

Welcome to your CDP Water Security Questionnaire 2023

W0. Introduction

W0.1

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

At BASF, we create chemistry for a sustainable future. About 111,000 employees contribute to the success of our customers worldwide in nearly all sectors.

BASF's activities comprise six segments: Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care and Agricultural Solutions. In 2022, BASF posted sales of €87.3 billion and income from operations before special items of approx. €6.9 billion. Further information on BASF is available at www.basf.com.

Our corporate purpose, "We create chemistry for a sustainable future", leads to ambitious goals along our value chain. We aim to achieve profitable growth and take on social and environmental responsibility. Our products, solutions and technologies contribute to achieving the United Nations' Sustainable Development Goals (SDGs), for example, on sustainable consumption and production, or climate action. We are committed to contributing to the Paris climate agreement and support the recommendations of the Task Force on Climate-related Financial Disclosure (TCFD). We have defined sustainability focus areas in our corporate strategy to meet the growing challenges along the value chain: We source responsibly; We produce safely for people and environment; We produce efficiently; We value people and treat them with respect; We drive sustainable products and solutions.

Our leading position as an integrated global chemical company enables us to make important contributions in the areas of resources, environment, climate, food / nutrition, and quality of life. Dealing with climate change is one of the major challenges for a sustainable future. Thus we are committed to energy efficiency and global climate protection along the value chain.

Since 1990, we have been able to lower our overall greenhouse gas (GHG) emissions from chemical operations by 54.1% and reduce specific emissions by 74.8%. By 2030 we want to reduce our global GHG emissions by 25 percent compared with 2018 – despite targeted growth and construction of a large Verbund site in South China. Further, we want to achieve net zero emissions by 2050. To achieve our ambitious climate protection goals, we have adopted comprehensive carbon management. This has five levers to reduce greenhouse gas emissions: Renewable energies for both electricity and steam production (grey-to-green and power-to-

steam levers), new carbon-free and low-carbon production processes (new technologies lever), alternative raw materials (bio-based feedstocks lever), and energy and resource efficiency in our production (continuous opex lever).

We also help our customers to avoid GHG emissions. The relevant products were classified as Accelerators “Climate Change and Energy” in our portfolio steering approach “Sustainable Solution Steering” and reflect our wide portfolio of climate protection products. Our target of generating €22 billion in **Accelerator** sales by 2025, which was based on our corporate strategy, was already achieved in 2021 with sales of €24.1 billion. In order to address the growing sustainability requirements in our markets with innovative solutions, we will align our product portfolio even more strongly with climate protection, climate neutrality and circular economy and are updating our methodology and our product portfolio steering target. We will introduce a revised method in 2023. However, the savings generated by our products are still valid, e.g., in building and renovation (insulation). We invest a substantial part of our annual Research and Development (R&D) expenditures (€2.298 billion total R&D expenses in 2022) in product and process innovations. We are strengthening our research activities, especially in battery materials, polymer technologies and catalytic and biotechnological methods. We drive forward cross-divisional projects on topics, such as avoiding CO₂ in chemical processes and products, energy efficiency and recycling technologies. We use an in-house digital solution to calculate the carbon footprint of our products (PCF). These PCFs include all product-related greenhouse gas emissions generated until a BASF product leaves the factory gates (“cradle-to-gate”). The methodology follows general standards for life cycle analysis such as ISO 14044 and ISO 14067, as well as the Greenhouse Gas Protocol Product Standard and Together for Sustainability Standard and has been certified by TÜV Rheinland. We have determined the carbon footprints of around 45,000 sales products.

Forward-Looking Statements: This document may contain forward-looking statements. These statements are based on current estimates and projections and currently available information. Future statements do not guarantee future developments and results outlined therein. These are dependent on several factors; they involve various risks and uncertainties; and they are based on assumptions that may not prove to be accurate. We do not assume any obligation to update the forward-looking statements contained in this report.

W-CH0.1a

(W-CH0.1a) Which activities in the chemical sector does your organization engage in?

- Bulk organic chemicals
- Bulk inorganic chemicals
- Specialty organic chemicals
- Specialty inorganic chemicals

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
Bahrain
Belgium
Brazil
Canada
Chile
China
Denmark
Finland
France
Germany
India
Indonesia
Ireland
Italy
Japan
Malaysia
Mexico
Netherlands
New Zealand
Norway
Poland
Republic of Korea
Russian Federation
Singapore
Slovakia
South Africa
Spain
Switzerland
Taiwan, China
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.

Other, please specify

Worldwide production sites of BASF SE, its fully consolidated subsidiaries (emissions included in full), and proportionally consolidated joint operations (emissions disclosed pro rata according to BASF's interest)

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
Administrative sites (e.g. sales offices)	BASF only reports water inputs/outputs for its production sites. The water inputs/outputs from its various administrative sites are not collected since their contribution to BASF's total water inputs/outputs is not significant (<0.1%). Also, wastewater from these sites typically consists of sanitary wastewater and does not represent industrial wastewater.
Associated/affiliated companies over which BASF has significant influence but does not have financial control (so-called B-companies) or from subsidiaries that are considered to be immaterial from a BASF point of view (so-called C-companies)	The contribution of the water inputs/outputs from BASF's B- and C- companies to BASF's total water inputs/outputs is not significant (<2%). Thus, they are not collected and reported.

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	DE000BASF111

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	Important	<p>DIRECT OPERATIONS</p> <p>Primary use: Coolant (88%), also as solvent or cleaning agent, and product input.</p> <p>Rationale: Many of our products rely on freshwater as product or process input, with strict quality parameters. With impure water, product quality is severely affected/efforts for water pre-treatment rise. In 2022, 86% of water withdrawal was from surface water/freshwater sources. Hence, freshwater availability is considered vital for operations.</p> <p>Future trends: At this time, we expect no significant changes in importance, as core processes and product lines will remain. Future shifts in our product portfolio could alter this status.</p> <p>INDIRECT OPERATIONS</p> <p>Primary use: Many suppliers are chemical factories and use water as coolant and solvent.</p> <p>Rationale: The water use heavily depends on sector/product. For instance, hydrocarbons require lots of process steam and cooling water. Other products are less dependent on freshwater. BASF has thousands of products that are used to produce tens of thousands of products in the value chain. Each of these products' water use is specific for each production step and varies widely. Determining the distribution of water more in detail is therefore not possible. In general, availability is important, but not in all cases vital for operations in our supply chain.</p>

			<p>Future trends: At this time, we expect no significant changes of dependency in our supply chain, as core groups of procured materials will remain.</p> <p>Future shifts in the product portfolio could alter this status.</p>
Sufficient amounts of recycled, brackish and/or produced water available for use	Vital	Important	<p>DIRECT OPERATIONS</p> <p>Primary use: Recycled, brackish, and/or produced water is mainly used for cooling purposes.</p> <p>Rationale: 13% of withdrawal was from brackish/seawater in 2022: a significant share that cannot be readily replaced by other sources. We recirculate water as much as possible, to withdraw less.</p> <p>Future trends: At this time, we expect no significant changes, as use of brackish water depends on availability/local conditions. Use of recycled water may be increased to decrease freshwater dependency.</p> <p>INDIRECT OPERATIONS</p> <p>Primary use: Mainly coolant (brackish) and solvent (recycled).</p> <p>Rationale: The use and importance of brackish/recycled water depend on the process, availability, and local conditions. Therefore, this aspect is important, but not in all cases vital for operations.</p> <p>Future trends: Currently, we expect no significant changes in water dependency in our supply chain, as core groups of procured materials will remain in place. However, future shifts in the product portfolio could alter this status. The use of recycled water or reuse of wastewater may be increased due to limited freshwater supply.</p>

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	100%	Yearly	BASF collects water at site level in a global database, called REHSA. Withdrawn water volumes are either determined continuously or updated on a regular basis with various methods depending on the withdrawal method and specific applicability, e.g., pump characteristics, dynamic pressure measurements, ultrasound or magneto-inductive measurements and transferred to REHSA.	We publicly report the information for the entire company in our annual report and the database is audited externally. 100% of BASF production sites are monitored for volumes of water withdrawals. 'Site' refers to all worldwide production sites of BASF SE, its fully consolidated subsidiaries, and proportionally consolidated joint operations.
Water withdrawals – volumes by source	100%	Yearly	Each withdrawal source is an individual measurement point. Withdrawal volumes are either determined continuously or updated on a regular basis with various methods, e.g., pump characteristics, dynamic pressure measurements, ultrasound, or	We publicly report the information for the entire company in our annual report and the database is audited externally. 100% of BASF production sites are monitored for volumes of water withdrawals by

			<p>magneto-inductive measurements and transferred to our global database REHSA. BASF aggregates source data on water supply, water use, and water discharge at site level in REHSA. Data entry and maintenance have globally standardized reporting requirements.</p>	<p>sources.</p> <p>'Site' refers to all worldwide production sites of BASF SE, its fully consolidated subsidiaries, and proportionally consolidated joint operations.</p>
<p>Water withdrawals quality</p>	<p>100%</p>	<p>Yearly</p>	<p>Total dissolved solids (TDS) are in general determined by analyzing the electrical conductivity in water samples or by online monitoring. 100% of BASF production sites are monitored for water withdrawal quality (i.a. amount of TDS. Depending on the use of withdrawn water, further measurements are carried out according to site-specific processes. We collect the results for TDS measurement, \geq than 1000 mg/L TDS or \leq 1000 mg/L TDS at the site level in a global database, called REHSA.</p>	<p>'Site' refers to all worldwide production sites of BASF SE, its fully consolidated subsidiaries, and proportionally consolidated joint operations.</p> <p>We publicly report the information for the entire company in our annual report and the database is audited externally.</p>

<p>Water discharges – total volumes</p>	<p>100%</p>	<p>Yearly</p>	<p>BASF collects water data at the site level in a global database, called REHSA. Discharge volumes are either determined continuously or updated on a regular basis with various methods depending on specific applicability, e.g., mass balance, pump characteristics, dynamic pressure measurements, ultrasound, or magneto-inductive measurements, and transferred to REHSA. 100% of BASF production sites are monitored for total volumes of water discharges.</p>	<p>'Site' refers to all worldwide production sites of BASF SE, its fully consolidated subsidiaries, and proportionally consolidated joint operations.</p> <p>We publicly report the information for the entire company in the annual BASF report and the database is audited externally.</p>
<p>Water discharges – volumes by destination</p>	<p>100%</p>	<p>Yearly</p>	<p>BASF collects water data at the site level in a global database, called REHSA. For each discharge point, the discharge volumes are either determined continuously or updated on a regular basis with various methods depending on specific applicability, e.g., mass balance, pump</p>	<p>100% of BASF production sites are monitored for volumes of water discharges by destination. 'Site' refers to all worldwide production sites of BASF SE, its fully consolidated subsidiaries, and proportionally consolidated joint operations.</p>

			characteristics, dynamic pressure measurements, ultrasound or magneto-inductive measurements and transferred to REHSA. The measuring equipment is monitored and regularly maintained.	We publicly report the information in our annual report. The database is audited externally.
Water discharges – volumes by treatment method	100%	Yearly	BASF collects water data at the site level in a global database, called REHSA. For each discharge point, the discharge volumes are either determined continuously or updated on a regular basis with various methods depending specific applicability, e.g., mass balance, pump characteristics, dynamic pressure measurements, ultrasound, or magneto-inductive measurements. The measuring equipment is monitored and regularly maintained.	'Site' refers to all worldwide production sites of BASF SE, its fully consolidated subsidiaries, and proportionally consolidated joint operations. 100% of BASF production sites with BASF-operated treatment plants are monitored for volumes of water discharges by treatment method. The database is audited externally.
Water discharge quality – by standard effluent parameters	100%	Daily	BASF collects water data at the site level in a global database, called REHSA. Training	For our company `site` refers to all worldwide production sites

			<p>sessions are conducted to ensure that the same data standards are implemented around the world. 100% of BASF production sites are monitored for quality by standard effluent parameters, e.g., chemical oxygen demand, total organic carbon. Results are transferred to REHSA. Depending on the type of production, further measurements of substances are carried out according to site-specific processes.</p>	<p>of BASF SE, its fully consolidated subsidiaries, and proportionally consolidated joint operations.</p> <p>We publicly report the information for the entire company in the annual BASF report and the database is audited externally.</p>
<p>Water discharge quality – emissions to water (nitrates, phosphates, pesticides, and/or other priority substances)</p>	<p>100%</p>	<p>Daily</p>	<p>BASF collects water data at the site level in a global database, called REHSA. 100% of BASF production sites are monitored for quality by monitoring emissions of nitrogen compounds, phosphorous compounds, including nitrate and phosphate, and heavy metals, including those heavy metals listed as priority</p>	<p>For our company 'site' refers to all worldwide production sites of BASF SE, its fully consolidated subsidiaries, and proportionally consolidated joint operations.</p>

			substances according to Annex X WFD.	
Water discharge quality – temperature	100%	Yearly	<p>BASF collects discharge temperature data on a local site level (not part of the REHSA). In general, the effluent temperature of wastewater and cooling water is monitored online with temperature sensors and the results are recorded in local databases. In some cases, we also monitor/calculate heat input to e.g. surface water bodies. Therefore, we assume coverage of 100% of relevant sites (i.e., all sites with discharges of cooling water), or a slightly smaller coverage if all sites are considered.</p>	<p>'Site' refers to all worldwide production sites of BASF SE, its fully consolidated subsidiaries, and proportionally consolidated joint operations.</p> <p>We publicly report the information for the entire company in our annual report and the database is audited externally.</p> <p>100% of BASF production sites are monitored for volumes of Water discharge quality – temperature.</p>
Water consumption – total volume	100%	Yearly	<p>BASF tracks water data in the global database REHSA. Water consumption is determined by cooling evaporation, water in products, and other consumption. Evaporation is measured by the delta between</p>	<p>'Site' refers to all worldwide production sites of BASF SE, its fully consolidated subsidiaries, and proportionally consolidated joint operations.</p>

			<p>make-up and blow-down water or using plant-specific or average evaporation rates. At group level water in products is calculated from the average water content of volume sales, taken from internal databases. Other water consumption is measured and reported by each site.</p>	<p>We publicly report the information for the entire company in our annual report and the database is audited externally.</p> <p>100% of BASF production sites are monitored for volumes of water discharges by treatment method.</p>
Water recycled/reused	100%	Yearly	<p>BASF collects water data at the site level in a global database, called REHSA. Water recycled/reused is derived by measuring the volume of e.g. recirculated cooling water, collected condensate, and water reused in the production process, using e.g. pump rates of the cooling water or flow-meters.</p>	<p>'Site' refers to all worldwide production sites of BASF SE, its fully consolidated subsidiaries, and proportionally consolidated joint operations.</p> <p>We publicly report the information for the entire company in our annual report and the database is audited externally.</p>
The provision of fully-functioning, safely managed WASH services to all workers	100%	Other, please specify Every 5 years	<p>BASF provides access to water, sanitation, and hygiene at the workplace at an</p>	<p>'Site' refers to all worldwide production sites of BASF SE, its fully</p>

			<p>appropriate level of standard for all employees. The Department Corporate Health Management is responsible for the management of general and occupational health topics of our employees, and the coordination and auditing of occupational medicine in 100% of BASF production sites worldwide. Part of this responsibility is the topic of sanitation and hygiene in the workplace.</p>	<p>consolidated subsidiaries, and proportionally consolidated joint operations.</p> <p>Sites are audited on a regular basis - 5-year intervals - if no negative findings were identified, or more frequently in case of findings. Audit results and action items are tracked in an audit database. In 2021, 13 sites were audited on occupational medicine and health protection (2020: 1). Online audits were conducted for 10 of these sites.</p>
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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	1,590,000	About the same	Increase/decrease in business activity	About the same	Increase/decrease in business activity	CHANGES The total

						<p>amount of water withdrawn was about the same, with a decrease of about 2%, compared to last year (2021: 1,695,000 megaliters). A lower abstraction of river water and brackish surface water at our Verbund sites in Ludwigshafen and Antwerp due to variations in production. We define changes below 15% as “about the same”, changes between 15% and 30% as “higher”/“lower” and changes of more than 30% as “much higher”/“much lower”.</p> <p>FUTURE TRENDS</p>
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						At this time, we expect no significant changes in total water withdrawal, as core groups of procured materials will remain in place. However, further extension of our facilities or a future change in product portfolio could alter this status.
Total discharges	1,400,000	About the same	Increase/decrease in business activity	About the same	Increase/decrease in business activity	<p>CHANGES</p> <p>The total amount of water discharged was about the same as last year (2021: 1,503,000 megaliters). A slight decrease in water discharge (7%) is due to decreased production e.g. at our Verbund sites in Ludwigshafen and in</p>

						<p>Antwerp. We define changes below 15% as “about the same”, changes between 15% and 30% as “higher”/“lower” and changes of more than 30% as “much higher”/“much lower”.</p> <p>FUTURE TRENDS</p> <p>At this time, we expect no significant changes in total water withdrawal, as core groups of procured materials will remain in place. However, further extension of our facilities or a future change in product portfolio could alter this status.</p>
Total consumption	69,000	About the same	Increase/decrease in business activity	About the same	Increase/decrease in business activity	Water consumption is the sum of

						<p>all water that has been withdrawn and incorporated into products, waste, evaporated, consumed by humans or livestock, polluted to a point of being unusable by others, and therefore not released back to surface water, groundwater, third party over the course of the reporting period. At BASF water consumption is mainly due to evaporation in recirculating cooling processes. A smaller fraction is incorporated into products or consumed by other processes.</p> <p>CHANGES</p> <p>Water</p>
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						<p>consumption in 2022 was about the same as last year (2021: 72,000 megaliters). The slight decrease was due to a lower proportion of water evaporated in cooling processes. We define changes below 15% as “about the same”, changes between 15% and 30% as “higher”/“lower” and changes of more than 30% as “much higher”/“much lower”. Water evaporated in cooling processes and water consumed in production processes is aggregated from local measurements whereas water in products on the group</p>
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						<p>level is calculated from the average water content of the volume sales.</p> <p>EXPLANATION WHY FIGURES DO NOT BALANCE</p> <p>The figures do not add up using the basic calculation “Withdrawals = Consumption + discharges” respectively “Consumption = Withdrawals – Discharges” due to measurement uncertainties for discharged cooling water in open channels. Cooling water accounts for 88% of the total discharge. Even small uncertainties can therefore result in high discrepancies</p>
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						<p>, which is why calculating the consumption is not very sensible.</p> <p>FUTURE TRENDS</p> <p>At this time, we expect no significant changes in total water consumption, as core groups of procured materials will remain in place. However, higher production / further extension of our facilities or a future change in product portfolio could alter this status.</p>
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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	% withdrawn from areas with	Comparison with previous reporting year	Primary reason for comparison with previous	Five-year forecast	Primary reason for forecast	Identification tool	Please explain
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	water stress	water stress		reporting year				
Row 1	Yes	1-10	About the same	Increase/decrease in business activity	About the same	Increase/decrease in business activity	WRI Aqueduct	<p>In 2022, around 25% of our production sites were located in water stress areas.</p> <p>We define water stress areas as regions in which 40% or more of available water is used by industry, households, and agriculture, as defined by Aqueduct 3.0 (dataset stems from WRI 2019).</p> <p>Among other, important sites are Port Arthur, USA, and Shanghai, China. All sites in water stress areas accounted for 1% of BASF's total water abstraction. Water consumption in water stress areas accounted for around 17% of</p>

							<p>our total water consumption (2021: 16%) and was primarily attributable to evaporation in cooling processes.</p> <p>All our sites have to report their water withdrawal or supply (see question W1.2). Based on the results, we can filter water data to show only withdrawals/supplies for the sites in water stress areas. The evaluation of sites located in water stress areas is updated at the end of each calendar year. The evaluation is conducted centrally for all sites by water experts in our corporate Environmental Protection unit.</p> <p>CHANGES</p> <p>In 2022 water withdrawal by the sites in</p>
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								water stress areas was about the same as in 2021 (1% in 2021) of BASFs total withdrawal. We define changes below 15% as “about the same”, changes between 15% and 30% as “higher”/”lower” and changes of more than 30% as “much higher”/”much lower”.
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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	1,260,000	About the same	Increase/decrease in business activity	All our sites are either measuring the abstracted volume of water or the supplied volume of water. The most important type of used freshwater is river water for once-through cooling at our site in Ludwigshafen. CHANGES

					<p>The volume of abstracted fresh surface water is about the same as in 2021. A slight decrease was mainly due to decreased production at our Verbund sites in Europe (last year: 1,308,000 megaliters). We define changes below 15% as “about the same”.</p> <p>FUTURE TRENDS</p> <p>Since the proportion of once-through cooling and recirculating cooling flow is dependent on the weather situations and influenced by the water-energy nexus, volumes of abstracted surface water may vary from year to year. Also, water withdrawal in our operations is affected by production output due to cooling water use.</p>
Brackish surface water/Seawater	Relevant	212,000	Lower	Increase/decrease in business activity	Abstracted brackish water is measured, and brackish water

					<p>has a relevant share within BASF's overall water withdrawals. Most of the brackish water is withdrawn and discharged at our site in Antwerp, located near the sea. The brackish water is taken from the harbor and discharged back after use in a recirculating cooling system.</p> <p>CHANGES</p> <p>The decrease of about 18% in brackish water withdrawal was mainly caused by decreased cooling water abstraction at our Antwerpen site due to lower production and lower cooling water needs. (last year: 259,000 megaliters). We define changes below 15% as "about the same", changes between 15% and 30% as "higher"/"lower" and changes of more than 30% as "much higher"/"much lower".</p>
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					<p>FUTURE TRENDS</p> <p>Since water withdrawal in our operations is affected by production output due to cooling water use, it may increase to a certain extent with growing production.</p>
Groundwater – renewable	Relevant	91,000	About the same	Increase/decrease in business activity	<p>Abstracted groundwater is measured. The groundwater water has a rather small, but relevant share within BASF’s overall water withdrawals, especially for higher quality water requirements.</p> <p>CHANGES</p> <p>With 91,000 megaliters the amount is about the same as last year, which was at 100,000 megaliters. Lower production resulted in a lower volume of abstracted groundwater. We define changes below 15% as “about the same”, changes between</p>

					<p>15% and 30% as “higher”/“lower” and changes of more than 30% as “much higher”/“much lower”.</p> <p>FUTURE TRENDS</p> <p>At this time, we expect no significant changes in groundwater water withdrawal in our operations, as core groups of procured materials will remain in place. However, future shifts in the product portfolio could alter this status.</p>
Groundwater – non-renewable	Not relevant				<p>Non-renewable groundwater occurs in arid regions. According to Aqueduct 3.0 arid regions are e.g., Northern Africa, Arabian Peninsula, Australia, etc. BASF does not abstract non-renewable groundwater. E.g., BASF site Whyalla, which is located in an arid region in Australia, uses mainly</p>

					seawater for production.
Produced/Entrained water	Relevant	5,000	About the same	Increase/decrease in business activity	<p>On the group level, we calculated the volume of produced/entrained water (5,000 megaliters) from the water content of our raw materials and imported steam in 2022. This is less than 0.3% of the total water supply of BASF globally and can therefore be neglected. Since volumes are included in withdrawal volumes we report in our integrated report, we added the volumes here.</p> <p>CHANGES</p> <p>The amount is virtually constant compared to the 2021 figure (5,000 megaliters). We define changes below 15% as “about the same”, changes between 15% and 30% as “higher”/“lower” and changes of more than 30% as “much higher”/“much lower”.</p>

					<p>FUTURE TRENDS</p> <p>Currently, we expect no significant changes in withdrawal from Produced/Entrained water. Since water withdrawal in our operations is affected by production output due to cooling water use, it may increase to a certain extent with growing production.</p>
Third party sources	Relevant	22,000	About the same	Increase/decrease in business activity	<p>A relevant third-party source is drinking water from municipal suppliers (20,000 megaliters). Wastewater from other organizations accounts for about 3,000 megaliters. Supplied volumes are measured.</p> <p>CHANGES</p> <p>The amount is virtually constant compared to the 2021 figure (23,000 megaliters). lower drinking water supply due to lower production.. We</p>

					<p>define changes below 15% as “about the same”, changes between 15% and 30% as “higher”/“lower” and changes of more than 30% as “much higher”/“much lower”.</p> <p>FUTURE TRENDS</p> <p>Currently, we expect no significant changes in withdrawal from third-party sources regarding drinking water. The amount of wastewater from other organizations is expected to increase.</p>
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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	1,181,000	About the same	Increase/decrease in business activity	<p>RATIONALE FOR RELEVANCE</p> <p>Fresh surface water is the most important source of water supply.</p>

					<p>Most of the water is used for once-through cooling at our site in Ludwigshafen. The water is taken from the river and is given back to it after use without having contact with chemicals. The volume of discharged water is measured. By volume, fresh surface water is the most important destination of discharge.</p> <p>CHANGES</p> <p>The slight decrease in discharge was mainly due to lower discharges at our Verbund site in Ludwigshafen due to lower production (2021: 1,239,000 megaliters). We define changes below 15% as “about the same”, changes between 15% and 30% as “higher”/“lower” and changes of more than 30% as “much</p>
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					<p>higher”/”much lower”.</p> <p>FUTURE TRENDS</p> <p>Since water discharge in our operations is affected by production output due to cooling water use, it may increase to a certain extent with growing production.</p>
Brackish surface water/seawater	Relevant	201,000	Lower	Increase/decrease in business activity	<p>RATIONALE FOR RELEVANCE</p> <p>Some sites are located near the coast and brackish water or the sea is the destination for discharge. The volume of discharged water is measured. By volume, brackish water and seawater are the second most important destinations of discharge.</p> <p>CHANGES</p> <p>The lower discharge into brackish water is due to the lower water discharge</p>

					<p>at the site in Antwerp, due to lower production (2021: 245,000 megaliters). We define changes below 15% as “about the same”, changes between 15% and 30% as “higher”/”lower” and changes of more than 30% as “much higher”/”much lower”.</p> <p>FUTURE TRENDS</p> <p>Since water discharge in our operations is affected by production output due to cooling water use, it may increase to a certain extent with growing production.</p>
Groundwater	Relevant	1,000	About the same	Increase/decrease in business activity	<p>RATIONALE FOR RELEVANCE</p> <p>Water discharge via soil to water beneath the soil surface or water discharge into isolated geological formations. This represents a rather small</p>

					<p>share of our overall discharges, but the relevance is constituted by the potential ecological implications. The volume of discharged water is measured.</p> <p>CHANGES</p> <p>The level is about the same as the previous year (2021: 1,000 megaliters). We define changes below 15% as “about the same”, changes between 15% and 30% as “higher”/“lower” and changes of more than 30% as “much higher”/“much lower”.</p> <p>FUTURE TRENDS</p> <p>At this time, we expect no significant changes in discharges to groundwater.</p>
Third-party destinations	Relevant	17,000	About the same	Increase/decrease in business activity	RATIONALE FOR RELEVANCE

				<p>This includes mainly water treated in wastewater treatment plants (WWTP) that are not operated by BASF - municipal and privately owned WWTP and a small fraction (<1%) of water send to others for further use. Third-party destinations represent a rather small share of our overall discharges, but the relevance is constituted by the dependence on and interrelations with external stakeholders. The volume of water discharged to third parties is measured.</p> <p>CHANGES</p> <p>The amount is within the same range as the 2021 figures (20,000 megaliters). A slight decrease is due to decreased production. The level is about the same</p>
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					<p>as the previous year We define changes below 15% as “about the same”, changes between 15% and 30% as “higher”/”lower” and changes of more than 30% as “much higher”/”much lower”.</p> <p>FUTURE TRENDS</p> <p>At this time, we expect no significant changes in discharges to third-party sources.</p>
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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	104,000	About the same	Increase/decrease in business activity	1-10	The majority (64%) of production wastewater of BASF sites has been treated at the tertiary level

						<p>in our own wastewater treatment plants.</p> <p>RATIONALE FOR LEVEL OF TREATMENT</p> <p>The sites have established a biological wastewater treatment with additional steps for the removal of nutrients (nitrification and/or denitrification and P-elimination).</p> <p>For our company `site` refers to all worldwide production sites of BASF SE, its fully consolidated subsidiaries, and proportionally consolidated joint operations. BASF complies with all relevant regulatory standards</p>
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						<p>and emission limit values, set by the competent authorities based on local law (e.g. Industrial Emission Directive in the EU).</p> <p>CHANGES</p> <p>Compared to 2021 the volume in 2022 is about the same. A slight decrease is due to decreased business activity at sites which had a tertiary wastewater treatment e.g. at the site in Ludwigshafen or in Antwerp. We define changes below 15% as “about the same”, changes between 15% and 30% as “higher”/“lower” and changes of more than 30% as “much</p>
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						<p>higher”/”much lower”.</p> <p>FUTURE TRENDS</p> <p>Currently, we expect no significant changes in the volumes of tertiary treated wastewater. The volumes and the percentage of facilities vary with production or due to acquisitions or divestitures.</p>
Secondary treatment	Relevant	15,000	Lower	<p>Other, please specify</p> <p>Decrease in business activity; shift to third party treatment at site in Spain</p>	11-20	<p>RATIONALE FOR LEVEL OF TREATMENT</p> <p>Most BASF-operated wastewater treatment plants (WWTPs) treat wastewater biologically to remove organic substances (e.g., in sanitary waters and production wastewater).</p>

						<p>We monitor the effluent levels for chemical oxygen demand (COD) / total organic carbon (TOC), nutrients, heavy metals, and harmful substances. BASF complies with all relevant regulatory standards and emission limit values, set by the competent authorities based on local law (e.g. Industrial Emission Directive in the EU).</p> <p>CHANGES</p> <p>Compared to 2021 the volume of secondary treated wastewater lower due to decreased production. In addition, the wastewater of site Tarragona,</p>
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						<p>Spain, is now discharged into a newly built treatment plant owned by the industrial park (2021: 21,000 megaliters). We define changes below 15% as “about the same”, changes between 15% and 30% as “higher”/“lower” and changes of more than 30% as “much higher”/“much lower”.</p> <p>FUTURE TRENDS</p> <p>Currently, we expect no significant changes in the volumes of secondary treated wastewater. The volumes and the percentage of facilities vary with production or due to</p>
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						acquisitions or divestitures.
Primary treatment only	Relevant	27,000	About the same	Increase/decrease in business activity	1-10	<p>RATIONALE FOR LEVEL OF TREATMENT</p> <p>Primary wastewater treatment is physical/chemical treatment and typically involves sedimentation or filtration to remove solids from wastewater. Primary treatment is done e.g., at our kaolin mining and processing site in Georgia, US.</p> <p>Kaolin is a naturally occurring mineral. There are also sites that incinerate polluted wastewater and discharges other wastewaters after primary treatment. BASF</p>

						<p>complies with all relevant regulatory standards and emission limit values, set by the competent authorities based on local law (e.g., Industrial Emission Directive in the EU).</p> <p>CHANGES</p> <p>Compared to 2021 (30,000 megaliters) the volume of primary treated wastewater about the same. The small decrease in volume is due to divestiture of parts of the Kaolin business and due to reduced business activity in Europe. We define changes below 15% as “about the same”, changes</p>
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						<p>between 15% and 30% as “higher”/“lower” and changes of more than 30% as “much higher”/“much lower”.</p> <p>FUTURE TRENDS</p> <p>Currently, we expect no significant changes in the volumes of primary treated wastewater. The volumes and the percentage of facilities vary with production or due to acquisitions or divestitures.</p>
Discharge to the natural environment without treatment	Relevant	1,237,000	About the same	Increase/decrease in efficiency	31-40	<p>RATIONALE FOR LEVEL OF TREATMENT</p> <p>Most of BASF's water supply is used for cooling purposes. In once-through cooling systems, the</p>

						<p>water has no contact with products and no treatment is necessary before it is discharged back to its source. About one-third of BASFs production sites are operating once-through cooling systems. The highest volumes are discharged at our Verbund sites in Ludwigshafen and Antwerp. BASF complies with all relevant regulatory standards and emission limit values, set by the competent authorities based on local law.</p> <p>CHANGES</p> <p>The amount is within the same range as in 2021. A slight decrease in discharge</p>
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						<p>compared to last year is due to lower business activity and lower need of cooling water at our sites in Europe, e.g. the Verbund sites in Ludwigshafen and Antwerp. (last year: 1,326,000 megaliters). We define changes below 15% as “about the same”, changes between 15% and 30% as “higher”/“lower” and changes of more than 30% as “much higher”/“much lower”.</p> <p>FUTURE TRENDS</p> <p>Since water discharge in our operations is affected by production output, it may increase to a certain extent</p>
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						with growing production.
Discharge to a third party without treatment	Relevant	17,000	Lower	Increase/decrease in business activity	71-80	<p>RATIONALE FOR LEVEL OF TREATMENT</p> <p>About 3/4 of BASF sites discharge wastewater to a third-party treatment plant. Before discharging, this wastewater is pre-treated at the production sites depending on local regulations.</p> <p>CHANGES</p> <p>The slightly lower volume compared to the 2021 figures (20,000 megaliters), is due to decreased business activities mainly in Europe. We define changes below 15% as “about the same”, changes</p>

						<p>between 15% and 30% as “higher”/“lower” and changes of more than 30% as “much higher”/“much lower”.</p> <p>FUTURE TRENDS</p> <p>At this time, we expect no significant changes in discharges to third-party sources.</p>
Other	Not relevant					No other treatment methods reported.

W1.2k

(W1.2k) Provide details of your organization’s emissions of nitrates, phosphates, pesticides, and other priority substances to water in the reporting year.

	Emissions to water in the reporting year (metric tonnes)	Category(ies) of substances included	List the specific substances included	Please explain
Row 1	2,856	Nitrates Phosphates Priority substances listed under the EU Water Framework Directive	<p>Several heavy metals are listed as priority substances according to Annex X WFD: Cd, Pb, Hg, Ni.</p> <p>Depending on the type of production, further measurements of substances are carried out according to site-</p>	<p>Depending on the type of production, our production sites have emissions to water. Limits for emissions are set by authority to avoid a negative impact on people and environment. Limits take into account the vulnerability of the receiving water body.</p> <p>Our production sites are</p>

			<p>specific processes. These substances however are not included in the reported emissions in row 1.</p>	<p>monitoring the emissions to water. The emissions of nitrogen, phosphorous and heavy metals are collected in our global database for environmental data REHSA.</p> <p>Depending on the type of production, further measurements of substances are carried out according to site-specific processes. E.g., sites producing pesticides will have to monitor the produced substances and to report emissions to their competent authority.</p> <p>Wastewater from production is treated in own- or third-party treatment plants before it is discharged. We use different methods depending on the type and degree of contamination. In order to avoid unanticipated emissions and the pollution of surface water or groundwater, we have water protection concepts in place.</p>
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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	87,300,000,000	1,590,000	54,905.6603773585	Most of the water withdrawn is used for cooling purposes (88%) and returned (i.e. not consumed). Water withdrawal efficiency implies that higher efficiency is better, although the cooling would have to be replaced by alternative methods. These are, e.g. higher recirculation rates in closed loop systems, which require more

				energy for pumps and hence increase the carbon footprint of production facilities. BASF balances the withdrawal of cooling water taking energy consumption and other factors.
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W-CH1.3

(W-CH1.3) Do you calculate water intensity for your activities in the chemical sector?

Yes

W-CH1.3a

(W-CH1.3a) For your top five products by production weight/volume, provide the following water intensity information associated with your activities in the chemical sector.

Product type

Bulk organic chemicals

Product name

Ethylene

Water intensity value (m3/denominator)

0.33

Numerator: water aspect

Freshwater consumption

Denominator

Ton

Comparison with previous reporting year

About the same

Please explain

WHY VOLUMES CHANGE/ANTICIPATED FUTURE TRENDS:

Compared to the previous year the intensity is about the same (2021: 0.34). We define changes below 15% as “about the same”, changes between 15 % and 30% as “higher”/“lower” and changes of more than 30% as “much higher”/“much lower”. We define water consumption as water not returned to its original environment (includes evaporated water, water contained in products, and consumed as part of chemical reactions). Water intensities at BASF plants are vastly different depending on location (even for the same product). Our largest sites in Ludwigshafen and Antwerp were chosen as examples for 5 major products. Hot summers can lead to less fresh water available and higher river water temperatures. In such periods, recirculated water

volume is increased, which results in higher consumption + water intensities. Shutdowns + testing of equipment can also lead to higher water consumption. Hence, volumes change continuously and cannot be anticipated.

USE OF METRICS /STRATEGY TO MANAGE INTENSITIES

The more water is recirculated (and partially evaporated/consumed), the more electricity for pumping is needed, representing a cost factor, and causing GHG emissions. The recirculated water portion of the cooling water cycle is continuously monitored to maintain an optimum of emissions, water consumption, and once-through cooling mode. The main parameters determining the optimum are regulatory constraints (max. effluent temp., receiving water body temp., max. freshwater intake), electricity prices, and pumping capacity. We seek to limit re-cooling + save energy, thus also reducing calculated water intensities. At the site level, the recirculation rate/water intensity is a central parameter to planning future demand for cooling capacities and is part of the long-term development strategy of the sites. Our central environmental goal is to reduce CO2 emissions (BASF GHG target). Since 88% of the water withdrawn is used for cooling purposes, a reduction of re-cooling with reduced power demand for pumps reduces water intensities (lower evaporation from cooling towers) and CO2 emissions. These optimization criteria are integrated into daily operations and are part of the strategy for reaching BASF's global climate target.

Product type

Bulk organic chemicals

Product name

Propylene

Water intensity value (m3/denominator)

0.33

Numerator: water aspect

Freshwater consumption

Denominator

Ton

Comparison with previous reporting year

About the same

Please explain

WHY VOLUMES CHANGE/ANTICIPATED FUTURE TRENDS:

Compared to the previous year the intensity is about the same (2021: 0.34). We define changes below 15% as "about the same", changes between 15 % and 30% as "higher"/"lower" and changes of more than 30% as "much higher"/"much lower". We define water consumption as water not returned to its original environment (includes

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USE OF METRICS /STRATEGY TO MANAGE INTENSITIES

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Product type

Bulk organic chemicals

Product name

Benzene

Water intensity value (m³/denominator)

0.09

Numerator: water aspect

Freshwater consumption

Denominator

Ton

Comparison with previous reporting year

Higher

Please explain

WHY VOLUMES CHANGE/ANTICIPATED FUTURE TRENDS:

Compared to the previous year the intensity is higher (2021: 0.07). We define changes below 15% as “about the same”, changes between 15 % and 30% as “higher”/“lower” and changes of more than 30% as “much higher”/“much lower”. We define water consumption as water not returned to its original environment (includes evaporated water, water contained in products, and consumed as part of chemical reactions). Water intensities at BASF plants are vastly different depending on location (even for the same product). Our largest sites in Ludwigshafen and Antwerp were chosen as examples for 5 major products. Hot summers can lead to less fresh water available and higher river water temperatures. In such periods, recirculated water volume is increased, which results in higher consumption + water intensities. Shutdowns + testing of equipment can also lead to higher water consumption. Hence, volumes change continuously and cannot be anticipated.

USE OF METRICS /STRATEGY TO MANAGE INTENSITIES

The more water is recirculated (and partially evaporated/consumed), the more electricity for pumping is needed, representing a cost factor, and causing GHG emissions. The recirculated water portion of the cooling water cycle is continuously monitored to maintain an optimum of emissions, water consumption, and once-through cooling mode. The main parameters determining the optimum are regulatory constraints (max. effluent temp., receiving water body temp., max. freshwater intake), electricity prices, and pumping capacity. We seek to limit re-cooling + save energy, thus also reducing calculated water intensities. At the site level, the recirculation rate/water intensity is a central parameter to planning future demand for cooling capacities and is part of the long-term development strategy of the sites. Our central environmental goal is to reduce CO2 emissions (BASF GHG target). Since 88% of the water withdrawn is used for cooling purposes, a reduction of re-cooling with reduced power demand for pumps reduces water intensities (lower evaporation from cooling towers) and CO2 emissions. These optimization criteria are integrated into daily operations and are part of the strategy for reaching BASF’s global climate target.

Product type

Bulk organic chemicals

Product name

Ammonia

Water intensity value (m3/denominator)

1.37

Numerator: water aspect

Freshwater consumption

Denominator

Ton

Comparison with previous reporting year

Lower

Please explain

WHY VOLUMES CHANGE/ANTICIPATED FUTURE TRENDS:

Compared to the previous year the intensity is lower (2021: 1.67). We define changes below 15% as “about the same”, changes between 15 % and 30% as “higher”/“lower” and changes of more than 30% as “much higher”/“much lower”. We define water consumption as water not returned to its original environment (includes evaporated water, water contained in products, and consumed as part of chemical reactions). Water intensities at BASF plants are vastly different depending on location (even for the same product). Our largest sites in Ludwigshafen and Antwerp were chosen as examples for 5 major products. Hot summers can lead to less fresh water available and higher river water temperatures. In such periods, recirculated water volume is increased, which results in higher consumption + water intensities. Shutdowns + testing of equipment can also lead to higher water consumption. Hence, volumes change continuously and cannot be anticipated.

USE OF METRICS /STRATEGY TO MANAGE INTENSITIES

The more water is recirculated (and partially evaporated/consumed), the more electricity for pumping is needed, representing a cost factor, and causing GHG emissions. The recirculated water portion of the cooling water cycle is continuously monitored to maintain an optimum of emissions, water consumption, and once-through cooling mode. The main parameters determining the optimum are regulatory constraints (max. effluent temp., receiving water body temp., max. freshwater intake), electricity prices, and pumping capacity. We seek to limit re-cooling + save energy, thus also reducing calculated water intensities. At the site level, the recirculation rate/water intensity is a central parameter to planning future demand for cooling capacities and is part of the long-term development strategy of the sites. Our central environmental goal is to reduce CO₂ emissions (BASF GHG target). Since 88% of the water withdrawn is used for cooling purposes, a reduction of re-cooling with reduced power demand for pumps reduces water intensities (lower evaporation from cooling towers) and CO₂ emissions. These optimization criteria are integrated into daily operations and are part of the strategy for reaching BASF’s global climate target.

Product type

Bulk organic chemicals

Product name

Butadiene

Water intensity value (m³/denominator)

2.48

Numerator: water aspect

Freshwater consumption

Denominator

Ton

Comparison with previous reporting year

About the same

Please explain

WHY VOLUMES CHANGE/ANTICIPATED FUTURE TRENDS:

Compared to the previous year the intensity is about the same (2021: 2.35). We define changes below 15% as “about the same”, changes between 15 % and 30% as “higher”/“lower” and changes of more than 30% as “much higher”/“much lower”. We define water consumption as water not returned to its original environment (includes evaporated water, water contained in products, and consumed as part of chemical reactions). Water intensities at BASF plants are vastly different depending on location (even for the same product). Our largest sites in Ludwigshafen and Antwerp were chosen as examples for 5 major products. Hot summers can lead to less fresh water available and higher river water temperatures. In such periods, recirculated water volume is increased, which results in higher consumption + water intensities. Shutdowns + testing of equipment can also lead to higher water consumption. Hence, volumes change continuously and cannot be anticipated.

USE OF METRICS /STRATEGY TO MANAGE INTENSITIES

The more water is recirculated (and partially evaporated/consumed), the more electricity for pumping is needed, representing a cost factor, and causing GHG emissions. The recirculated water portion of the cooling water cycle is continuously monitored to maintain an optimum of emissions, water consumption, and once-through cooling mode. The main parameters determining the optimum are regulatory constraints (max. effluent temp., receiving water body temp., max. freshwater intake), electricity prices, and pumping capacity. We seek to limit re-cooling + save energy, thus also reducing calculated water intensities. At the site level, the recirculation rate/water intensity is a central parameter to planning future demand for cooling capacities and is part of the long-term development strategy of the sites. Our central environmental goal is to reduce CO2 emissions (BASF GHG target). Since 88% of the water withdrawn is used for cooling purposes, a reduction of re-cooling with reduced power demand for pumps reduces water intensities (lower evaporation from cooling towers) and CO2 emissions. These optimization criteria are integrated into daily operations and are part of the strategy for reaching BASF’s global climate target.

W1.4

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

Products contain hazardous substances

Row 1	Yes
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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
Annex XVII of EU REACH Regulation	Less than 10%	<p>We are committed to continuously minimizing the negative effects of our products on the environment, health, and safety (EHS) and to the ongoing optimization of our products. This commitment to product safety is enshrined in our Responsible Care® charter and the initiatives of the International Council of Chemical Associations (ICCA).</p> <p>We use the Globally Harmonized System (GHS) to classify and label our products around the world and we consider any legal implementation such as EUs CLP Regulation. Most of our substances are subject to statutory chemicals regulations like REACH in the EU. In an analysis focusing on the indicated list, the percentage of revenue associated with products containing these substances was well below 10%.</p> <p>We are using the Triple S (Sustainable Solution Steering) methodology to analyze how our products contribute to sustainability and promote the development of more innovative and sustainable products. The methodology takes into account the value chain from cradle to grave. Regulatory developments such as the EU Strategy for Sustainability and the US Toxic Substances Control Act are directly integrated into the Triple S method. Triple S complies with the Portfolio Sustainability Assessment method of the WBCSD.</p>

W1.5

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

	Engagement
Suppliers	Yes

Other value chain partners (e.g., customers)	Yes
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W1.5a

(W1.5a) Do you assess your suppliers according to their impact on water security?

Row 1

Assessment of supplier impact

Yes, we assess the impact of our suppliers

Considered in assessment

- Supplier impacts on water availability
- Supplier impacts on water quality
- Procurement spend

Number of suppliers identified as having a substantive impact

3,023

% of total suppliers identified as having a substantive impact

1-25

Please explain

DESCRIPTION OF APPROACH

Suppliers are evaluated by independent experts in on-site audits or online assessments. Included topics are e.g., water policies and relevant international certifications, measures to reduce water consumption or assessing water-stress. Suppliers are evaluated based on risk. To determine substantive impact, we consider country & industry risks, the materiality of the supply relationship (procurement spend) & suppliers showing improvement potential in a former evaluation.

THRESHOLD

We select suppliers from all procurement classes (raw materials, technical goods & services incl. packaging, logistics) with either high country risk (based on Verisk Maplecroft), or high category risk based on buyer’s knowledge (i.e. high ESG risk of products/services from same value chain or with chemical/technical similarity, analyzed against 6 pre-defined risk clusters). To determine materiality, we select suppliers with invoiced value above a pre-defined, quantitative threshold.

W1.5b

(W1.5b) Do your suppliers have to meet water-related requirements as part of your organization’s purchasing process?

	Suppliers have to meet specific water-related requirements
Row 1	Yes, water-related requirements are included in our supplier contracts

W1.5c

(W1.5c) Provide details of the water-related requirements that suppliers have to meet as part of your organization’s purchasing process, and the compliance measures in place.

Water-related requirement

Engaging with their suppliers on water security actions

% of suppliers with a substantive impact required to comply with this water-related requirement

100%

% of suppliers with a substantive impact in compliance with this water-related requirement

26-50

Mechanisms for monitoring compliance with this water-related requirement

On-site third-party audit
Supplier scorecard or rating

Response to supplier non-compliance with this water-related requirement

Retain and engage

Comment

Due to the large number of suppliers we work with, they are evaluated based on risk. To determine substantive impact, we analyze country and industry-specific risks and the materiality of the supply relationship. Besides, we also include suppliers showing improvement potential in a former evaluation. Suppliers are evaluated by independent experts either in on-site audits or online assessments. The latter are conducted by EcoVadis. Included topics are e.g., the existence of water policies and relevant international certifications, measures to reduce water consumption (e.g. having technologies/practices to recycle or reuse water, using closed-loop water cooling systems) or performing water-stress assessment. We also rely on the sustainability performance (including water-related factors) which our suppliers disclose via S&P Global's Corporate Sustainability Assessment.

Water-related requirement

Reporting against a sustainability index with water-related factors (e.g., DJSI, CDP Water Security questionnaire, etc.)

% of suppliers with a substantive impact required to comply with this water-related requirement

100%

% of suppliers with a substantive impact in compliance with this water-related requirement

26-50

Mechanisms for monitoring compliance with this water-related requirement

On-site third-party audit
Supplier scorecard or rating

Response to supplier non-compliance with this water-related requirement

Retain and engage

Comment

Due to the large number of suppliers we work with, they are evaluated based on risk. To determine substantive impact, we analyze country and industry-specific risks and the materiality of the supply relationship. Besides, we also include suppliers showing improvement potential in a former evaluation. Suppliers are evaluated by independent experts either in on-site audits or online assessments. The latter are conducted by EcoVadis. Included topics are e.g., the existence of water policies and relevant international certifications, measures to reduce water consumption (e.g. having technologies/practices to recycle or reuse water, using closed-loop water cooling systems) or performing water-stress assessment. We also rely on the sustainability performance (including water-related factors) which our suppliers disclose via S&P Global's Corporate Sustainability Assessment.

W1.5d

(W1.5d) Provide details of any other water-related supplier engagement activity.

Type of engagement

Incentivization

Details of engagement

Water management and stewardship is featured in supplier awards scheme

% of suppliers by number

1-25

% of suppliers with a substantive impact

26-50

Rationale for your engagement

Our more than 70,000 suppliers make an important contribution to our value creation. They supply us with raw materials, energy, precursors, investment goods, and consumables perform a range of services and are innovation partners. Out of the total number of suppliers in our portfolio in 2022, 11% had a valid sustainability evaluation. The percentage of suppliers with substantive impact with whom we engage through incentivization is within the range of 26-50%. Due to the high number of suppliers we work with, focusing our third-party evaluations on the most relevant is crucial. We define

relevant suppliers as Tier 1 suppliers showing an elevated sustainability risk potential as identified by our risk matrices (including both country and industry-specific risks), our purchasers' assessments, or other sources, such as evaluations from the Together for Sustainability initiative (TfS). With TfS, suppliers are evaluated by independent experts either in on-site audits or online assessments. The latter is conducted by EcoVadis, a rating agency specialized in evaluating suppliers' sustainability performance, including the existence of water policies and relevant international certifications. Suppliers are also assessed on their measures to reduce water consumption, like having technologies/practices to recycle or reuse water, using closed-loop water cooling systems, or performing water-stress assessment/mapping or water accounting/auditing. In 2022, 47% of assessed suppliers were certified by ISO 14001 (environmental management system), 34% reported on measures taken to reduce water consumption (27% in 2021) and 28% claimed to have an environmental policy on water. Furthermore, 7% of assessed suppliers already had quantitative objectives set on water in 2022.

When analyzing alternative suppliers, buyers can access evaluation reports on the suppliers' sustainability performance. Procurement employees receive regular training in sustainability-oriented supplier management and responsible procurement. In addition, buyers are encouraged and trained to consider available evaluation results into awarding processes and business decisions, sustainability-oriented supplier management and responsible procurement. In addition, buyers are encouraged and trained to consider available evaluation results in awarding processes and business decisions.

Impact of the engagement and measures of success

INCENTIVIZATION

EcoVadis assessments and TfS audits are used as a tool for supplier risk management and continuous improvement. They provide a direct supplier performance indicator that can be positively influenced, e.g., by proving implementation of water policies, measures to reduce water consumption (like having technologies/practices to recycle or reuse water, using closed-loop water cooling systems or performing water-stress assessment/mapping or water accounting/auditing), safe handling of wastewater, or setting water-related targets.

BENEFICIAL OUTCOMES

As a result of incentivization, more suppliers have improved their environmental performance. In 2022, 47% of assessed suppliers were certified by ISO 14001 (environmental management system), 34% reported on measures taken to reduce water consumption (27% in 2021) and 28% claimed to have an environmental policy on water. Furthermore, 7% of assessed suppliers already had quantitative objectives set on water in 2022.

Moreover, BASF engages in numerous initiatives to foster sustainable development. As an example, since 2021, we are a member of the Responsible Lithium Partnership, which advocates for the responsible use of natural resources in Chile's Salar de

Atacama, home to the world’s largest lithium reserves. As a first step, a local multi-stakeholder platform has been organized on the water-related opportunities and risks of lithium and copper mining, amongst other economic activities. The goal of the platform is to reach a common understanding of the status quo and to develop a vision for the future of the Salar de Atacama watershed together with local interest groups. In addition, potential risks are to be minimized and opportunities promoted through the development and implementation of joint action plans.

MEASURE OF SUCCESS

We analyze the relevant spend we cover with evaluations (status 2022: 85%) and track the percentage of evaluated suppliers that improve their sustainability performance upon re-evaluation (status 2022: 76%).

Threshold of success: By 2025, we aim to have conducted sustainability evaluations for 90% of the BASF Group’s relevant spend (=procurement spend with relevant suppliers). In addition, we aim to have 80% of suppliers improve their sustainability performance upon re-evaluation by 2025. Both global targets are embedded in the target agreements of persons responsible for procurement.

Comment

Spend calculated according to International Financial Reporting Standards (IFRS).

W1.5e

(W1.5e) Provide details of any water-related engagement activity with customers or other value chain partners.

Type of stakeholder

Customers

Type of engagement

Education / information sharing

Details of engagement

Share information about your products and relevant certification schemes

Rationale for your engagement

RATIONALE FOR ENGAGEMENT

Our customers are at the core of our strategy. We have a global, customer-focused presence and strive to achieve a leading position in our markets and business areas. We engage with customers in close partnerships to align our business optimally with their needs and contribute to their success with our solutions. Our engagement essentially covers our entire customer base. Findings from our sustainability tools allow us to identify hot spots; prioritization for working with specific customers is primarily driven by our divisions based on opportunities.

METHOD/STRATEGY

We segmented our portfolio regarding contribution to sustainability (incl. reduction of water use), using the Sustainable Solution Steering® method. The approach (until 2021 “Accelerator products”) proved so successful with customers that it was refined in 2022 and will be relaunched in 2023.

Moreover, we use a range of sustainability tools to interact with customers: LCA tools (Eco-Efficiency Analysis, SEEBALANCE®, AgBalance™) or tools for systematic sustainability analysis in a value chain. Intensity and modus of interaction (e.g. one-to-one meetings, workshops, joint projects) is customer-dependent.

Impact of the engagement and measures of success

METRICS USED AND MEASURE OF SUCCESS

Our target of generating €22 billion in Accelerator sales by 2025, which was based on our corporate strategy, was already achieved in 2021 with sales of €24.1 billion. In order to address the growing sustainability requirements in our markets with innovative solutions, we want to align our product portfolio even more strongly with climate protection, climate neutrality, and the circular economy going forward. That is why we are updating our methodology and our product portfolio steering target and will introduce a revised method in 2023.

BENEFICIAL OUTCOMES

A particular focus in the continued development of our product portfolio is on products that make a substantial sustainability contribution in the value chain. These include products that make positive contributions to areas such as health and safety, reducing emissions, and the circular economy.

Type of stakeholder

Other, please specify
selected agricultural customers, networks, initiatives and also local water utilities

Type of engagement

Innovation & collaboration

Details of engagement

Collaborate with stakeholders on innovations to reduce water impacts in products and services

Rationale for your engagement

RATIONALE/PRIORITIZATION

Partners must be influencers in strategic value chains (crop-specific) and willing to cooperate with the industry.

METHOD/STRATEGY

Partnerships to jointly develop and spread best management practices to reduce water use and pollution. This can apply to optimized product use of e.g. herbicides, technical innovations like mulch films, optimized irrigation practices or alternative cultivation techniques like dry-seed rice.

Impact of the engagement and measures of success

MEASURE OF SUCCESS

We measure success by the number of touchpoints with value chain players (e.g. number of engaged farmers or advisors), as well as Agricultural Products product sales within these value chains.

BENEFICIAL OUTCOMES

In India, for example, BASF launched the Suraksha Hamesha program. Suraksha Hamesha means “safety all the time.” The program creates a platform for educating farmers and other users of crop protection products about the nine steps of responsible use of crop protection products and personal protection. Through Suraksha Hamesha, BASF has trained over 189,000 agricultural workers and around 39,000 users across India since 2016.

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	Yes	Fines, 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

2

Total value of fines

4,867.8

% of total facilities/operations associated

0.9

Number of fines compared to previous reporting year

Higher

Comment

Amount of fines paid is not significant compared to the turnover of the affected sites. All issues have been resolved.

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
Row 1	Yes, we identify and classify our potential water pollutants	<p>POLICIES AND PROCESSES</p> <p>We strive to minimize the environmental, health, and safety (EHS) impacts of our products. This commitment to product safety is enshrined in our Responsible Care® charter and the initiatives of the International Council of Chemical Associations (ICCA).</p> <p>Corporate EHS sets BASF's standards for monitoring and managing pollutants globally. Cross-divisional and cross-regional teams facilitate ongoing exchange on legislative activities worldwide.</p> <p>ESTABLISHED STANDARDS</p> <p>We use the Globally Harmonized System (GHS) to classify and label our products around the world and we consider any legal implementation such as the EU's Classification, Labeling, and Packaging (CLP) Regulation. Most of our substances are subject to statutory chemicals regulations like REACH in the EU.</p> <p>There is no common legal standard for wastewater pollutants on a</p>

		<p>global level. Authorities set standards based on national or supranational regulation, e.g., European Industrial Emissions Directive (IED), considering pollutant properties (toxicity, persistence, bioaccumulation) and the current situation of the receiving water body to avoid detrimental impacts on water ecosystems or human health.</p> <p>METRICS AND INDICATORS USED</p> <p>We identified pollutants in wastewater of global relevance. These are heavy metals and substances causing eutrophication (organic carbon, nitrogen, phosphorus). We collect data on these pollutants in our REHSA Database globally.</p>
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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

Inorganic pollutants

Description of water pollutant and potential impacts

We identified pollutants in wastewater of global relevance. These are heavy metals due to toxicity for humans and other organisms. We collect data of these pollutants in our REHSA Database globally.

Value chain stage

Direct operations
 Supply chain
 Product use phase

Actions and procedures to minimize adverse impacts

Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
 Resource recovery
 Beyond compliance with regulatory requirements
 Implementation of integrated solid waste management systems
 Industrial and chemical accidents prevention, preparedness, and response
 Provision of best practice instructions on product use
 Water recycling
 Reduction or phase out of hazardous substances
 Requirement for suppliers to comply with regulatory requirements
 Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements
 Upgrading of process equipment/methods

Please explain

HOW PROCEDURES MANAGE IMPACTS

BASF's Responsible Care focuses on minimizing the impact on people and the environment, following a continuous improvement process. Our Code of Conduct demands extra care beyond regulatory compliance. All production facilities conduct Water Risk Assessments, preventing and managing spillages/leakages, and assessing risks from underground sewers. Wastewater undergoes strict controls, with treatment methods including biological processes, oxidation, membranes, precipitation, and adsorption. Harmful substance handling is substituted where possible. We use the Triple S (Sustainable Solution Steering) methodology, to analyze how our products contribute to sustainability and promote the development of more innovative and sustainable products, integrating sustainability strategies and regulations. Safety data sheets are provided to ensure safe product handling. Suppliers must comply with laws and recognized ESG standards based on risk evaluation.

HOW SUCCESS IS MEASURED

In our direct operations, we monitor the emission of heavy metals via wastewater discharge. An example of improvement is the wastewater treatment at our site in Tarragona, Spain. The onsite treated wastewater is now further treated in the new treatment plant of the industrial park resulting in lower emissions into the environment. We define success as being a reduction of pollutants. For example, BASF group reduced heavy metal emissions from 27000 (t/a) in 2008 to 16000 (t/a) in 2022.

Water pollutant category

Nitrates

Description of water pollutant and potential impacts

We identified pollutants in wastewater of global relevance. These are nitrogen containing substances including nitrates, due to their eutrophication potential leading to reduced oxygen availability in water bodies and therefore decimating water organisms and damaging ecosystems.

We collect data of these pollutants in our REHSA Database globally.

Value chain stage

Direct operations
Supply chain
Product use phase

Actions and procedures to minimize adverse impacts

Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
Resource recovery
Beyond compliance with regulatory requirements

Implementation of integrated solid waste management systems
 Industrial and chemical accidents prevention, preparedness, and response
 Provision of best practice instructions on product use
 Water recycling
 Reduction or phase out of hazardous substances
 Requirement for suppliers to comply with regulatory requirements
 Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements
 Upgrading of process equipment/methods

Please explain

HOW PROCEDURES MANAGE IMPACTS

BASF focuses on minimizing impact on people & the environment, following a continuous improvement process. Our Code of Conduct demands extra care beyond regulatory compliance. All production facilities conduct Water Risk Assessments, preventing and managing spillages/leakages, and assessing risks from underground sewers. Wastewater undergoes strict controls. Treatment methods include biological processes, oxidation, membranes, precipitation, and adsorption. Harmful substance handling is substituted where possible. We use the Triple S (Sustainable Solution Steering) methodology, to analyze sustainability contribution of our products and promote the development of more innovative and sustainable products, integrating sustainability strategies and regulations. Safety data sheets are provided to ensure safe product handling. Suppliers must comply with laws & ESG standards based on risk evaluation.

HOW SUCCESS IS MEASURED

In our direct operations we monitor the emission of nitrogen via wastewater discharge. An example of improvement is the wastewater treatment at our site in Tarragona, Spain. The onsite treated wastewater is now further treated in the new treatment plant of the industrial park resulting in lower emissions into the environment. BASF measures total emission of nitrogen across the group. We define success being a reduction of pollutants. For example, BASF group reduced nitrogen emission from 4400 (t/a) in 2008 to 2600 (t/a) in 2022.

Water pollutant category

Phosphates

Description of water pollutant and potential impacts

We identified pollutants in wastewater of global relevance. These are phosphorous containing substances including phosphates, due to their eutrophication potential leading to reduced oxygen availability in water bodies and therefore decimating water organisms and damaging ecosystems.

We collect data of these pollutants in our REHSA Database globally.

Value chain stage

Direct operations
Supply chain
Product use phase

Actions and procedures to minimize adverse impacts

Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
Resource recovery
Beyond compliance with regulatory requirements
Implementation of integrated solid waste management systems
Industrial and chemical accidents prevention, preparedness, and response
Provision of best practice instructions on product use
Water recycling
Reduction or phase out of hazardous substances
Requirement for suppliers to comply with regulatory requirements
Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements
Upgrading of process equipment/methods

Please explain

HOW PROCEDURES MANAGE IMPACTS

BASF's Responsible Care focuses on minimizing the impact on people and the environment, following a continuous improvement process. Our Code of Conduct demands extra care beyond regulatory compliance. All production facilities conduct Water Risk Assessments, preventing and managing spillages/leakages, and assessing risks from underground sewers. Wastewater undergoes strict controls, with treatment methods including biological processes, oxidation, membranes, precipitation, and adsorption. Harmful substance handling is substituted where possible. We use the Triple S (Sustainable Solution Steering) methodology, to analyze how our products contribute to sustainability and promote the development of more innovative and sustainable products, integrating sustainability strategies and regulations. Safety data sheets are provided to ensure safe product handling.

HOW SUCCESS IS MEASURED

In our direct operations, we monitor the emission of phosphorus via wastewater discharge. An example of improvement is the wastewater treatment at our site in Tarragona, Spain. The onsite treated wastewater is now further treated in the new treatment plant of the industrial park resulting in lower emissions into the environment. BASF measures the total emission of phosphorus across the group. We define success as being a reduction of pollutants. For example, BASF group reduced phosphorus emissions from 340 (t/a) in 2021 to 240 (t/a) in 2022.

Water pollutant category

Other nutrients and oxygen demanding pollutants

Description of water pollutant and potential impacts

We identified pollutants in wastewater of global relevance. These are organic substances, due to their eutrophication potential leading to reduced oxygen availability in water bodies and therefore decimating water organisms and damaging ecosystems.

We collect data of these pollutants in our REHSA Database globally.

Value chain stage

Direct operations
Supply chain
Product use phase

Actions and procedures to minimize adverse impacts

Assessment of critical infrastructure and storage condition (leakages, spillages, pipe erosion etc.) and their resilience
Resource recovery
Beyond compliance with regulatory requirements
Implementation of integrated solid waste management systems
Industrial and chemical accidents prevention, preparedness, and response
Provision of best practice instructions on product use
Water recycling
Reduction or phase out of hazardous substances
Requirement for suppliers to comply with regulatory requirements
Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements
Upgrading of process equipment/methods

Please explain

HOW PROCEDURES MANAGE IMPACTS

BASF's Responsible Care focuses on minimizing the impact on people and the environment, following a continuous improvement process. Our Code of Conduct demands extra care beyond regulatory compliance. All production facilities conduct Water Risk Assessments, preventing and managing spillages/leakages, and assessing risks from underground sewers. Wastewater undergoes strict controls, with treatment methods including biological processes, oxidation, membranes, precipitation, and adsorption. Harmful substance handling is substituted where possible. We use the Triple S (Sustainable Solution Steering) methodology, to analyze how our products contribute to sustainability and promote the development of more innovative and sustainable products, integrating sustainability strategies and regulations. Safety data sheets are provided to ensure safe product handling.

HOW SUCCESS IS MEASURED

In our direct operations, we monitor the emission of organic substances via wastewater discharge. An example of improvement is the wastewater treatment at our site in

Tarragona, Spain. The onsite treated wastewater is now further treated in the new treatment plant of the industrial park resulting in lower emissions into the environment.

BASF measures total emission of phosphorus across the group. We define success being a reduction of pollutants. For example, BASF group reduced phosphorus emissions from 20600 (t/a) in 2008 to 10600 (t/a) in 2022.

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 an established enterprise risk management framework

Frequency of assessment

Annually

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 and standards
Databases

Tools and methods used

WRI Aqueduct
COSO Enterprise Risk Management Framework
Alliance for Water Stewardship Standard
Environmental Impact Assessment
Other, please specify
European Water Stewardship standard; World Database on Protected Areas;
Community Advisory Panels; Sustainability Assessment & Statement; Water Risk Assessment/Water Protection Concept; Water stress Aqueduct

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
Impact on human health
Water regulatory frameworks
Status of ecosystems and habitats
Access to fully-functioning, safely managed WASH services for all employees

Stakeholders considered

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

Comment

The most relevant risk fields that cover water-related risks for direct operations within the Enterprise Risk Management are “Plant availability”, “Change in production quality”, “Change in production cost”, “Regulation”, and “Ecology and environmental protection”. The risk management is informed by the tools listed.
To safeguard human health, wastewater is subject to strict controls and BASF carefully assesses the impact of wastewater discharge in accordance with the applicable laws and regulations. Both internal audits and the responsible local authorities regularly assess whether the analyses and safety precautions at our sites comply with internal guidelines and legal requirements.

Value chain stage

Supply chain

Coverage

Full

Risk assessment procedure

Water risks are assessed as part of an established enterprise risk management framework

Frequency of assessment

Annually

How far into the future are risks considered?

3 to 6 years

Type of tools and methods used

Tools on the market

Tools and methods used

EcoVadis

Other, please specify

Risk matrix and Together for Sustainability Audits; Verisk Maplecroft Risk Indices;
Procurement strategy template; ISO 14001 Environmental Management Standards

Contextual issues considered

Implications of water on your key commodities/raw materials

Stakeholders considered

Suppliers

Comment

We work with over 70,000 Tier 1 suppliers worldwide. Due to this large number, they are evaluated based on risk. We check country and industry-specific risks and the materiality of the supply relationship. We also use observations from our employees in procurement and information from internal and external databases, such as the TfS initiative. Our third-party evaluations are therefore focused on the most relevant suppliers, which are those Tier 1 suppliers showing an elevated sustainability risk potential as identified by our risk matrices (including both country and industry-specific risks), our purchasers' assessments or other sources like TfS. Suppliers only have to complete an assessment process once. The results are then made available to all TfS members in a database and are mutually recognized. Suppliers are evaluated by independent experts either in on-site audits or online assessments. The latter are conducted by EcoVadis. In their 360° Watch, they provide us with ad-hoc information if any suppliers have been publicly observed in connection with negative sustainability incidents, including water-related aspects. Furthermore, the topic of water is an explicit component of BASF's sourcing strategies, because of its potential to drive sustainability. This means that, when elaborating a procurement strategy, Buyers are required to consider potential threats and opportunities related to water.

Value chain stage

Other stages of the value chain

Coverage

Partial

Risk assessment procedure

Water risks are assessed as part of an established enterprise risk management
framework

Frequency of assessment

Annually

How far into the future are risks considered?

More than 6 years

Type of tools and methods used

Tools on the market
International methodologies and standards

Tools and methods used

Environmental Impact Assessment
Life Cycle Assessment
Other, please specify
PwC TIMM Method, internal methods

Contextual issues considered

Status of ecosystems and habitats

Stakeholders considered

Customers
Employees

Comment

Product safety risks are considered a dedicated risk field within Enterprise Risk Management. This area covers potential harmful impacts by products on people and the environment. The risk management is informed by a risk assessment for products, eco-efficiency, environmental impact analyses, etc.

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	<p>BASF relies on COSO Enterprise Risk Management (ERM) as its primary tool for aggregating, assessing, and monitoring risks. It covers risks at corporate, operational, and value chain levels. Water-related risks fall under the "Ecology & environmental protection" field within the ERM. Further tools entail i.a.:</p> <p>Direct operations: Tools: a) WRI Aqueduct to determine global production sites in</p>	<p>All contextual issues are integrated as they might impact our ability to operate, tarnish our reputation, or lead to fines in case of violations.</p> <p>Sufficient good quality freshwater is vital for our</p>	<p>Customers are essential for our success and are considered key stakeholders. We must safeguard their health when using our products.</p> <p>Our strength lies in our team of qualified employees. Production efficiency and quality, and production/employee safety at our production</p>	<p>INFORMATION COLLECTION:</p> <p>Direct operations: Our tools (e.g., COSO ERM) continuously scan risk fields to identify and assess risks. Once a risk has been identified, a tracking process is initiated to update risk assessment, probabilities of occurrence, and</p>

	<p>water-stressed areas.</p> <p>b) Water Risk Assessment: A systematic and uniform approach across all BASF sites used to assess and prevent water risks from operations (e.g., spillages).</p> <p>Coverage/implementation:</p> <p>a) WRI: All global production sites, implemented centrally by Corporate EHS.</p> <p>b) Water Risk Assessments are a mandatory tool to be used by all operations globally to assess risks to water. The proper implementation is audited by the corporate governance unit.</p> <p>Supply chain:</p> <p>Tools: Together for Sustainability (TfS) program: Suppliers are evaluated by independent experts either in on-site audits or online assessments (the latter are conducted by EcoVadis).</p> <p>Coverage/implementation: Suppliers are evaluated based on risk, including country & industry-specific risks and materiality. We select them from our global supplier portfolio (>70,000 Tier 1 suppliers). Relevant suppliers are those showing an elevated sustainability risk potential acc. to our risk matrices and our purchasers' assessments. We use further sources of information to identify relevant suppliers, such as evaluations from TfS.</p>	<p>operations (used as a coolant, solvent, cleaning agent, and for production of products) to secure our ability to produce.</p> <p>To systematically detect the potential for stakeholder conflicts, we have identified all our production sites within water-stressed areas.</p> <p>Risks emerging from the supply chain could have negative impacts on us (e.g., potential supply interruptions due to insufficient water management could ultimately affect BASF's business continuity).</p> <p>We closely monitor current and emerging regulations to facilitate a timely adaptation process to changing legal</p>	<p>sites may be affected by a lack of awareness regarding water-related topics.</p> <p>It poses a reputational risk to BASF that can lead to reduced market valuation if investors perceive our activities not to be aligned with water security.</p> <p>As a chemical company, BASF is aware of the responsibility we have towards local communities and other water users around our sites (e.g., potential health-related impacts through contamination).</p> <p>NGOs are relevant stakeholders because it could lead to reputational damages for BASF if they should come to believe that BASF is not fully transparent and cooperative about water-related issues (e.g., contamination events).</p> <p>Withdrawals and discharges must comply with national, state, and local regulations and permit authorizations. We maintain cooperative relationships with regulators and water</p>	<p>financial implications.</p> <p>Supply chain: The decisions about how to respond to identified supplier risks are based on the performance shown in their evaluation (audit or assessment).</p> <p>HOW DECISIONS ARE MADE:</p> <p>Direct operations: If the Water Risk Assessment is incomplete and lacks documented measures to reduce risks (e.g., from spillages), shortcomings are rated based on associated risks. Sites are informed of necessary actions, and severity determines the follow-up process. BASF's Corporate Governance unit oversees site review, documentation, and escalation of shortcomings.</p> <p>Supply chain: If deviations from standards are identified, we ask suppliers to</p>
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		<p>requirements and e.g. initiate necessary investments.</p> <p>Biodiversity is the foundation for and installs preventive measures. Numerous ecosystem services, e.g., pollination, water purification, and soil formation. As a chemical company, we depend on ecosystem services and have an impact on them.</p> <p>Our employees' health and well-being have top priority for us and access to clean water and sanitation is always provided. We support the WASH goals with targeted projects in neighboring communities of our operations.</p>	<p>utilities at a local level (e.g., to address any potential conflicts regarding water use, pricing, etc.).</p> <p>In our holistic water-related risk management, our suppliers are one of the pillars of supply chain resilience (negative impacts on our business are e.g. potential supply interruptions).</p>	<p>develop and implement corrective measures in a clearly defined follow-up process. We support them in their efforts, e.g., with training on environmental topics (incl. water). Then we review our suppliers' progress according to a defined time frame based on the sustainability risk identified, or after five years at the latest. In the case of serious violations of the standards defined in our Supplier Code of Conduct or international principles, we reserve the right to impose commercial sanctions. These can go as far as the termination of the business relationship.</p>
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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?

We understand risk to be any event that can negatively impact the achievement of our operational or strategic goals. We define opportunities as potential successes that exceed our defined goals. A specific risk or opportunity is considered as having a substantive impact if the resulting deviation from planned earnings exceeds €10 million. We have further defined the magnitude of impact to be linked to the following net financial implications for BASF's EBIT: High = more than €100 million, Medium = €10-100 million, Low = less than €10 million. If a new risk is identified that could have an impact on earnings of more than €10 million or bears reputational risks, it must be immediately reported to the Board of Executive Directors.

QUANTIFIABLE INDICATORS USED TO DEFINE SUBSTANTIVE IMPACT

Potential financial implications for BASF: Depending on the nature of the risk or opportunity, different methods for quantification are considered. In case of a clear understanding about the direction of change driven by the risk/opportunity, the effects will be quantified based on expert assessments about the potential level of change and cause-effect relationships. If the direction of change is unclear, i.e. the effect can be positive or negative and thus represents a volatility/uncertainty, a case-specific probability distribution over the impact range is estimated.

Probability of occurrence: Financial impacts will only be considered where a risk or opportunity has a probability of occurrence of at least 1% or the potential to threaten BASF's license to operate. The method for estimation of probability depends on the nature of the risk or opportunity. In case statistical data about the occurrence of the risk/opportunity are available (e.g. knowledge about return periods of weather events), such information will be the basis for the calculation of likelihoods. If no such statistical relationship can be relied on (e.g. when assessing the probability of implementation of certain policy measures), the likelihood will be subject to expert estimates. We classify probabilities as follows: low = less than 30%, medium = 30-70%, high = more than 70%. The political, societal, and natural environment are continuously scanned to identify risks and assess these. Once a risk has been identified, a tracking process is initiated to update risk assessment and probabilities of occurrence as well as financial implications.

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	2	Less than 1%	In total, around 25% of our production sites are located in water stress areas according to Aqueduct 3.0. The site in Freeport is associated with risks that have a potential substantive financial impact. The site in Ludwigshafen is exposed to supply chain-related risks that have a potentially substantive financial impact.

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

United States of America
Brazos River

Number of facilities exposed to water risk

1

% company-wide facilities this represents

Less than 1%

% company's total global revenue that could be affected

1-10

Comment

The site in Freeport is associated with water stress-related risks that have a potential substantive financial impact.

Country/Area & River basin

Germany
Rhine

Number of facilities exposed to water risk

1

% company-wide facilities this represents

Less than 1%

% company's total global revenue that could be affected

1-10

Comment

The site in Ludwigshafen is exposed to supply chain-related risks that have a potential substantive financial impact.

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

United States of America
Brazos River

Type of risk & Primary risk driver

Chronic physical
Water scarcity

Primary potential impact

Increased operating costs

Company-specific description

BASF's Freeport site in the Brazos River basin is one of the largest sites the company operates in North America. The North-American region accounts for about a quarter of BASF's sales. The specific risk for our Freeport plant is constituted by several drivers: Higher municipal and industrial demand in the area is expected for the next decades. This could result in increased competition of different users for the existing water sources (river water, groundwater) and an increased price for water in the future. Production in 2022 was about the same as in 2021 as was water demand. The changes are due to normal fluctuations due to maintenance, shut-offs, etc. In the future, alternative sources of water may need to be considered as well as internal efficiency measures. Former analyses show that 5% of the annual withdrawal from the site might have to be substituted by desalinated water if other alternative sources are not sufficiently available. Using this option would result in significantly higher operating costs.

Secondary effects: Besides higher operating costs, the increased use of desalination and therefore higher energy demand, would in turn have a potential negative impact on the carbon footprint of our Freeport plant and run against reaching BASF's climate goal.

Method of analysis of risk:

- 1) Assessment of current & future water demand vs. availability at the site (source e.g., Aqueduct).
- 2) Investigation of additional water sources and intensive internal re-use.
- 3) Economic assessment of alternative water supply options. Depending on global economic development we continuously update our expected water demand taking multiple options into consideration.

Timeframe

4-6 years

Magnitude of potential impact

Medium-low

Likelihood

Likely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

400,000

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

We calculated assumed additional operational costs for water desalination to cover a part of the site's water supply. Factors used to determine the relevant share of water supply are the higher water demand expected in the area in the future, as well as improved efficiency of existing facilities, not taking into account potential extensions of the site. In this scenario, 5% of the total annual water withdrawal volume of the site could be affected and might have to be substituted by desalinated water if we are not able to balance this using alternative sources. We estimated additional costs per m³ of desalinated water based on industry reference values.

Time horizon: Yearly impact, which will manifest after the establishment of an alternative water supply (i.e., within 4-6 years, as described above).

Primary response to risk

Secure alternative water supply

Description of response

RESPONSE STRATEGY

We are optimizing our infrastructure planning to secure a reliable water supply (considering alternative water sources) while minimizing additional operational and

investment costs. This involves the in-depth assessment of the current and future water situation in the Freeport Area, of BASF's current and future water requirements to define the scale and layout of the required infrastructure. All options are evaluated, i.e., surface water, expanding existing supply contracts and/or sourcing municipal wastewater as raw material, increased well water use, and seawater desalination. BASF Freeport site continues long-running community partnerships with our private and public utility providers, community organizations, regulatory agencies, and neighbors. In the long run, the measures are a significant step forward for long-term freshwater supply security. Further, BASF's Freeport site has already implemented one alternative reclaimed water source from the City of Clute and brackish groundwater sourcing. Additional water can be sourced and secured from surface water, wells, and seawater (the most abundant, but water desalination is the most energy-intensive option). The BASF Freeport site has sourced and contracted with the Brazos River Authority (BRA) to secure an estimated 35% to 45% of the site's current water supply volume. In addition, BASF has purchased a reservoir with senior water rights that have the potential to represent more than 100% of the current water supply for the Freeport Site. Due to the benefits of the new options for surface water supply, BASF has lowered the development priority for the desalination option. The site continues to pursue optimization opportunities to reduce water use on site. BASF Freeport site calculated assumed additional operational costs for the new surface water supply of the purchased raw water reserves from the Brazos River Authority and the new reservoir to be at a price well below the cost increases of the current contract cost and below the cost of desalination project water supply estimates. This surface water solution also has a reduced CO₂ impact due to the lower energy requirements for the purification of the water supply.

TIMESCALE

BASF has already increased the use of well water and the use of reclaimed sanitary water from the City of Clute. Additional measures like the desalination plant or the reservoir are planned to be put in place medium term, depending on site development.

Cost of response

150,000

Explanation of cost of response

The costs of the response strategy (infrastructure planning) were estimated at a moderate level. Infrastructure planning requires mainly personnel resources. We calculate the required resources as 1 FTE, at an estimated cost of 150,000 € per FTE. Infrastructure planning costs are not significant in relation to overall operational expenses at the facility. The surface water supply options provided above are secured at a more economical financial advantage than the estimated cost of the desalination option. Due to the competitive nature of water supply in the region, costs for additional sourced surface water supply are not detailed in this response. This is a recurring cost position.

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

Germany
Rhine

Stage of value chain

Supply chain

Type of risk & Primary risk driver

Acute physical
Drought

Primary potential impact

Supply chain disruption

Company-specific description

Context of the impact specific to BASF: Production at BASF's largest site Ludwigshafen depends on the adjacent river Rhine in two ways:

- (a) withdrawal of water mainly for cooling purposes,
- (b) transportation of raw materials and final products via barges (about 40% of all goods that are transported to or from the site are transported on the river).

Based on extreme weather / Rhine water level conditions experienced at the site over the last decades, like the drought and heatwave of 2003 and the flood in 2013, the robustness of site operations for such events was increased constantly by various measures (e.g. pump systems for low water level, adapted management plans, options to switch mode of transport, rebalance production across the global portfolio of assets). Additionally, BASF assessed physical risks from climate change for the site in 2015 and concluded that significant risks of extreme weather events will materialize beyond 2050 and that the existing mitigation measures are therefore still appropriate. However, in 2018, the site experienced an exceptional drought and heat, which caused an extremely long and intense phase of low river water levels and very high water temperatures during the peak of the heatwave. As a consequence, the high water temperature was limiting cooling capacity and low water levels were limiting transport by barge. The existing measures were insufficient to mitigate all impacts, which ultimately led to decreased production capacity and a negative earnings impact of around €250 million mainly due to missing transport capacities for raw materials. The event raised the question of whether global warming has already changed the likelihood of occurrence and/or intensity of extremely low water level and/or high water temperature events at the site. In 2021 BASF performed a dedicated scenario analysis for low water events and associated risks based on climate projections for the river Rhine provided by the

German federal climate adaptation service "DAS-Basisdienst". This analysis showed a) the 2018 event was a rare extreme event and b) the risk for comparable events with the previously described impacts is increasing in the coming decades depending on the climate change scenario. In 2022 the risk assessment was checked and reconfirmed in the framework of the EU Taxonomy.

Timeframe

1-3 years

Magnitude of potential impact

High

Likelihood

Very unlikely

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

250,000,000

Potential financial impact figure - minimum (currency)
Potential financial impact figure - maximum (currency)
Explanation of financial impact

The quantification of the risk is based on the following approach and assumptions: the figure represents the negative earnings impact due to limited production capacity (i.e. the delta between planned and realized production) at the Ludwigshafen site in 2018, which was triggered by extreme weather in the respective year (high water temperature limiting cooling capacity, low water level limiting transport) and is considered as an estimate for impacts of similar future events (without any further adaptation). Figures used in our calculation: further details regarding the figures are subject to confidentiality.

Primary response to risk

Upstream

Other, please specify

Increase supply chain resilience (local storage, alternative transport modes)

Description of response

DESCRIPTION OF RESPONSE

In 2019, we included Climate Resilience in the central strategic goals of the Ludwigshafen site (Zukunftsbild Werk Ludwigshafen) to challenge major projects if they contribute to climate resilience. Under this umbrella, we initiated several targeted measures to increase the resilience of the Ludwigshafen site against potentially more frequent and prolonged phases of very high water temperatures and very low water levels. The progress and status of these projects are reported biannually directly to site

management, which reports directly to the board. In addition, BASF is a co-signatory to the Federal Ministry of Transport's 'Low Water Rhine' action plan presented in 2019. The navigability of the Rhine must be improved in the coming years with various measures.

To master the logistical challenges, we have developed an early warning system for low River Rhine water levels together with the Federal Institute of Hydrology, which enables accurate long-term forecasts for our supply chains. We expanded logistics infrastructure and capabilities to be able to shift to alternative modes of transportation.

TIMESCALE

Since 2019 BASF has chartered various ships suitable for low River Rhine water situations. Additionally, BASF initiated and developed together with external partners an innovative barge that is suitable for extremely low water. Concerning high water temperatures, we have increased the cooling capacity for our production in 2019 and 2020 by optimizing and expanding re-cooling systems. In 2021/22 further measures improved the control of our cooling water network.

As a result, the usability of the waterway has been prolonged as a mode of transport during low water levels and the flexibility to switch between different modes of transport has been increased. The measures already taken in 2019 enable us on the cooling water side to master a weather scenario like in 2018.

Cost of response

23,000,000

Explanation of cost of response

The figure of €23,000,000 represents the total costs of immediate measures from 2019 until 2022, initiated to increase the resilience of the Ludwigshafen site and can be attributed 50% each, to measures regarding logistics and expansion of cooling capacity mentioned above.

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

Products and services

Primary water-related opportunity

Other, please specify

Increase the proportion of products that contribute particularly to sustainability in the value chain, and are characterized by, on average, higher growth rates and profitability

Company-specific description & strategy to realize opportunity

DESCRIPTION OF OPPORTUNITY

In 2021, we generated sales of €24.1 billion with Accelerator products – already reaching our target for 2025. In the future, we want to align our product portfolio even more strongly in order to meet the growing sustainability demands in our markets with innovative solutions. That is why BASF's Sustainable Solution Steering methodology is being updated for steering the product portfolio based on sustainability criteria. The continuous development of such a product portfolio will make a substantial sustainability contribution in the value chain. Therefore, we are deeply integrating Sustainable Solution Steering into the R&D pipeline, in business strategies as well as in merger and acquisition projects. In 2021 products and solutions related to €1.7 billion in sales made a particular contribution to water improvements in the value chain. This signifies that the potential is already being realized. The update of our methodology and our product portfolio steering target will be introduced in 2023.

ACTIONS TAKEN

Using the Sustainable Solution Steering method BASF continuously conducts sustainability assessments (also considering water protection) of its entire product portfolio. To identify products with a substantial sustainability contribution (=Accelerator products), solutions with no sustainability issues are subject to the Check for Sustainability Value Contribution. Within the check, the significance of a solution's sustainability contribution and the competitive environment are considered. A substantial contribution is established if the solution's performance is essential for enabling the sustainability benefit in the life cycle, does not go into controversial business areas, and performs above market standard.

Action to realize opportunity: We want to strengthen the sustainability focus of our product portfolio.

EXAMPLE INCLUDING TIMESCALE

BASF has developed a sophisticated alternative to traditional runway and road de-icers such as urea or propylene glycol, commonly employed in airports. These conventional de-icers pose risks to water systems if they seep into groundwater. In response, BASF has formulated a solution using formic acid, renowned for its biodegradability. This innovation not only minimizes environmental impact but also reduces the costs associated with wastewater treatment. Here a global market has been developed to replace other chemicals for runway and road de-icing.

Estimated timeframe for realization

Current - up to 1 year

Magnitude of potential financial impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1,700,000,000

Potential financial impact figure – minimum (currency)**Potential financial impact figure – maximum (currency)****Explanation of financial impact**

In 2021, we generated sales of €24.1 billion with Accelerator products. How financial impact has been calculated: Products and solutions related to €1.7 billion in sales per year make a particular contribution to water improvements in the value chain. The figure above therefore represents the revenue, generated for this opportunity. This signifies that the opportunity is already being realized. Currently, no 2022 figures are available as BASF's Sustainable Solution Steering methodology is being updated for steering the product portfolio based on sustainability criteria.

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)

Freeport/ TX/ BASF Corporation

Country/Area & River basin
 United States of America
 Brazos River
Latitude

29.004413

Longitude

-95.393282

Located in area with water stress

No

Total water withdrawals at this facility (megaliters/year)

8,974

Comparison of total withdrawals with previous reporting year

About the same

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

6,825

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

1,022

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

874

Withdrawals from third party sources

253

Total water discharges at this facility (megaliters/year)

5,614

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

5,345

Discharges to brackish surface water/seawater

0

Discharges to groundwater

269

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

2,906

Comparison of total consumption with previous reporting year

About the same

Please explain

The coordinates refer to the Verbund site in Freeport.

Change from last year: Water Supply, discharge, and consumption were about the same as last year.

Classification for changes: 0-15% = about the same, 15-30% = higher/lower, >30% = much higher/lower

Of note: Water consumption is determined by the sum of water evaporated in cooling processes, water in sold products, and water consumed otherwise at the production site (e.g., incinerated water). This measured consumption does not match the difference between total water supply and total water discharge due to measurement uncertainties.

Water stress: WRI Aqueduct was used to determine if the location lies in a water-stress area.

Method of measurement: Withdrawn and discharged water volumes are measured with various methods depending on the method and specific applicability, e.g., pump characteristics, dynamic pressure measurements, ultrasound, or magneto-inductive measurements.

Facility reference number

Facility 2

Facility name (optional)

Ludwigshafen SE

Country/Area & River basin

Germany
Rhine

Latitude

49.494739

Longitude

8.433164

Located in area with water stress

No

Total water withdrawals at this facility (megaliters/year)

1,141,893

Comparison of total withdrawals with previous reporting year

About the same

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

1,122,949

Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

17,348

Withdrawals from groundwater - non-renewable

0

Withdrawals from produced/entrained water

0

Withdrawals from third party sources

1,596

Total water discharges at this facility (megaliters/year)

1,020,028

Comparison of total discharges with previous reporting year

About the same

Discharges to fresh surface water

1,020,028

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)

9,754

Comparison of total consumption with previous reporting year

About the same

Please explain

The coordinates refer to the Verbund site in Ludwigshafen.

Change from last year: Water abstraction, discharge and consumption were about the same as last year. The slightly lower values of water abstraction, discharge and consumption are due to less production.

Classification for changes: 0-15% = about the same, 15- 30 = higher/lower, >30 % = much higher/lower

Of note: Water consumption is determined by the sum of water evaporated in cooling processes, water in sold products, and water consumed otherwise at the production site (e.g., incinerated water). This measured consumption does not match the difference

between total water supply and total water discharge due to measurement uncertainties. At site Ludwigshafen, the discharge of high volumes of cooling water from once-through cooling in open channels is affected by measurement uncertainties.

Water stress: WRI Aqueduct was used to determine if the location lies in a water-stress area.

Method of measurement: Withdrawn and discharged water volumes are measured with various methods depending on the method and specific applicability, e.g., pump characteristics, dynamic pressure measurements, ultrasound or magneto-inductive measurements.

W5.1a

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

Water withdrawals – total volumes

% verified

76-100

Verification standard used

BASF Management’s Report was audited and approved free of qualification, also covering statements and figures pertaining to sustainability. An audit with limited assurance was conducted in accordance with ISAE 3000 and 3410. Auditor’s procedures included detailed document audits of all water indicators reported by all worldwide locations for the purpose of composing aggregated company figures - including water withdrawals total and by source.

Water withdrawals – volume by source

% verified

76-100

Verification standard used

BASF Management’s Report was audited and approved free of qualification, also covering statements and figures pertaining to sustainability. An audit with limited assurance was conducted in accordance with ISAE 3000 and 3410. Auditor’s procedures included detailed document audits of all water indicators reported by all worldwide locations for the purpose of composing aggregated company figures - including water withdrawals total and by source.

Water withdrawals – quality by standard water quality parameters

% verified

76-100

Verification standard used

BASF Management's Report was audited and approved free of qualification, also covering statements and figures pertaining to sustainability. An audit with limited assurance was conducted in accordance with ISAE 3000 and 3410. Auditor's procedures included detailed document audits of all water indicators reported by all worldwide locations for the purpose of composing aggregated company figures - including water withdrawals by quality (freshwater or not fresh water).

Water discharges – total volumes

% verified

76-100

Verification standard used

BASF Management's Report was audited and approved free of qualification, also covering Statements and figures pertaining to sustainability. An audit with limited assurance was conducted in accordance with ISAE 3000 and 3410. Auditor's procedures included detailed document audits of all water indicators reported by all worldwide locations for the purpose of composing aggregated company figures – including water discharges total and by destination/treatment method.

Water discharges – volume by destination

% verified

76-100

Verification standard used

BASF Management's Report was audited and approved free of qualification, also covering statements and figures pertaining to sustainability. An audit with limited assurance was conducted in accordance with ISAE 3000 and 3410. Auditor's procedures included detailed document audits of all water indicators reported by all worldwide locations for the purpose of composing aggregated company figures – including water discharges total and by destination.

Water discharges – volume by final treatment level

% verified

76-100

Verification standard used

BASF Management's Report was audited and approved free of qualification, also covering statements and figures pertaining to sustainability. An audit with limited assurance was conducted in accordance with ISAE 3000 and 3410. Auditor's procedures included detailed document audits of all water indicators reported by all

worldwide locations for the purpose of composing aggregated company figures – including water discharges total and treatment method.

Water discharges – quality by standard water quality parameters

% verified

76-100

Verification standard used

BASF Management’s Report was audited and approved free of qualification, also covering statements and figures pertaining to sustainability. An audit with limited assurance was conducted in accordance with ISAE 3000 and 3410. Auditor’s procedures included detailed document audits of all water indicators reported by all worldwide locations for the purpose of composing aggregated company figures - including discharge quality by standard water quality parameters.

Water consumption – total volume

% verified

76-100

Verification standard used

BASF Management’s Report was audited and approved free of qualification, also covering statements and figures pertaining to sustainability. An audit with limited assurance was conducted in accordance with ISAE 3000 and 3410. Auditor’s procedures included detailed document audits of all water indicators reported by all worldwide locations for the purpose of composing aggregated company figures - including water consumption.

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 the scope (including value chain stages) covered by the policy	BASF’s company-wide water policy/position paper (WP) demonstrates the commitment to responsible water use at all our production sites, water catchment areas as well as along the entire value chain.

		<p>Description of business dependency on water</p> <p>Description of business impact on water</p> <p>Commitment to align with international frameworks, standards, and widely-recognized water initiatives</p> <p>Commitment to prevent, minimize, and control pollution</p> <p>Commitment to reduce water withdrawal and/or consumption volumes in direct operations</p> <p>Commitment to reduce water withdrawal and/or consumption volumes in supply chain</p> <p>Commitment to safely managed Water, Sanitation and Hygiene (WASH) in the workplace</p> <p>Commitment to stakeholder education and capacity building on water security</p> <p>Commitment to water stewardship and/or collective action</p> <p>Commitment to the conservation of freshwater ecosystems</p> <p>Commitments beyond regulatory compliance</p> <p>Reference to company water-related targets</p> <p>Acknowledgement of the human right to water and sanitation</p> <p>Recognition of environmental linkages, for example, due to climate change</p>	<p>APPLICABILITY</p> <p>BASF's Responsible Care Management System (RCMS) encompasses environmental and health protection for direct operations and our value chain. It comprises global rules, standards, and procedures. Along with the RCMS-EHS documents that apply throughout the group our water policy covers, i.a., the following topics:</p> <p>CONTENT</p> <p>1) Dependency: Since water is needed for chemical production, we are committed to its responsible use along the entire value chain.</p> <p>2) Impact: BASF's production sites impact water through the introduction of thermal energy (cooling water) and the emission of pollutants.</p> <p>3) Performance standards: BASF's production sites adhere to local, regional/national laws and regulations. Internal global standards are set by our RCMS.</p> <p>4) Standards for procurement: Our Supplier Code of Conduct expects suppliers e.g., to use resources efficiently, apply energy-efficient, environmentally friendly technologies, reduce emissions to water, and minimize impacts on biodiversity and water scarcity.</p> <p>5) International standards and (public policy) water initiatives: We set globally applicable standards according to the European Water Stewardship (EWS) initiative. Further, we aligned the policy content with the UN SDGs, focusing on those issues where BASF can make a significant contribution (e.g., the human right to water and sanitation, climate protection, sustainable consumption, and production). We are a member of the global organization Alliance for Water Stewardship (AWS) and are committed to providing access to Safe Water, Sanitation, and Hygiene at the Workplace (WASH).</p> <p>6) Beyond regulatory compliance: Our standards fulfill or exceed existing laws and regulations and take globally recognized principles into account (e.g. UNGC principles, Responsible Care Global Charter).</p> <p>7) Innovation: The RCMS includes the core requirement of constantly reviewing performance,</p>
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			<p>improving processes, implementing measures, checking their effectiveness at production sites, and links respective incentives to it.</p> <p>8) Environmental linkages/Climate change: We have set ourselves ambitious goals and are striving worldwide to achieve net zero CO2 emissions by 2050. Also, we want to reduce our GHG emissions worldwide by 25% by 2030 compared with 2018 (Scope 1 and 2).</p> <p> 1</p>
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 1BASF Position on Water (1).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
Director on board	<p>CORPORATE STRUCTURE AND RESPONSIBILITIES</p> <p>One member of our Board of Directors is responsible for Corporate Environmental Protection. This encompasses the overall responsibility for water issues and strategic as well as investment decisions concerning the mitigation of water-related risks. The head of BASF's Environment, Health and Safety unit, who has oversight for water topics at BASF, reports directly to this Board member.</p> <p>EXAMPLES OF WATER-RELATED DECISION</p> <p>Board-level decisions were previously made to further improve BASF's resilience to low water levels of the Rhine River, which significantly affected the Ludwigshafen site in 2018. The board is continuously informed about the progress of the measures. These include investments in unaffected logistics carriers and the possibility of falling back on unaffected sites within our global Verbund.</p> <p>Another example for water-related decisions is the board's decision in 2022 to invest in efficiency measures to utilize more hot condensate and feed it into the site condensate network, which resulted in water savings of 1.600.000 m³/a.</p>
Director on board	CORPORATE STRUCTURE AND RESPONSIBILITIES

	<p>BASF’s Corporate Sustainability Board (CSB) is headed by a board member and is BASF’s central steering committee for sustainable development, including water. It is comprised of selected heads of business and corporate and functional units as well as of the regions. The CSB monitors the implementation of the sustainability strategy and cross-divisional initiatives, defines sustainability goals, and approves corporate position papers on sustainability topics – including the water policy/water position paper.</p>
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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	<p>Monitoring implementation and performance</p> <p>Monitoring progress towards corporate targets</p> <p>Overseeing acquisitions, mergers, and divestitures</p> <p>Overseeing and guiding public policy engagement</p> <p>Overseeing and guiding scenario analysis</p> <p>Overseeing major capital expenditures</p> <p>Overseeing the setting of corporate targets</p> <p>Overseeing value chain engagement</p> <p>Reviewing and guiding annual budgets</p> <p>Reviewing and guiding business plans</p>	<p>HOW BOARD OVERSIGHT IS CONSTITUTED</p> <p>Our Management Board reviews at least annually major water-related topics, for instance:</p> <ul style="list-style-type: none"> - Water-related risks and opportunities - Target performance - Budgets for functions and business units involved in water-related topics - Progress on specific measures supporting BASF’s sustainability strategy <p>In addition, depending on need, the following topics are addressed:</p> <ul style="list-style-type: none"> - Investment decisions - Requests for approval of specific action plans, e.g. new R&D initiatives <p>This range of topics ensures that oversight over water issues is covered from both an operational and a market-driven perspective, that the appropriate strategic decisions are made, and that BASF meets its own commitments.</p> <p>RELEASE OF WATER-RELATED INFORMATION</p> <p>The board also approves what is released regarding relevant water-related information, including CDP. Extensive information on the use of water including data concerning emissions and sustainable water management is publicly available in our corporate</p>

		<p>Reviewing and guiding corporate responsibility strategy</p> <p>Reviewing and guiding major plans of action</p> <p>Reviewing and guiding risk management policies</p> <p>Reviewing and guiding strategy</p> <p>Reviewing innovation/R&D priorities</p> <p>Setting performance objectives</p>	<p>report and approved by the board.</p> <p>EXAMPLE OF SELECTED MECHANISMS</p> <p>Through the monitoring of implementation and performance against water-related targets like the establishment of EWS standards at all Verbund sites and sites in water stress areas (monitored in regular environmental audits), the Management Board can keep track of the progress of water stewardship efforts, and thus the company's efforts to tackle water-related challenges. In case of a clear underperformance, the Board is then able to initiate corrective measures or re-align operational priorities.</p> <p>BRIEFING OF THE BOARD</p> <p>A Board member, responsible for Environment, Health, and Safety (EHS), has the overall responsibility for water topics. This board member is briefed by the head of the corporate EHS unit, who is accountable for water issues. Another Board member chairs BASF's Corporate Sustainability Board (CSB), which is BASF's central steering committee for sustainable development, including water topics. It is comprised of selected heads of business and corporate units as well as of the regions. The CSB monitors the implementation of the sustainability strategy and cross-divisional initiatives, defines sustainability goals, and approves corporate position papers on sustainability topics.</p>
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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
Row 1	Yes	<p>CRITERIA</p> <p>The competence profile of Board members requires many years of management experience in scientific, technical, and commercial fields.</p> <p>The board member in charge of Environmental Protection fulfills the</p>

		<p>role of Chief Technology Officer and was appointed to this role because of their strong background in operations and excellent performance as a scientist.</p> <p>A scientific education coupled with many years in leadership functions on the plant floor and as head of product divisions enables this board member to assess water-related issues taking into account environmental standards and targets as well as operational feasibility. The responsibilities of this board member include the role of site director for a major integrated chemical site. This role requires close knowledge of regulations as well as open and transparent communication abilities with the competent authorities and neighborhood committees. Being able to understand the concerns of all stakeholders and assess water-related issues is a key qualification of this board member.</p>
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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)

Chief Executive Officer (CEO)

Water-related responsibilities of this position

- Assessing future trends in water demand
- Assessing water-related risks and opportunities
- Managing water-related risks and opportunities
- Conducting water-related scenario analysis
- Monitoring progress against water-related corporate targets
- Managing public policy engagement that may impact water security
- Managing value chain engagement on water-related issues
- Managing annual budgets relating to water security
- Managing major capital and/or operational expenditures related to low water impact products or services (including R&D)
- Managing water-related acquisitions, mergers, and divestitures

Frequency of reporting to the board on water-related issues

Quarterly

Please explain

CORPORATE STRUCTURE

The CEO is responsible for the global Environment, Health and Safety and has the highest overall governance responsibility for water topics on the Board of Directors (BoD).

TOPICS

Reports cover i.a. investments (spec. in water stress areas), and strategic topics (e.g., long-term adaptation requirements to prevent water shortages).

Meetings of the Corporate Sustainability Board (CSB) and direct meetings between other BoD members and the Senior VP in charge of Corporate Environmental Protection ensure regular exchange on water issues.

RESPONSIBILITY

Water issues are addressed in the context of immediate relevance, strategic implications, and investment projects. The Corporate Env. Prot. unit defines requirements for the Responsible Care Management System (in agreement with the CEO), oversees monitoring processes, and integrates major global functions in preparing decisions of the CSB on water topics, e.g., corporate env. goal setting, controlling, and reporting.

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	Incentives for members of the Board of Directors are based, among others, on the achievement of strategic targets relating to the further development of sustainability, including the development of products with benefits to water efficiency (sustainable solution steering), circularity and operational efficiency improvements. Specifically, Sustainable Water Management achievements are part of BASF's corporate targets. Accountability for target achievement lies with the member of the executive board in charge of corporate EHS.

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	Contribution of incentives to the achievement of your organization's water commitments	Please explain

<p>Monetary reward</p>	<p>Director on board</p>	<p>Improvements in water efficiency – direct operations Improvements in wastewater quality – direct operations Company performance against a sustainability index with water-related factors (e.g., DJSI, CDP Water Security score, etc.) Supply chain engagement Other, please specify Implementation of Sustainable Water Management standard</p>	<p>The compensation of the Board of Executive Directors is i.a. determined by the financial position, as well as the performance of the board as a whole. It is designed to contribute to sustainable corporate development and the achievement of strategic corporate goals. The strategic targets “growth,” “profitability” and “sustainability” are represented in the long-term incentive (LTI) program. CO2-Reduction is at the core of the LTI at BASF. The LTI is complemented by short-term incentives (STI), which are rewarded i.a. upon reaching the Sustainable Water Management goal.</p> <p>LINKAGE</p> <p>Our goal is to introduce sustainable water management at all production sites in water stress areas and at our major Verbund sites by 2030. Sustainable Water Management entails the management of all water used at a production site, including improving</p>	<p>TIMEFRAME AND OPERATIONAL CONTEXT</p> <p>We chose to implement comprehensive water management following the EWS standard. The goal of introducing sustainable water management at all sites in water stress areas and all Verbund sites by 2030 is tracked and progress is published in the annual report. There is a link between bonus pay-out and goal achievement through negative ratings of BASF’s sustainability achievements in case of failure to achieve.</p>
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			<p>water efficiency and wastewater quality. Moreover, water efficiency improvements are directly linked to CO2 reductions since they are achieved through improved technology (e.g. efficient pumps, optimized process control) and better water management (e.g. decreased water use, more reuse and recycling) and thus contribute to the achievement of the LTI.</p> <p>CHOSEN INDICATOR</p> <p>We chose to implement comprehensive water management following the EWS standard which entails the implementation of a management system to identify areas of improvement and systematically improve wastewater quality and increase water efficiency. We achieved 61.6% of this target in 2022.</p>	
Non-monetary reward	Board/Executive board	Other, please specify Implementation of Sustainable Water Management standard	<p>CHOSEN INDICATOR</p> <p>Our goal is to introduce sustainable water management at all production sites in water stress areas and at our major Verbund</p>	BASF executives at all involved levels, including the production site managers, are expected to contribute to this publicly announced target.

			<p>sites by 2030 (as described under W8.1a), covering 89% of BASF's total water abstraction. We pursue this by applying the European Water Stewardship (EWS) standard.</p> <p>RATIONALE FOR INDICATOR / THRESHOLD OF SUCCESS</p> <p>In total, around 25% of our production sites were located in water-stress areas in 2022. To avoid any negative impacts and secure the future operations of our sites, we chose to implement comprehensive water management following the EWS standard at 100% of these sites, plus our Verbund sites. We achieved 61.6% of this target in 2022 (2021: 53.5%). BASF executives at all involved levels, including the production site managers, are expected to contribute to this publicly announced target.</p>	
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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?

PROCESS

The **Board of Directors (BoD)** is regularly informed on the status of topics or sustainability assessments, makes decisions on these with strategic relevance, and monitors the implementation of (water-related) strategic plans and target achievement. As the central steering committee for sustainable development, the **Corporate Sustainability Board** supports the Board and discusses operational matters. It is comprised of the heads of our business/corporate units and regions and a member of the BoD. In 2013 we established an external independent **Stakeholder Advisory Council**, comprising international experts from academia and society who discuss issues with the Board to take into account the expectations and demands of stakeholders.

Reporting directly to the Board, eight **Corporate Center units** are responsible for defining governance and developing steering processes of the Group. **Corporate EHS** is responsible for monitoring and steering environmental performance (e.g. global target on sustainable water management). This unit is connected to worldwide cross-divisional and -regional teams to exchange on activities, align positions to ensure consistency, and engage with local/regional colleagues to ensure activities fit the corporate strategy.


INCONSISTENCY MANAGEMENT

Inconsistencies in positioning are discovered early through a multi-level approach of discussions and exchanges. If inconsistencies prevail, issues are escalated to a higher level along with proposals to resolve them.

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)

 entire-basf-ar22.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	Please explain
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		horizon (years)	
Long-term business objectives	Yes, water-related issues are integrated	> 30	<p>INCORPORATED WATER TOPICS</p> <p>Integrated issues are i.a. enabling access to clean water for people, securing and reducing water requirements for food production and industry, etc., reducing and avoiding water contamination, using water responsibly in water-stress areas, and preserving ecosystems and biodiversity on land and underwater.</p> <p>ACTIONS TAKEN TO INTEGRATE WATER-RELATED ISSUES</p> <p>BASF aims at securing and extending its competitive position. To tackle the issues and to stay competitive, we constantly work on improving our products and processes. An integral part is improving water management at our production sites through the implementation of an incentivized investment initiative in efficiency projects on plant level (Operational Excellence Program - OPEX). Introducing and implementing sustainable water management has been a cornerstone of our strategy for many years now. Our focus here is on our Verbund sites and on production sites in water stress areas. The aim is to protect water as a resource, to use it as efficiently as possible through recirculation, and continuously reduce wastewater and emissions. Also, on the strategic level, we are committed to contributing to the achievement of the Sustainable Development Goals (SDGs): More and more people need access to food, water, energy, raw materials, housing, and healthcare, while the Earth's resources are limited. Strategies cover investment into assets and sites which have >40-year time horizon in the Chemical Industry.</p>
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	11-15	<p>INCORPORATED WATER TOPICS</p> <p>Relevant issues are i.a. water use, stewardship and avoidance of pollution within our own operations, plus water risk management; water-related impacts of our products regarding water efficiency, and possible contaminations; reduction of emissions to water and water scarcity within the supply chain.</p> <p>ACTIONS TAKEN TO INTEGRATE WATER-RELATED</p>

			<p>ISSUES</p> <p>Water is fundamental in chemical production; thus, responsible use of water is a core element of our Responsible Care Management System and an important part of our commitment to the SDGs. This is also reflected in our position paper on water. Our global standards and requirements for water are defined in Group-wide guidelines. These stipulate i.a., that water protection concepts must be implemented at all production sites. They also cover aspects such as process and transportation safety to prevent production and transportation-related product spillages into water bodies. Also, we advocate the responsible use of water along the entire value chain. We audit supplier compliance with environmental standards in regular assessments.</p> <p>For sustainable water management (SWM), the long-term objective is apparent in the 2030 goal of introducing SWM at all water-stressed production sites and all Verbund sites, covering 89% of BASF's total water abstraction. This requires a continuous commitment to target achievement and regular tracking/reporting.</p> <p>Horizon: >10 years as it exceeds our operational planning horizons.</p>
Financial planning	Yes, water-related issues are integrated	11-15	<p>INCORPORATED WATER TOPICS</p> <p>Relevant topics are i.a. revenue targets for products with a substantial contribution to sustainability (e.g., enabling higher resource efficiency and water conservation/water resource protection in the value chain).</p> <p>ACTIONS TAKEN TO INTEGRATE WATER-RELATED ISSUES</p> <p>We take advantage of business opportunities by offering our customers innovative products and solutions that support their sustainability goals. We segmented our portfolio regarding contributions of our more than 56,000 specific product applications to sustainability (including reduction of water use), using the Sustainable Solution Steering method. The approach (until 2021 “Accelerator products”) proved so successful with customers that it was refined in 2022 and will be relaunched in 2023. Our</p>

			<p>target of generating €22 billion in Accelerator sales by 2025, which was based on our corporate strategy, was already achieved in 2021 with sales of €24.1 billion. Accelerator sales related to water issues amounted to €1.7 billion. Detailed planning exists regarding the development of innovative products. We anticipate higher demand for products, which are e.g., directed toward water conservation. Our innovation pipeline e.g., in the Agricultural Solutions segment comprises products with launch dates between 2021 and 2031 and a peak sales potential of >€7.5 billion.</p> <p>Horizon: >10 years as it exceeds our operational planning horizons.</p>
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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)

13

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

7

Water-related OPEX (+/- % change)

15

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

7

Please explain

WATER-RELATED EXPENDITURE AND CHANGES

CAPEX and OPEX reflect investments in all projects related to environmental protection, including water protection, and saving.

The analysis is based on a linear projection using the least square method and considering the previous 5 years (2018-2022). Investment activities may show strong variances due to individual investments into e.g., a re-cooling plant that is allocated to a single year. Hence, also in the future, there will always be dips and peaks related to CAPEX. Large investments in EHS projects in 2022 caused a parallel rise in CAPEX and OPEX.

An example is the optimization of the condensate collection system at Ludwigshafen

site, where investments in efficiency measures increased the feed of hot condensate and reduce river water use by around 1.6 million m³/a.
 OPEX development was also affected by efficiency measures, changes in personnel requirements, and divestitures & acquisitions. A future parallel development to CAPEX is assumed.

W7.3

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

	Use of scenario analysis	Comment
Row 1	Yes	The objective of the analysis was to assess the impact of potential environmental conditions at major BASF production sites to complement site strategies and site developments including interruption of supply chains and logistics for BASF products. A Climate Risk Dashboard was established to provide climate data for all production sites under an RCP2.6, RCP4.5 & RCP8.5 scenario.

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	Water-related Climate-related	<p>KEY PARAMETERS</p> <p>Development of weather patterns (temperature, precipitation, extreme weather events) and water levels.</p> <p>ASSUMPTIONS</p> <p>Level of GHG emissions driving global warming and subsequent weather impacts such as longer and more frequent droughts.</p> <p>ANALYTICAL CHOICES</p>	<p>WATER-RELATED OUTCOMES</p> <p>Sites are often better prepared for known risks (e.g., hurricanes in the Gulf of Mexico area), vs. potentially emerging risks. Results are used to drive internal discussions on resilience towards climate change (e.g., increase in cooling water capacity to ensure production during drought periods).</p> <p>Most BASF sites require water for their production processes and cooling, and many sites use nearby waterways for</p>	<p>Results are used to drive internal discussions on resilience toward climate change (incl. linked water-related risks).</p> <p>OPERATIONAL RESPONSE AND TIMESCALE</p> <p>Response: For our location in Ludwigshafen, specific measures were taken to mitigate the effects of future physical risks and increase resilience. We have developed an early</p>

		<p>Data sources: A Climate Risk Dashboard was established to provide climate data for all production sites under an RCP2.6, RCP4.5 & RCP8.5 scenario. The data is delivered by an external service provider using the IPCC scenarios focusing on all major climate perils (heat, drought, wind, heavy precipitation, cold, flood, wildfire, hail). The dashboard is shared with site managers to enable a site-specific risk assessment to complement the site strategies and site developments.</p> <p>Time horizons: Climate data are available until 2100, however, the focus of the risk assessment is the 30-yrs-change being in line with the transition perspective.</p>	<p>logistics. Our scenario analysis shows that climate change is having a long-term effect on regional precipitation patterns for many of the regions where our sites are located resulting in higher risks of business interruptions in the future. Thus, this analysis enables our sites to continuously monitor the changing climatic/environmental conditions and to implement mitigation measures where necessary.</p> <p>For Ludwigshafen, BASF performed a dedicated scenario analysis in 2021 for low water events and associated risks based on climate projections for the River Rhine provided by the German federal climate adaptation service “DAS-Basisdienst”. This analysis showed</p> <p>a) the 2018 event in which the site experienced an exceptional drought and heat, which caused an extremely long and intense phase of low river water levels and very high water temperatures during the peak of the heatwave was a rare extreme event,</p> <p>b) the risk for comparable events with the previously described impacts is increasing in the coming decades depending on the climate change scenario.</p>	<p>warning system for low River Rhine water levels together with the Federal Institute of Hydrology, which enables accurate long-term forecasts for our supply chains. We expanded logistics infrastructure and capabilities to be able to shift to alternative modes of transportation.</p> <p>Additionally, BASF initiated and developed together with external partners an innovative barge that is suitable for extremely low water. Concerning high water temperatures, we have increased the cooling capacity by optimizing and expanding re-cooling systems.</p> <p>Timescale: The respective initial measures were implemented in 2019/2020 and complemented by further optimization measures in 2021 and 2022.</p>
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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

Internal valuation/cost allocation: There is a site-specific BASF internal price for provision of water as well as disposal of wastewater depending on local conditions.

Cost calculation for new investments: We integrated a price for water and wastewater into our processes for investment decisions. It depends on current and future local situations based on a forecast of water availability and associated costs.

Valuation of external costs: BASF assesses its Value to Society in monetary terms using PwC’s TIMM method. The scope includes supply chain (tier 1 to n), own operations and customer industries. With regard to water, emissions and consumption are integrated. To quantify and value the costs to society caused by emissions to water, inorganic and organic pollutants and nutrient discharges to water are taken into account. The calculated environmental impact depends on volume of corporate water consumption and respective local water stress level based on a water stress index (WSI).

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	Please explain
Row 1	Yes	A significant steering tool for the product portfolio, based on the sustainability performance of our products, is the Sustainable Solution Steering method. This rates our products’ applications in the relevant markets and customer industries. If, during the reassessment of our portfolio, we identify products with significant sustainability concerns, we classify these as “challenged.” We develop and systematically implement action plans for all products in this category. These include research projects and reformulations to optimize products, or even replacing the product	BASF is aligning its product portfolio strongly with climate protection, carbon neutrality, and circularity including water-related indicators in order to meet the growing sustainability demands in our markets with innovative solutions. Due to its central role in meeting BASF’s strategic sustainability objectives, the Sustainability Solution Steering methodology for steering the product portfolio based on sustainability criteria is being refined and updated and will be relaunched in 2023.

	<p>with an alternative. To rigorously align our portfolio with contributions to sustainability, in 2018 we started phasing out all Challenged products within five years of their initial classification as “challenged” at the latest. A particular focus in the continued development of our product portfolio is on products that make a substantial sustainability contribution in the value chain. These include products that make positive contributions to areas such as health and safety, reducing emissions and the circular economy.</p> <p>CRITERIA</p> <p>Products are classified as having low water impact if they</p> <ul style="list-style-type: none"> • enable reduction of emissions into water • enable water savings downstream • improve the aqua tox profile • Reduce the water footprint in production • enable water treatment and drinking water purification 	
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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
Water pollution	Yes
Water withdrawals	Yes
Water, Sanitation, and Hygiene (WASH) services	Yes

Other	Yes
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W8.1b

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

Target reference number

Target 1

Category of target

Other, please specify

Implement Sustainable Water Mangement at all production sites in water stress areas and all Verbund sites by 2030.

Target coverage

Company-wide (direct operations only)

Quantitative metric

Other, please specify

% of included sites (sites in water stress areas and Verbund sites) having implemented SWM

Year target was set

2011

Base year

2011

Base year figure

2

Target year

2030

Target year figure

100

Reporting year figure

61.6

% of target achieved relative to base year

60.8163265306

Target status in reporting year

Underway

Please explain

Introduction of sustainable water management at 100% of our production sites in water stress areas and Verbund sites by 2030. This covers all fully consolidated production

sites in water stress areas and all fully consolidated large integrated Verbund sites company-wide.

We define water stress areas as regions in which more than 40% of available water is used by industry, households, and agriculture. This definition is based on Aqueduct 3.0. In total, around 25% of our production sites were located in water stress areas in 2022. In addition, our water target takes into account our Verbund sites and sites defined before 2019 as water stress areas based on a tool developed by Pfister et al. (2009). This increases the number of sites included in the water target accordingly.

MOTIVATION

The primary motivation behind the target is water stewardship. The implementation of the standard contributes to achieving water security, as it considers local conditions and aims to prevent and counter negative impacts on stakeholders and ecosystems (like increased water scarcity), by requesting detailed risk assessment and appropriate responses.

IMPLEMENTATION

We pursue this by applying the European Water Stewardship (EWS) standard. The Standard rests on four principles: sustainable water abstraction, maintaining good water quality, preserving conservation areas, and ensuring continuous improvement processes.

PROGRESS

Sustainable water management was introduced at seven further sites in 2022 (2021: 7) . This matches the expected progress. The target has not changed. BASF is dealing with a shifting target because production sites get sold or new locations are bought every year, which affects the basis of the calculation (number of sites in water stress areas; sites that have introduced sustainable water management). Numbers are calculated according to the status at the end of a year.

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	Company-wide water accounting figures (withdrawals, discharges, consumption)	ISAE 3000	Statements and figures pertaining to sustainability in the Management's Report and Consolidated Financial Statements of BASF's Annual Report are audited. The audit with limited assurance was conducted in accordance with ISAE 3000 (Assurance Engagements other than Audits or Reviews of Historical Financial Information) and ISAE 3410 (Assurance Engagements on Greenhouse Gas Statements), the relevant international auditing standards for sustainability reporting.
W8 Targets	Target and status for European Water Stewardship implementation	ISAE 3000	Statements and figures pertaining to sustainability in the Management's Report and Consolidated Financial Statements of BASF's Annual Report are audited. The audit with limited assurance was conducted in accordance with ISAE 3000 (Assurance Engagements other than Audits or Reviews of Historical Financial Information) and ISAE 3410 (Assurance Engagements on Greenhouse Gas Statements), the relevant international auditing standards for sustainability reporting.

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	Yes	Product use phase	A global mapping has been done for the BASF portfolio - for each plastic material, in which region it is sold and into which industry. Also, a projection was done how this will develop in the future. Main plastics covered are Polyamides, Polyurethanes, Polystyrene (EPS) and engineering and specialty plastics. Customer industries are automotive, construction, packaging, textile/shoes, appliances, furniture/mattresses and other downstream manufacturers.

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	Yes	Direct operations Product use phase Other, please specify End of life phase/recovery and recycling	<p>To mitigate the environmental and health impacts of plastic products concerning water issues, it is crucial to adhere to global standards and regulations, particularly REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals) and OCS (Operation Clean Sweep). These frameworks provide essential guidelines and best practices for minimizing the negative effects of plastics on our ecosystems and human well-being.</p> <p>Direct operations: OCS is an international program aimed at preventing the loss of plastic pellets, flakes, and powders during manufacturing and transportation processes. OCS provides guidelines and best practices to contain and manage these materials. This helps prevent the contamination of water bodies, protecting aquatic ecosystems and the health of organisms that rely on these habitats.</p> <p>Product use phase: REACH focuses on the safe use and management of chemicals in the EU. It requires companies to register substances and assess their potential risks. By complying with REACH, plastic manufacturers can ensure that the substances they use are properly evaluated for their impact on water quality and human health. This helps identify harmful chemicals and promotes the use of safer alternatives, reducing the environmental and health risks associated with plastic production and use.</p> <p>End of life phase/recovery and recycling: In addition to adhering to standards and guidelines, it is important to invest in research and development of alternative materials to plastic, such as biodegradable or compostable options. Promoting recycling and waste management systems that effectively capture and treat plastic waste is crucial as well. Education and awareness campaigns can help inform the public about the importance of responsible plastic use and disposal,</p>

			encouraging behavior change and reducing plastic pollution.
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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	Yes	Direct operations Product use phase	Reputational Technology Other, please specify Climate protection	<p>Reputational risk from plastics in the environment: We are involved in numerous initiatives to advance new ideas, also with partners. For example, BASF is a founding member of the Alliance to End Plastic Waste (AEPW), which is active in four focus areas: developing infrastructure for waste collection, promoting innovative recycling methods, education and engagement of various stakeholders, and clean-up of areas heavily impacted by plastic waste. The initiative aims to invest up to \$1.5 billion by 2023. Further examples of our commitment to greater sustainability in the plastics value chain include the World Plastics Council, Operation Clean Sweep and the Ellen MacArthur Foundation.</p> <p>Technological risk to reduce waste: We are developing solutions for improved mechanical recycling. These include additives that extend the use phase of plastics and help address quality problems of recyclates. BASF is also driving forward the chemical recycling of plastics as a complementary technology.</p> <p>Climate risk from the use of fossil resources: We want to further reduce our resource and carbon footprint, which is why we are aligning our feedstock base even more strongly with non-fossil alternatives such as bio-based or renewable raw materials. To expand our supply base, we are also developing additional waste-based sources of raw materials and suitable recycling processes.</p>

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	Yes	Plastic polymers Waste management Other	Other, please specify 1. Increase the non-fossil feedstock for chemicals production; 2. Increase the sale of solutions for the circular economy	1) Non-fossil feedstock: Our target is to process 250,000 metric tons of recycled and waste-based raw materials – such as pyrolysis oil from mixed plastic waste or used tires – in our production plants annually from 2025. 2) Circular economy: By 2030, we want to double our sales of solutions for the circular economy to €17 billion (baseline: 2020) These include products manufactured in whole or in part from renewable resources instead of fossil raw materials and products that enable and improve the recyclability of valuable resources. Examples include our certified compostable plastics ecoflex® and ecovio®, plastic additives for improved mechanical recycling, or catalysts and adsorbents for the purification and treatment of recycled raw materials.

W10.5

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

	Activity applies	Comment
Production of plastic polymers	Yes	BASF is producing a wide variety of plastic polymers for the manufacturing industry.
Production of durable plastic components	No	
Production / commercialization of durable plastic goods (including mixed materials)	No	
Production / commercialization of plastic packaging	No	
Production of goods packaged in plastics	Yes	Plastics products may be packaged and shipped in plastic packaging/containers.
Provision / commercialization of services or goods that use plastic packaging (e.g., retail and food services)	No	

W10.6

(W10.6) Provide the total weight of plastic polymers sold and indicate the raw material content.

Row 1

Total weight of plastic polymers sold during the reporting year (Metric tonnes)

Raw material content percentages available to report

Please explain

Data is currently not available.

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	Please explain
Plastic packaging used			Data is currently not available.

W10.8a

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

	Percentages available to report for circularity potential	Please explain
Plastic packaging used	None	<p>Recycling guidelines vary across regions and countries, leading to different criteria for determining recyclability.</p> <p>Using BASF materials as packaging:</p> <p>The acceptance of packaging as recyclable or not is contingent upon adherence to these specific guidelines. Notably, polyamide multilayer packaging has gained recognition as a recyclable material in numerous regions and countries. For instance, in Germany, it is accepted as recyclable through a minimum standard, while in the United States, it meets the criteria outlined</p>

		in the APR Design® Guide. Packaging of BASF products: e.g. Bulk Containers, big bags etc.
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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.

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	Member of the Board of Executive Directors, BASF SE	Director on board