure**

623

**% of target achieved relative to base year**

321.621621621622

**Target status in reporting year**

Achieved

**Please explain**

The Group's water management objective goes beyond reducing withdrawal in risk areas: The goal is to continuously reduce water withdrawal throughout the Group. The target is a water withdrawal reduction at ZF locations of 1% annually relative to value added until 2025. The base year is 2019. All water sources will be considered when assessing target achievement. Location-specific projects are focusing on water reuse and water conservation when it comes to the use of freshwater. Progress is monitored and managed in line with ZF's environmental management system at individual locations and at Group level.

## W9. Verification

### W9.1

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

No, we do not currently verify any other water information reported in our CDP disclosure

## W10. Plastics

### W10.1

(W10.1) Have you mapped where in your value chain plastics are used and/or produced?

	Plastics mapping	Value chain stage	Please explain
Row 1	Not mapped – but we plan to within the next two years	<Not Applicable>	ZF's products mainly contain metals such as steel, iron and aluminium. Currently, plastics play a subordinate role. However, we see an increase of the use of plastics in the mid-term (>2 years). Therefore, plastics including recycled plastics are one of the focus topics of the strategic ZF Circularity Framework. In general, we are considering actions to increase the use of recycled plastics as well as reducing the material variety.

### W10.2

(W10.2) Across your value chain, have you assessed the potential environmental and human health impacts of your use and/or production of plastics?

	Impact assessment	Value chain stage	Please explain
Row 1	Not assessed – but we plan to within the next two years	<Not Applicable>	The carbon impact is already calculated and considered within ZFs Corporate Carbon and Product Footprint calculations. To get a comprehensive overview about ZFs impact, we are planning to calculate impacts by conducting life-cycle assessments in the next step.

### W10.3

(W10.3) Across your value chain, are you exposed to plastics-related risks with the potential to have a substantive financial or strategic impact on your business? If so, provide details.

	Risk exposure	Value chain stage	Type of risk	Please explain
Row 1	Not assessed – and we do not plan to within the next two years	<Not Applicable>	<Not Applicable>	We run a decentral Enterprise Risk Management (ERM) approach to ensure that risks are managed where they occur. Our risk management process is standardized via a centrally governed ERM Policy that applies to all employees of ZF Friedrichshafen AG and all of its directly and indirectly controlled subsidiaries (collectively, the "ZF Group"). We define risks as deviation from our planning and include opportunities in the ERM approach if they have a direct material link to a risk. Divisions, Global Domain Functions and Regions apply the ERM process adhering to the policy guardrails and considering specificities of the different risk categories to cover. The ZF Risk Catalogue comprises all risk categories that need to be managed. Every newly identified risk has to be allocated to a risk category. ESG risks have been considered in the ZF Risk Catalogue in a structured way. This also includes climate related risks. There is not a special focus on plastics-related risks.

### W10.4

(W10.4) Do you have plastics-related targets, and if so what type?

	Targets in place	Target type	Target metric	Please explain
Row 1	No – but we plan to within the next two years	<Not Applicable>	<Not Applicable>	Plastics, including recycled plastics, are one of the focus topics of the strategic ZF Circularity Framework. Plastic-related targets will be included on corporate level in near future.

### W10.5

(W10.5) Indicate whether your organization engages in the following activities.

	Activity applies	Comment
Production of plastic polymers	No	ZF is not producing polymers.
Production of durable plastic components	Yes	Data is not available on group level. In the course of the development of the ZF Circularity Framework a group wide reporting will be established.
Production / commercialization of durable plastic goods (including mixed materials)	No	ZF is not producer of B2C products.
Production / commercialization of plastic packaging	No	ZF is not producing plastic packaging.
Production of goods packaged in plastics	Yes	Data is not available on group level. In the course of the development of the ZF Circularity Framework a group wide reporting will be established.
Provision / commercialization of services or goods that use plastic packaging (e.g., retail and food services)	No	ZF is not providing services or goods that use plastic packaging (e.g., retail and food services).

## W10.7

(W10.7) Provide the total weight of plastic durable goods/components sold and indicate the raw material content.

Row 1

Total weight of plastic durable goods/components sold during the reporting year (Metric tonnes)

0

Raw material content percentages available to report

None

% virgin fossil-based content

<Not Applicable>

% virgin renewable content

<Not Applicable>

% post-industrial recycled content

<Not Applicable>

% post-consumer recycled content

<Not Applicable>

Please explain

0 reported, because data is not available on group level.

In the course of the development of the ZF Circularity Framework a group wide reporting will be established.

## W10.8

(W10.8) Provide the total weight of plastic packaging sold and/or used, and indicate the raw material content.

	Total weight of plastic packaging sold / used during the reporting year (Metric tonnes)	Raw material content percentages available to report	% virgin fossil-based content	% virgin renewable content	% post-industrial recycled content	% post-consumer recycled content	Please explain
Plastic packaging sold	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Plastic packaging used	0	None	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	0 reported, because data is not available on group level. In the course of the development of the ZF Circularity Framework a group wide reporting will be established.

## W10.8a

(W10.8a) Indicate the circularity potential of the plastic packaging you sold and/or used.

	Percentages available to report for circularity potential	% of plastic packaging that is reusable	% of plastic packaging that is technically recyclable	% of plastic packaging that is recyclable in practice at scale	Please explain
Plastic packaging sold	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Plastic packaging used	None	<Not Applicable>	<Not Applicable>	<Not Applicable>	In the course of the development of the ZF Circularity Framework a group wide reporting will be established.

## W11. 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.

no further comments

W11.1

(W11.1) Provide details for the person that has signed off (approved) your CDP water response.

	Job title	Corresponding job category
Row 1	Head of Sustainability Strategy	Environment/Sustainability manager

SW. Supply chain module

SW0.1

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

	Annual revenue
Row 1	43801000000

SW1.1

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

No facilities were reported in W5.1

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	Geological data for all sites world-wide are available on group level and were used for evaluation according to WWF Water Risk Filter.

SW1.2a

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

Identifier	Latitude	Longitude	Comment
WWF Water Risk Filter	0	0	We see no benefit to provide data manually. There should be an option to upload data file from WWF Water Risk Filter. Data are available in WWF Water Risk Filter.

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.

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please indicate your consent for CDP to share contact details with the Pacific Institute to support content for its Water Action Hub website.

Please confirm below

I have read and accept the applicable Terms