

# Welcome to your CDP Water Security Questionnaire 2023

## **W0. Introduction**

### W0.1

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

Evonik is one of the world's leading specialty chemicals companies. Our strengths include the balanced spectrum of our business activities, end-markets, and regions. Around 80 percent of sales generated by our growth divisions come from marketleading positions, which we are systematically expanding. This strong competitive position is based on collaboration with customers, innovative capability, and integrated technology platforms. Our specialty chemicals products make an indispensable contribution to the benefits of our customers' products, which generate their success in global competition. Close cooperation with customers enables us to build up a deep knowledge of their business, so we can offer products tailored to their specifications and extensive technical service. Technology centers and customer competence centers play an important role in this around the world. Market-oriented research and development is an important driver of profitable, resource-efficient growth. Sustainability is integrated into our strategic management process. Our goal for the future is to substantially increase the proportion of sales from attractive growth businesses with a clear focus on sustainability (Next Generation Solutions). Evonik supports the objectives of the Paris Agreement on Climate Change. That is underscored by our commitment to the Science Based Targets initiative (SBTi) 3. We aspire to be climate-neutral by 2050.

Evonik has a presence in more than 100 countries, and 84 percent of sales are generated outside Germany. We have production facilities at 104 locations in 27 countries on six continents and are therefore close to our markets and our customers. Our largest production sites, for example, in Marl, Wesseling, and Rheinfelden (Germany), Antwerp (Belgium), Mobile (Alabama, USA), Shanghai (China), and Singapore, have integrated technology platforms, most of which are used by several operating units.

Consequently, our procurement activities also have a global focus. Raw materials and supplies, technical goods and services, energy, and other operating supplies are sourced either regionally or globally.

Forward-Looking Statements: The following answers to the questions of the Carbon Disclosure Project prepared by Evonik include forward-looking statements that are subject to risks and uncertainties, including those pertaining to the anticipated benefits to be realized from the proposals described herein. Evonik has based these forward-looking statements on its views



with respect to future events and financial performance. Actual financial performance could differ materially from that projected. Forward-looking statements represent estimates and assumptions only as of the date that they were made. The information contained in these answers is subject to change without notice and Evonik does not undertake any duty to update the forward-looking statements, and the estimates and assumptions associated with them, except to the extent required by applicable laws and regulations.

## W-CH0.1a

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

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	Januar 1, 2022	Dezember 31, 2022

## W0.3

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

Argentina Australia Austria Belgium Canada China France Germany Hungary India Indonesia Italy Japan Netherlands New Zealand Poland Portugal Singapore Slovakia South Africa Spain Sweden Taiwan, China

Thailand

Evonik Industries AG CDP Water Security Questionnaire 2023 Wednesday, 2. August 2023



Turkey United Kingdom of Great Britain and Northern Ireland United States of America

## W0.4

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

EUR

## W0.5

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

Companies, entities or groups over which operational control is exercised

## W0.6

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

Yes

## W0.6a

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

Exclusion	Please explain
due to	Very small leased office spaces and production sites (fewer than 10 employees)
subordinate	where water use is minimal. It is provided through the lease and managed by our
importance (<5%	landlord. Our divisions and regions are subject to annual audits to monitor
in total)	compliance with DIN EN ISO 14001 validation at our production locations. The
	proportion of output covered by this validation varies because of the addition of
	newly acquired units. However, it is always between 95 and 100 percent;
	associated companies, joint ventures and companies whose influence on the
	asset, financial and earnings situation individually and as a whole is of
	subordinate importance (<5% in total), are not considered.

### 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	DE000EVNK013



## W1. Current state

## W1.1

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

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Vital	Primary use in direct operations: Evonik mainly uses water for cooling and for process purposes in production facilities, to generate steam in power plants, and for sanitary requirements. Around 97 percent of our total water intake was for cooling purposes in energy generation and production. This includes our use of seawater for cooling purposes about 1/3. 2/3 of our cooling water demand is sourced from freshwater. Reason for chosen importance in direct operation: Without well functioning cooling processes no production could take place. Primary use in indirect operations: The main use of freshwater within the supply chain is for the production of raw materials. Reason for chosen importance in indirect operation: It is ranked as vital because a lack of availability could influence the security of supply. We expect our future dependency in direct and indirect operations to remain the same as freshwater will remain vital for our production and raw material supply.
Sufficient amounts of recycled, brackish and/or produced water available for use	Not very important	Not very important	Direct use in operation: Whereever possible we do use recycled water for cooling purposes Use in indirect operation: Usually surface or municipal water is used along the value chain upstream e.g. for irrigation in agriculture based raw materials production like sugar for our fermentation processes or chemical processes. Reason for chosen importance in direct operation:



<ul> <li>We are committed to responsible use of water and want to save water wherever possible in order to achieve a further reduction in our emissions into water.</li> <li>However currently water intake sourced from recycled water is less than 1% of water intake in total. Therefore we do consider the availability of non-freshwater as not very important.</li> <li>Reason for chosen importance in indirect operation:</li> <li>As water recycling is no important issue in our indirect operation currently and we do not have other indication from our suppliers for the years to come we selected "not very important".</li> <li>We expect our future dependency in direct and indirect operations to remain the same as we do expect a comparable water availability situation</li> </ul>
· · · ·
other indication from our suppliers for the years to
indirect operations to remain the same as we do
specifically. (closed cooling cycles) or use seawater instead.

## W1.2

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

	% of sites/facilities/operatio ns	Frequency of measureme nt	Method of measurement	Please explain
Water withdrawals – total volumes	100%	Continuously	Water withdrawals are measured and recorded continuously by water meters on site duringcontrolled operation, monitored monthly on-site and reported to	Water withdrawls data for 2022 are based on 102 production sites in 27 countries and thus cover our entire production volume . The data are compiled using our



			corporate center for company-wide aggregation and evaluation quarterly.	internal developed and SAP-based SuRe-System (sustainability reporting) which is verified anually by an external auditor. All sites do report their site-specific environmental data online thus evaluation of environmental data can take place centralized according to business level, facility-wise, region- wise etc.
Water withdrawals – volumes by source	100%	Continuously	Waterwithdrawals - volumes by source - are measured and recorded continuously by water meters on site during controlled operation, monitored monthly on-site and reported to corporate center for company-wide aggregation and evaluation quarterly.	Water withdrawls by source data for 2022 are based on 102 production sites in 27 countries and thus cover our entire production volume . The data are compiled using ourinternal developed and SAP- based SuRe-System (sustainability reporting) which is verified anually by an external auditor. All sites do report their site- specificenvironment al data online thus evaluation of environmental data can take place centralized according to business level,



				facility-wise, region- wise etc.
Water withdrawals quality	100%	Continuously	Water withdrawals quality is analysed partly continuously and partly daily in Evonik-owned laboratories on-site according to applicable water chemistry standards and recorded by wateranalysis systems on site during controlled operation, monitored daily on-site and reported to corporate center for company-wide aggregation and evaluationquarterly. The data are compiled using sustainability reporting software developed specially for this purpose.	Water withdrawls quality data for 2022 are based on 102 production sites in 27 countries and thus cover our entire production volume . The data are compiled using our internal developed and SAP-based SuRe-System (sustainability reporting) which is verified anually by an external auditor. All sites do report their site-specific environmental data online thus evaluation of environmental data can take place centralized according to business level, facility-wise, region- wise etc.
Water discharges – total volumes	100%	Continuously	Water discharges - total volumes - are measured and recorded continuously by water meters on site during controlled operation, monitored monthly on-site and reported to corporate center for company-wide aggregation and evaluation quarterly.	Water discharges data for 2022 are based on 102 production sites in 27 countries and thus cover our entire production volume . The data are compiled using our internal developed and SAP-based SuRe-System (sustainability reporting) which is verified anually by



				an external auditor. All sites do report their site-specific environmental data online thus evaluation of environmental data can take place centralized according to business level, facility-wise, region- wise etc.
Water discharges – volumes by destination	100%	Continuously	Water discharge volumes are measured and recorded continuously by water meters on site during controlled operation, monitored monthly on-site and reported tocorporate center for company- wide aggregation and evaluation quarterly.	Water discharges - volumes by destination data for 2022 are based on 102 production sites in 27 countries and thus cover our entire production volume . The data are compiled using our internal developed and SAP-based SuRe-System (sustainability reporting) which is verified anually by an external auditor. All sites do report their site-specific environmental data online thus evaluation of environmental data can take place centralized according to business level, facility-wise, region- wise etc.
Water discharges – volumes by	100%	Continuously	Water discharges volumes by treatment method	Water discharges - volumes by treatment method



trootmost			are measured and	data far 2022 ara
treatment method			are measured and recorded continuously by water meters on site during controlled operation, monitored monthly on-site andreported to corporate center for company-wide aggregation and evaluation quarterly.	data for 2022 are based on 102 production sites in 27 countries and thus cover our entire production volume . The data are compiled using our internal developed and SAP-based SuRe-System (sustainability reporting) which is verified anually by an external auditor. All sites do report their site-specific environmental data online thus evaluation of environmental data can take place centralized according to business level, facility-wise, region- wise etc.
Water discharge quality – by standard effluent parameters	100%	Continuously	Water discharge quality (by standard effluent parameters) is analysed partly continuously and partly daily and recorded by water analysis systems on site and reported to corporate center for company-wide aggregation and evaluation quarterly. We monitor water discharge quality by standard effluent parameters at the facility level using	Water discharge quality by standard effluent parameters data for 2022 are based on 102 production sites in 27 countries and thus cover our entire production volume . The data are compiled using our internal developed and SAP-based SuRe-System (sustainability reporting) which is verified anually by an external auditor.



			automatic water samplersand lab testing.	All sites do report their site-specific environmental data online thus evaluation of environmental data can take place centralized according to business level, facility-wise, region- wise etc.
Water discharge quality – emissions to water (nitrates, phosphates, pesticides, and/or other priority substances)	100%	Continuously	Water discharge quality also considered as Wastewater loads (nitrates, phosphates, sulphate, chlorine, heavy metals, COD, AOX) is analysed partly continuously and partly daily and recorded by water analysis systems on site and reported to corporate center for company-wide aggregation and evaluation quarterly. We monitor our wastewater loads at the facility level using automatic water samplersand lab testing.	Water discharge quality - emissions to water data for 2022 are based on 102 production sites in 27 countries and thus cover our entire production volume . The data are compiled using our internal developed and SAP-based SuRe-System (sustainability reporting) which is verified anually by an external auditor. All sites do report their site-specific environmental data online thus evaluation of environmental data can take place centralized according to business level, facility-wise, region- wise etc.
Water discharge quality – temperature	100%	Continuously	Water discharge quality temperature is recorded continuously by	Water discharge quality - temperature data for 2022 are based on 102



			water analysis systems on site and reported to corporate center for company-wide aggregation and evaluation quarterly. We monitor water discharge quality temperature by standard meters at the facility level using automatic water samplers.	production sites in 27 countries and thus cover our entire production volume . The data are compiled using our internal developed and SAP-based SuRe-System (sustainability reporting) which is verified anually by an external auditor. All sites do report their site-specific environmental data online thus evaluation of environmental data can take place centralized according to business level, facility-wise, region- wise etc.
Water consumption – total volume	100%	Quarterly	Water consumption total volume is being calculated quarterly as the difference between water withdrawl and water discharge. Calculation is conducted at corporate level based on site- specific data reported for company-wide aggregation and evaluation.	Water consumption total volume data for 2022 is based on 102 production sites in 27 countries and thus cover our entire production volume . The data are compiled using our internal developed and SAP-based SuRe-System (sustainability reporting) which is verified anually by an external auditor. All sites do report their site-specific environmental data online thus



				evaluation of environmental data can take place centralized according to business level, facility-wise, region- wise etc.
Water recycled/reuse d	100%	Yearly	Water recycled / reused is being calculated yearly in the cause of preparation the sustainability report. Calculation is conducted at corporate level based on site- specific data reported for company-wide aggregation and evaluation. (Achtung!!Kühlwass er einbeziehen!!)	Waterrecycled/reuse d data for 2022 are based on 102 production sites in 27 countries and thus cover our entire production volume . The data are compiled using our internal developed and SAP-based SuRe-System (sustainability reporting) which is verified anually by an external auditor. All sites do report their site-specific environmental data online thus evaluation of environmental data can take place centralized according to business level, facility-wise, region- wise etc.
The provision of fully- functioning, safely managed WASH services to all workers	76-99	Yearly	Our divisions and regions are subject to annual audits to monitor compliance with DIN EN ISO14001 validation at our production locations. In 2022, 67 internal and	Health and safety of our employees are very important aspects. We constantly monitor and assess our HSE performance on a monthly basis including the



external ESHQ	existence of fully-
audits were	functioning wash
conducted	services through our
worldwide.	internal audits
	worldwide,
	according to annual
	HSEAudit programs
	Since our operations
	include many small
	sites and audits are
	conducted on a
	random basis, we
	are not able to
	guarantee 100%
	coverage.

## 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/ye ar)	Compariso n with previous reporting year	Primary reason for comparison with previous reporting year		Primary reason for forecast	Please explain
Total withdrawal s	446.000	About the same	Increase/decrea se in business activity	Lower	Investment in water-smart technology/proce ss	Our definition for change: Much higher: >+50%, Higher: >+10%, About the same: <+/- 10%, Lower: >- 10%, Much lower: >- 50%. According to our definition Evonik's



			total
			withdrawls
			did not
			change
			significantl
			y in the
			reporting
			period
			(462000 in
			2021).
			Water is
			mainly
			used
			(>90%) for
			cooling
			purposes.
			The
			amount
			required
			therefore
			depends
			on capacity
			utilization
			in
			production
			and the
			temperatur
			e. Due to
			minor
			changes in
			capacity
			utilisation
			overall
			water
			consumpti
			on did not
			change
			significantl
			y. Future
			water
			intake is
			supposed
			to
			decrease
			as our
			coal-fired



						power plant in Marl will be substitued by a gas- fired high- efficiency plant with 90%less cooling water demand in 2024.
Total discharges	439.000	About the same	Increase/decrea se in business activity	Lower	Investment in water-smart technology/proce ss	Our definition for change: Much higher: >+50%, Higher: >+10%, About the same: <+/- 10%, Much lower: >- 10%, Much lower: >- 50%. About 90% of Evonik's total withdrawal s is used for cooling purposes. As the water intake remained about the same so do total water discharges (457000 in



Total consumpti on	7.000	About the same	Increase/decrea se in business activity	Lower	Investment in water-smart	Our definition for change:
						y.
						significantl
						decrease
						to
						supposed
						is
						discharges
						water
						Future total
						fired unit.
						to the coal-
						compared
						by 90%
						to be lower
						is planned
						the IGCC
						demand for
						cooling water
						infuture as
						volumes
						discharges
						water
						expects lower
						Evonik
						plant
						power
						IGCC
						modern
						by a
						(Germany)
						in Marl
						largest site
						plant at its
						power
						a coal-fired
						substitute
						plans to
						currently
						As Evonik
						total 2021).



			technology/proce	Much
			SS	higher:
				>+50%,
				Higher:
				>+10%,
				About the
				same: <+/-
				10%,
				Lower: >-
				10%, Much
				lower: >-
				50%.
				Future total
				water
				consumpti
				on is
				supposed
				to
				decrease
				as our
				coal-fired
				power
				plant in
				Marl will be
				substitued
				by a gas-
				fired high-
				efficiency
				plant with
				90%less
				cooling
				water
				demand in
				2024.
				Thus water
				replaceme
				nt for
				evaporatio
				n losses
				from
				cooling
				systems
				will
				decrease
				in future



			significantl
			у.

## 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.

	Withdraw als are from areas with water stress	% withdra wn from areas with water stress	Compari son with previous reporting year	Primary reason for comparison with previous reporting year	Five- year forec ast	Primary reason for forecast	Identificat ion tool	Please explain
Ro w 1	Yes	26-50	About the same	Increase/decr ease in business activity	About the same	Increase/decr ease in business activity	WRI Aqueduct	Our definition for change: Much higher: >+50%, Higher: >+10%, About the same: <+/- 10%, Much lower: >- 10%, Much lower: >- 50%. Water withdrawl in areas with water stress remained about the same as seawater demand for cooling purposes at JurongIslan d did not change



				significantly
				(<5%)
				compared
				tp previous
				year. To
				identify the
				sites in
				water-
				scarceregio
				ns we have
				applied the
				water stress
				measureme
				nt method
				of the World
				Resources
				Institute
				(WRI)
				Aqueduct.
				We
				analyzed all
				sites which
				are
				considered
				environmen
				tally
				relevant
				and thus
				monitored
				in SuRe,
				the
				sustainabilit
				y reporting
				system of
				Evonik in
				2022 again.
				We mapped
				the
				totalwater
				use to each
				site that
				was located
				in a water-
				scarce
				region
				according



				to the
				Aqueduct
				Tool and
				defined
				those sites
				as "large
				user", which
				usedmore
				than 0.1%
				of our total
				water use.
				Currently
				about one
				quarter of
				Evonik´s
				production
				sites are
				located in a
				water-
				scarce
				region and
				arelarge
				water users
				(more than
				0.1%) and
				are thus
				relevant for
				us.

## W1.2h

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

	Relevanc e	Volume (megaliters/year )	Compariso n 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	173.000	About the same	Increase/decreas e in business activity	Our definition for change:Much higher: >+50%, Higher: >+10%, About the same: <+/-



		10%, Lower:
		>-10%, Much
		lower: >-50%.
		Evonik's
		consumption
		of freshwater
		remained
		about the
		same in the
		reporting
		period (172000
		vs 174300 in
		2021).
		Freshwater is
		mainly used
		for cooling.
		The amount
		required
		therefore
		depends on
		capacity
		utilization in
		production
		and the
		temperature.
		Due to minor
		changes in
		capacity
		utilisation
		overall
		freshwater
		consumption
		did not change
		significantly.
		As Evonik
		currently plans
		to substitute a
		coal-fired
		power plant at
		its largest site
		in Marl
		(Germany) by
		a modern
		IGCC power
		, plant Evonik
		expects lower
		1



					water discharges volumes infuture as cooling water demand for the IGCC is planned to be lower by 90% compared to the coal-fired unit. Future surface water withdrawl is supposed to decrease.
Brackish surface water/Seawater	Relevant	196.000	About the same	Increase/decreas e in business activity	Our definition for change: Much higher: >+50%, Higher: >+10%, About the same: <+/- 10%, Lower: >-10%, Much lower: >-50%. Evonik's consumption of seawater remained about the same in the reporting period (196600 vs 206000 in 2021). Seawater is mainly used for cooling. The amount required therefore depends on capacity utilization in



Groundwater – renewable	Relevant	53.600	About the same	Increase/decreas e in business	production and the temperature. Due to minor changes in capacity utilisation seawater consumption did not change significantly. Future seawater demand is supposed to remain unchanged due to economic forecasts. Our definition for change:
				activity	Much higher: >+50%, Higher: >+10%, About the same: <+/- 10%, Lower: >-10%, Much lower: >-50%. Evonik's consumption of renewable groundwater remained about the same in the reporting period (53600 vs 56600 in 2021). Groundwater is mainly used for cooling. The amount



			required
			therefore
			depends on
			capacity
			utilization in
			production
			and the
			temperature.
			Due to minor
			changes in
			capacity
			utilisation
			groundwater
			consumption did not change
			significantly.
			Groundwater
			demand is
			supposed to
			remain
			unchanged
			due to
			economic
			forecasts.
Groundwater –	Not		As in previous
non-renewable	relevant		years, non-
			renewable
			groundwater is
			not relevant in
			2022 as we do
			not use non-
			renewable
			groundwater in
			our operations.
			We do not
			have any sites
			in regions with
			non-renewable
			groundwater
			acquifers.
			Therefore we
			do expect
			unchanged
			"non-
			relevance" for



					our operations in future.
Produced/Entraine d water	Not relevant				As in previous years,entraine d water is not relevant in 2022 as we do not use entrained water in our operations. Currently we do expect unchanged "non- relevance" for our operations in future.
Third party sources	Relevant	23.400	About the same	Unknown	Our definition for change: Much higher: >+50%, Higher: >+10%, About the same: <+/- 10%, Lower: >-10%, Much lower: >-50%. Evonik's consumption of third party sources remained about the same in the reporting period (23400 vs 25000 in 2021). Third party sources usually do provide drinking water for health and sanitary



			purposes.
			Taking into
			consideration
			that third party
			sources
			contribute
			about 5% to
			overall water
			withdrawls a
			detailled
			analysis does
			not seem to be
			appropriate.

## W1.2i

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

	Relevanc e	Volume (megaliters/yea r)	Compariso n with previous reporting year	Primary reason for comparison with previous reporting year	Please explain
Fresh surface water	Relevant	236.000	Lower	Increase/decreas e in business activity	Our definition for change: Much higher: >+50%, Higher: >+10%, About the same: <+/- 10%, Lower: >-10%, Much lower: >-50%. Evonik's surfacewater discharge declined in the reporting period (289000 in 2021). Surfacewater discharge is mainly due to coolingwater demand. The amount required therefore depends on capacity utilization in production and the temperature. Due to minor



					changes in capacity utilisationsurfacewat er discharge thus lowered accordingly. As Evonik currently plans to substitute a coal-fired power plant at its largest site in Marl (Germany) by a modern IGCC power plant Evonik expects lower water discharges volumes in future as cooling water demand for the IGCC is planned to be lower by 90% compared to the coal-fired unit. Future surface water discharges is supposed to decrease
Brackish surface water/seawate r	Relevant	197.000	Lower	Increase/decreas e in business activity	Our definition for change: Much higher: >+50%, Higher: >+10%, About the same: <+/- 10%, Lower: >-10%, Much lower: >-50%. Evonik's seawater discharge is based on Evonik's seawater demand for cooling purposes. It declined slightly in the reporting period (240000 in 2021). The amount required therefore depends on capacity utilization in production



					and the temperature. Due to minor changes in capacity utilisation seawater discharge thus lowered accordingly. Future seawater discharge is supposed to remain unchanged due to economic forecasts.
Groundwater	Not relevant				Evonik does not discharge water to groundwater.
Third-party destinations	Relevant	7.000	About the same	Unknown	Our definition for change: Much higher: >+50%, Higher: >+10%, About the same: <+/- 10%, Lower: >-10%, Much lower: >-50%. 2022 we discharged 7000 Megalitres wastewater, to third-party facilities (e.g., municipal facilities) for treatment (indirect discharge); same as in the previous year. Taking into consideration that third party destinations contribute less than 5% to overall water discharge a detailled analysis does not seem to be appropriate. Future discharge is expected unchanged.



## W1.2j

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

n ti n ti	Releva nce of reatme nt level o lischar	Volume (megaliters/ year)	Compari son of treated volume with previous	Primary reason for comparison with previous reporting	% of your sites/facilities/oper ations this volume applies to	Please explain
	je		reporting year			
Tertiary treatmen t t	Relevan	49.000	About the same	Increase/decr ease in business activity	21-30	Relevant: At about one quarter of our plants, we treat discharge to remove nitrogen and phosphorus, along with other dissolved inorganic substances through coagulation, sedimentation, activated carbon adsorption and ion exchange methods. Tertiary treatment was applied to 11% of our total discharge volume this reporting year. All discharge volumes were subject to strict water quality controls before



				to receiving
				water bodies.
				water boules.
				Our definition
				for change:
				Much higher:
				>+50%, Higher:
				>+10%, About
				the same: <+/-
				10%, Lower: >-
				10%, Much
				lower: >-50%.
				Change in
				volume: 53000
				megalitres were
				treated to
				tertiary level in
				the previous
				year and 49000
				megalitres were
				treated to
				tertiary level
				this year.
				Therefore, the
				volume has not
				changed
				significantly
				Anticipated
				future trend:
				Discharge
				volumes treated
				to tertiary level
				are expected to
				remain the
				same in the
				upcoming years
				as no significant
				alterations are
				being planned
				for the
				production
				processes.
Seconde	Not			
Seconda				Not relevant: In
ry	relevant			all our plants,



treatmen t						discharge is not subject to secondary treatment. Water volumes are discharged either after on- site treatment/purific ation or to a third party.
Primary treatmen t only	Not relevant					Not relevant: In all our plants, discharge is not subject to secondary treatment. Water volumes are discharged either after on- site treatment/purific ation or to a third party.
Discharg e to the natural environm ent without treatmen t	Relevan t	383.000	About the same	Increase/decr ease in business activity	1-10	Relevant: In our sites, water is primarily used for cooling purposes. No water treatment takes place while passing through the cooling system. These volumes are discharged to the natural environment without treatment. All discharge volumes are subject to strict water quality



			controls before
			being released
			to receiving
			water bodies.
			Change in
			volume: The
			discharge
			volume (383000
			megaliters) in
			the reporting
			year is about
			the same as in
			the previous
			year (397000
			megaliters).
			meganters).
			Our definition
			for change:
			Much higher:
			>+50%, Higher:
			>+10%, About
			the same: <+/-
			10%, Lower: >-
			10%, Lower. >- 10%, Much
			lower: >-50%.
			10wei. >-30 /0.
			Anticipated
			future trend:
			According to
			current
			plannings no
			major change
			on production
			will take place
			except the
			substitution of
			an existing
			coal-fired power
			plant by an
			IGCC which
			90% less
			cooling water
			demand. Thus
			discharge
			volumes are
			volumes are



					expected to decrease.
Discharg e to a third party without treatmen t	Relevan t	7.000	About the same	Increase/decr ease in business activity	Relevant: In our sites, water is primarily used for cooling molds. In addition, water is used for drinking water, sanitation/hygie ne services and production. These volumes are discharged to a third party without treatment. Our definition for change: Much higher: >+50%, Higher: >+50%, Higher: >+10%, About the same: <+/- 10%, Lower: >- 10%, Much lower: >-50%.
					Change in volume: The discharge volume (7000 megaliters) in the reporting year is about the same as the previous year (7000 megaliters). Anticipated future trend: The discharge volume is expected to



				remain the same as no major changes in production is expected. Treatment applied by third party: The third party (municipal sewage treatment plant) applies a conventional secondary treatment, and the treatment
				the treatment plant publicly states compliance with local water regulations.
Other	Not relevant			

## 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	1.643	Nitrates Phosphates Pesticides Priority substances listed under the EU Water Framework Directive	Chemical Oxygen Demand (COD); Total nitrogen; Total phosphorus; Absorbable organic halogen compounds (AOX); Heavy metals (As, Cd, Cr, Cu, Hg, Ni, Pb, Zn); pesticides	Organic substances—expressed as chemical oxygen demand (COD)— account for the highest proportion of our wastewater loads. COD is the concentration of all substances in the wastewater that can be oxidized under certain conditions. The wastewater loads of direct discharges were mainly unchanged from the previous year. The sharp drop in AOX loads is due to



	isolated production outages.
	Future trend: We do not expect
	major changes in future as planned
	product remains about the same.

### 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	18.488.000.000	446.000	41.452,9147982063	According to current production/economic forecasts and technological improvements on water efficiency we do expect overall a decrease in water demand in the range of +/- 5% while revenue slightly higher. Total water withdrawal efficiency according to our definition will be unchanged (+/- 10%)

## W-CH1.3

(W-CH1.3) Do you calculate water intensity for your activities in the chemical sector?  $$_{\mbox{Yes}}$$ 

## 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

Specialty organic chemicals

#### **Product name**

MTBE (methyl tert-butyl ether). Average water consumption for the different production sites.

#### Water intensity value (m3/denominator)

6,2

#### Numerator: water aspect

Other, please specify



Blue Water consumption (scope 1, 2 and 3 incl. end of life) (m3 per ton product)

#### Denominator

Ton

#### Comparison with previous reporting year

About the same

#### **Please explain**

Choice of numerator:

BWC was selected as it is the most relevant water KPI in the scope of water scarcity. Indeed, it refers to the proportion of water "consumed" i.e. not available anymore for the watershed. Blue Water Consumption (BWC) is calculated for the whole company and can be broken down to products/sites/business lines etc as absolute or specific. Blue Water refers to surface and groundwater.

BWC is calculated for the whole life cycle of the product. It takes into account water consumption required for the raw materials used in the manufacturing process, transports, water used for the own process (water evaporated, water to river etc.), tap water, water consumed in cooling systems, water consumed for energy production and water consumed at the end of life of the product life cycle. Absolute Blue Water consumption for the product for the year 2022 (m3) was divided by the production volume of the year 2022 (ton) of the related product to have the Blue Water intensity. Data provided here are average data for MTBE produced at different sites of Evonik.

#### i. Changes from previous year:

The water intensity of this product has slightly changed in comparison to last year. It can be explained by improvements in the LCA modelling and background data.

#### ii. Use of metrics internally:

We use BWC and freshwater intake to monitor our impact and depencies related to water but also to assess our current and future water risks and identify hotspots products/sites. In addition, we use these KPIs to track our progress regarding water use/consumption - especially in the scope of our water target.

#### iii. Description of anticipated future trends:

we expect an overall reduction of our company's water intensity in order to reach our 2030 water target.

#### iv. Strategy to reduce water intensity:

measures are currently being collected that will have for effect a reduction of our Greenhouse gas and water intensity. We are also looking at the water intensity of our raw material upstream and are looking at adressing these topics with suppliers where water has a high materiality,

#### **Product type**

Specialty organic chemicals



#### **Product name**

Methionine (MetAMINO) produced at different sites. Average water consumption for the different production sites.

#### Water intensity value (m3/denominator)

6,9

#### Numerator: water aspect

Other, please specify

Blue Water consumption (scope 1, 2 and 3 incl. end of life) (m3 per ton product)

#### Denominator

Ton

#### Comparison with previous reporting year

About the same

#### **Please explain**

Choice of numerator:

BWC was selected as it is the most relevant water KPI in the scope of water scarcity. Indeed, it refers to the proportion of water "consumed" i.e. not available anymore for the watershed. Blue Water Consumption (BWC) is calculated for the whole company and can be broken down to products/sites/business lines etc as absolute or specific. Blue Water refers to surface and groundwater.

BWC is calculated for the whole life cycle of the product. It takes into account water consumption required for the raw materials used in the manufacturing process, transports, water used for the own process (water evaporated, water to river etc.), tap water, water consumed in cooling systems, water consumed for energy production and water consumed at the end of life of the product life cycle. Absolute Blue Water consumption for the product for the year 2022 (m3) was divided by the production volume of the year 2022 (ton) of the related product to have the Blue Water intensity. Data provided here are average data for Methionine produced at different sites of Evonik.

i. Changes from previous year:

The water intensity of this product has slightly decreased. However, this decrease can only be explained by data improvements (water balances, background databased, LCA modelling) and not by process improvements.

#### ii. Use of metrics internally:

We use BWC and freshwater intake to monitor our impact and depencies related to water but also to assess our current and future water risks and identify hotspots products/sites. In addition, we use these KPIs to track our progress regarding water use/consumption - especially in the scope of our water target.

#### iii. Description of anticipated future trends:

we expect an overall reduction of our company's water intensity in order to reach our 2030 water target.



iv. Strategy to reduce water intensity:

measures are currently being collected that will have for effect a reduction of our Greenhouse gas and water intensity. We are also looking at the water intensity of our raw material upstream and are looking at adressing these topics with suppliers where water has a high materiality,

## 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

# W1.4a

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

Regulatory classification of hazardous substances	% of revenue associated with products containing substances in this list	Please explain
Candidate List of Substances of Very High Concern for Authorisation above 0.1% by weight (EU Regulation)	Less than 10%	

# W1.5

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

	Engagement	Primary reason for no engagement	Please explain
Suppliers	Yes		
Other value chain partners (e.g., customers)	No	Important but not an immediate business priority	

# W1.5a

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

Row 1

#### Assessment of supplier impact

No, we do not currently assess the impact of our suppliers, but we plan to do so within the next two years

#### Please explain



# 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	No, but we plan to introduce water-related requirements within the next two years	

# W1.5d

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

#### Type of engagement

Information collection

#### **Details of engagement**

Collect water management information at least annually from suppliers

#### % of suppliers by number

1-25

#### Rationale for your engagement

As part of our committed 11% Scope 3 target at SBTi, collaboration with our suppliers is critical. For this purpose, all significant suppliers are asked for current life-cycle assessments (LCA) at least once a year. Significant suppliers are all suppliers with more than 10000 tCO2e in the reporting year. As the LCA data not only includes impact categories on climate change, but also on water (water Use, water consumption), this data is collected and tracked. This data is then transferred to our own LCAs of Evonik end products. Half of all suppliers who were able to provide primary data in the query sent complete LCAs, i.e. also data on water.

In subsequent years, the data will also be used for further analyses and risk assessment.

#### Impact of the engagement and measures of success

Success is measured by how many of the requested suppliers have provided complete LCA data. This is because it is the only way to include information on the impact categories water. In the review year , 50% of the primary data was covered by complete LCAs. The goal is to increase the primary data coverage and then also to cover them specifically with complete LCAs. In the future, suppliers will therefore not only have to provide Product Carbon Footprint data, but complete LCAs.

#### Comment



# **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	Fines due to missing warning signs on site or lacking information to the neighbourhood are taken seriously; however as without any impact to the environment in the context of water-related regulatory violations are considered as not significant.

### W2.2a

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

Row 1

Total number of fines 3 Total value of fines 20.000 % of total facilities/operations associated 3 Number of fines compared to previous reporting year About the same Comment Our divisions and regions are subject to annual audits to monitor compliance with internal and external guidelines and regulations at our more than 100 production locations worldwide.

In 2022, 67 internal and external ESHQ

audits were conducted worldwide. The proportion of output

covered varies from year to year because of the addition of newly

acquired units. However, it is always between 95 and 100 percent. Results of the audits



conducted do provide insights on the local mentality and attitude of our empoyees thus do give us valuable information on areas for improvement. The process "safety at Evonik" is considered as a comprehensive long-term approach in increasing our performance in plant safety and occupational safety. However we are well aware of the fact that human behaviour and human error can never be rules out.

# **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	With respect to all chemical substances we do work with "Binding technical documents (BTD)". These BTD's do provide a guideline to assess severity classes for each chemical substance depending on the amount of potentially released chemical substance. We do differentiate between severity class "5" which means "very low risk level" for water and environment up to severity class "1" which is defined as potentially "disastrous". Based on the result of our assessments technical measures are put in place for risk mitigation. e.g. for the production of our feed additive methionine we do need to control the chemical reaction with hydrocyanic acid, a very toxic chemical. Based on our BTDs very comprehensive measures to avoid any incident are in place; e.g. regular and intensive trainings for the personnell in charge, high quality personal protective equipment is provided and highly sensitive technical sensor are installed. We follow specific standards, including ISO 14001; This applies to the whole of the Evonik Group and is based on legal requirements, internal policies, and standard operating procedures. Our divisions and regions are subject to annual audits to monitor compliance with DIN EN ISO 14001 validation at our production locations. Any failure of complying with legal requirements has to be presented to the board as part of our annual management review.

# 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

Nitrates

#### Description of water pollutant and potential impacts

Reduction of excess N flows is part of our sustainability focus area "Safeguard Ecosystems". It is relevant for the sourcing of bio-based raw materials and our animal nutrition and aquaculture products lead to a significant reduction of nitrogen excretion in poultry, swine, salmon and shrimp production. In our manufacturing plants Nitrogen is an additional standard effluent parameters. A high concentration may lead to eutrophication i.e. un-controlled growth of water plants

#### Value chain stage

Direct operations Supply chain Product use phase

#### Actions and procedures to minimize adverse impacts

Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements

#### Please explain

A large service portfolio for the animal feed industry to reduce nitrogen excretion. In our production process for nitrogen-containing products (amino acids, amines, we operate at highest N conversion rates, which maintains the nitrogen levels in waste water at a minimum. In our production effluent undergoes multi-step chemical and physical treatment in our wastewater treatment facilities. Separate drainage systems prevent production effluent and cooling water becoming mixed. This means that cooling water can be discharged into rivers with rainwater without treatment. We have also built high-performance collector systems as part of our water protection measures. These are used for intermediate storage of peak wastewater loads which could overburden the wastewater treatment facilities. In this way, wastewater can subsequently be fed gradually to the treatment plants. Wastewater discharged from our sites is carefully monitored by regular sampling and continuous measuring equipment. Procedures are implemented successfully if sites are not subject to any violation of legal requirements. Efficiency and success of the process is evaluated by randomized internal



audits (at least every three years) checking also legal compliance and annual third parties' audits during the process of verifying the limited assurance engagement on the chapters of environmental

performance in the sustainability report.

#### Water pollutant category

Other nutrients and oxygen demanding pollutants

#### Description of water pollutant and potential impacts

In supply chain: raw materials comming from natural extraction or recycling operations. In product use-phase and end of life, biodegradability of susbtances entering the water cycle is an important sustainability assessment criteria. In manufacturing Chemical oxygen demand (COD) accounts for the highest proportion of wastewater loads. This is the concentration of all substances in the wastewater that can be oxidized under certain conditions. A very high concentration COD may lead to a low content of oxygen in the water. An extreme low oxygen content of water may

#### Value chain stage

Direct operations Supply chain Product use phase

#### Actions and procedures to minimize adverse impacts

Discharge treatment using sector-specific processes to ensure compliance with regulatory requirements

#### Please explain

We have R&D programs to enable access to recycled raw materials, eliminating the need for natural extraction. We develope bio-degradable ingredients for personal-care application and work with our customers to reformulate their products to eliminate microplastic and other not readily

biodegradable chemicals from their products. In production we report any unintentional chemical spill or leakage and set

targets as part of the integrated management system. Production effluent undergoes multi-step chemical and physical

treatment in our wastewater treatment facilities. Separate drainage systems prevent production effluent and cooling water

becoming mixed. This means that cooling water can be discharged into rivers with rainwater without treatment. We have

also built high-performance collector systems as part of our water protection measures.



These are used for intermediate storage of peak wastewater loads which could overburden the wastewater treatment facilities. In this way, wastewater can subsequently be fed gradually to the treatment plants. Wastewater discharged from our sites is carefully monitored by regular sampling and continuous measuring equipment. Procedures are implemented successfully if sites are not subject to any violation of legal requirements. Efficiency and success of the process is evaluated by randomized internal audits (at least every three years) checking also legal compliance.

#### Water pollutant category

Other, please specify Hazardous substances

#### Description of water pollutant and potential impacts

The release of hazardous substances can result in serious impact on the environment e.g. surface water or groundwater With repect to direct operation major incidents may lead to an interruption of production. Thus, we ensure no out of plant toxicity in our operations handling hazardous substances. We ensure that we source only from suppliers with a proper management of hazardous substances. An we ensure that hazardous substances are not released into the water cycle in the product use phase.

#### 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

#### Please explain

We have developed the safety at Evonik initiative into a group-wide management approach to implement a safety culture in

all areas of occupational, plant and transportation safety. It defines binding principles of action that give our managers and

employees reliable guidance on safety-compliant conduct in their daily work. Together with substance specific hazard

analysis measures to prevent any spilling or leaking of hazardous substances are put in



place. Procedures are implemented successfully if sites are not subject to any violation of legal requirements. Efficiency and success of the process is evaluated by randomized internal audits (at least every three years) checking also legal compliance and annual third parties´ audits during the process of verifying the limited assurance engagement on the chapters of environmental performance in the sustainability report.

### 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 Supply chain Product use phase

#### Coverage

Full

#### **Risk assessment procedure**

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

#### 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

WWF Water Risk Filter Life Cycle Assessment Other, please specify Internal Methodology and standard = Product Sustainability Assessment (PSA) is used to assess water risks in product application



#### Contextual issues considered

Water availability at a basin/catchment level Water quality at a basin/catchment level Stakeholder conflicts concerning water resources at a basin/catchment level Implications of water on your key commodities/raw materials Water regulatory frameworks Status of ecosystems and habitats

#### Stakeholders considered

Customers Investors Local communities NGOs Regulators Suppliers

#### Comment

The Portfolio Sustainability Assessment (PSA) is our methodology to assess the sustainability performance of our product portfolio based on 5 signal categories (critical substanecs, regulatory trends, sustainability ambitions along the value chain, ecolabels and relative environmental and social performance). A PARC = Product Application Region Combination is the unit used to assess portfolio. The assessment of the five signal categorie results in allocating each PARC to a performance category: Leader, Driver, Performer, Transitioner or Challenged.

Leader and Driver PARC are our Next Generation Solutions. They have attractive growth rates and stand out positively in their markets because of their clear sustainability benefits. We aim to achieve a substantial increase in the proportion of sales generated by our Next Generation Solutions by 2030 (Target: 50%). Water risks are regarded and included in the Signal Category "relative environmental and social performance" what means that an identified material risk can lead to a downgrading of a PARC.

### 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	Direct operation: we	According to the WWF	Tier 1 supplier is the	Results of risks
1	assess water risks for	Water Risk Filter we	direct contact to	analyses are used for
	all our production sites	are using all risk	adress water issues	decision-making at
	(direct operations)	categories adressed by	related to raw	two levels:
	using the WWF Water	the tool that have been	materials. However	- To prioritise water
	Risk Filter (basin	rated as material topic	especially for	savings measures



risks). This tool was	for chemical industry .:	renewable raw	(especially where a
selected because of	physical risks (eg	materials, it might be	high physical risks
the diverse and	water	necessary to trace	exist)
detailed level of risks	availability/scarcity,	the value chain back	There are two ways
covered (physical,	status of ecosystem	to the cultivation area	for assessing long
reputational and	services), reputational	to better localize and	term risks and
regulatory) and its	risks (e.g. stakeholder	then assess water	decision-making for
credibility. For sites	conflicts regarding	risks. It often requires	risk response:
with the most severe	water) and regulatoty	value chain	a) Projection of
bassin risks (i.e. index	risks. These risks	cooperation and	volume, carbon
> 3.2), a mapping of	category are the one	intensive dialogue.	footprint, water risks
basin risks and sites'	that might have the	Supplier are regarded	and CapEx needs as
water intensity is	most substantive	as important	part of Strategic
made in order to	financial and strategic	stakeholder regarding	Management Process
prioritise. For these	impact oon our	water risks due to the	(SMP) and Strategic
hotspot sites, a more	business.	high impact of raw	Financial Planning
detailed analyse of the	Implication of water on	materials in our	(SFP).
operational risks is	our raw material has	cradle to gate Blue	b) Exposure to risks
made.	been selected as an	Water Consumption	and opportunities in a
Upstream: we perform	important share of our	(>70%).	scenario space
a first rough	Blue Water	Customer	according to TCFD for
assessment to identify	Consumption (>70%)	ambitions/needs	10y strategy horizon
priority hotspots that	comes from raw	regarding water are	(presently 2032) but
require a more	material.	regarded with our	also beyond (2040
comprehensive water	These risks are	internal PSA	and 2050) to
risk assessment (e.g.	assessed for three time	methodology as they	understand the drivers
for our bio based raw	frames: now, 2030 and	are in many	and necessary
materials). For this	2050 (according to	applications/value	responses for our
rough assessment, we	climate scenario	chains the one having	transition plan and link
have performed a full	included in the WWF	the highest influence	exposure findings to
LCA cradle to gate to	Risk Filter)	and driver of	our Site Portfolio
identify the most water		changes.	Management (SPM).
intensive raw		Regulators and local	
materials at company		communities are	- To categorize our
level. LCA was		considered via the	product portfolio within
selected as tool as it		WWF Risk Filter	the PSA. Material
offers us the only		because of the	risks will be integrated
possibility to get		substancial impact	into the corresponding
access to holistic		that the related risks	PARCs (Product
water data along our		might have.	Application Region
value chain. Then, we		Togetether with	Combination): i.e. a
are using the WWF		invetsors and NGOs,	PARC can be
Water Risk Filter to		they are involved in	downgraded due to
assess water risks for		local Water	water risks. Product
the most water			with negative signals
intensive raw material,			need to be improve to



and start a dialoge	Management Plans.	mitigate water risks
with suppliers to		(via
discuss on water		innovation/invests) or
issues where		exited from portfolio.
necessary.		
Our internal PSA		
methodology (Product		
Sustainability		
Assessment) is used		
to assess material		
water risks at two		
levels: water related		
ambitions of key value		
chain actors and,		
water impact		
(use/consumption) of		
product in application		
in comparison to		
alternatives.		

# 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?

**SITUATION:** Evonik with product applications in many different end-markets, a broad global asset footprint, and very complex supply chains, has multiple risks with different time scales and in different locations. Main 4 financial impact channels for Evonik are 1. change of revenue, 2. change of of cost of good & services sold (COGS), 3. change of CapEx spending, 4. change of R&D spending that potentially affect our future margin or our ability to finance the company. **TARGET:** Risks and opportunity transparency in time allows consideration in our daily business decisions, in strategy building, in financial planning, and in our stakeholder engagement, as many of these risks are outside our direct control. Describe i) the financial impact in the short-and mid-term planning, ii) the financial impact within the strategy horizon of a result of our Strategic Management Process (SMP) and Strategic Financial Planning (SFP), and iii) the financial exposure in a scenario space for the 10-year strategy time-frame, for 2040, and 2050. **ACTION:** 



i) In our short- and mid-term planning, risk is assessed as a deviation in EBITDA from our planning. Risks are assessed on the basis of uniform criteria. A netting of risks is not allowed. Risks are assessed according to their net potential impact and probability of occurrence after implementation of mitigation actions (the product of the impact and probability is defined as "expected value"). Details of the assessment rules are defined in our internal risk reporting guideline.

If possible, the magnitude of impact is quantified as a point value or range. If this is not the case, verbal assessment based on categories or purely narrative is requested.

Risks/ Opportunities are considered as significant if a deviation from the respective (business line level) management unit's plan by 10 million euro with reference to the mid-term horizon is identified. Non-quantifiable risks are to be taken into consideration when they could negatively affect the unit's substantial goals. A qualitative/ verbal assessment of impact can include factors such as management attention or damage to reputation.

ii) In our strategic 10-year horizon we assess market attractiveness and competitive position of strategic business units and assign strategic roles to these business. Our Portfolio Sustainability Assessment (PSA) assesses positive and negative sustainability signals for Product-Application-Region-Combinations (PARCs) for all chemical sales of the past business year and projects the development of these signals for the 10-year strategy time-frame. The PSA method ensures an assessment of our gate-to-gate processes as well as the entire value chain for ecological - including climate-related - and social aspects. Details of the assessment methods is found under "WBCSD Chemical Industry Methodology for Portfolio Sustainability Assessment Platform". We define 5 groups of PSA Ratings for PARCs: LEADER, DRIVER, PERFROMER, TRANSITIONER, CHALLENGED. LEADER and DRIVER PARCs are comprised as "Next Generation Solutions". Each PARC is assigned to a strategic business unit. As part of the strategy process, each business annually projects future volume and revenue and the future sustainability rating of each PARC. In this 10-year outlook, anticipated changes in sustainability signals are considered. Typical de-risking measures are capital expenditures to reduce product carbon footprint, supplier engagement to source sustainable raw materials, additional R&D efforts to reformulate products, partnerships with customers and suppliers for positive impacts along the value chain. For allocation of capital expenditures, of R&D resources or for strategic portfolio development, we map the PARC ratings with the strategic business roles (growth, financing, restructure).

**iii)** Beyond the strategic time-frame we assess our risk and opportunity exposure as defined by TCFD. The results of this assessment feed into our annual risk management and strategy process.

**RESULT: i)** On a group level, risks/ opportunities exceeding 100 Mio. € (expected value) are classified as "substantial" and risks exceeding 500 Mio. € (Impact) are considered as "going concern", which means that it is endangering the existence of the company. Until 2025 we have neither found "going concern" nor "substantial" climate related risks on group level.

**ii)** For 2022 we assessed 7% of sales as TRANSITIONER and 2% of sales as CHALLENGED. As Opportunities for above average growth and increasing customer demand we assessed 43% of sales as "Next Generation Solutions". We do not publish the 10-year projections but we have set a 2030 target of >50% Next Generation Solutions and maintaining CHALLENGED Sales below 5%.



**iii)** We are in the process of refining scenarios for our portfolio and of defining physical and transition impact KPIs for group and division level, for strategic business unit level, and for the single production site level.

# 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		1-25	<ul> <li>17 of our sites, representing ~ 15% of our total production sites have been identified as being currently exposed to substancial water risks. We assess water risks as a combination of basin physical risks, regulatory risks and reputational risks using the WWF Water Risk Filter and the corresponding recommended weighted factors for chemical industries. Sites having an overal risk above 3.2 are the one being exposed to water risks (i.e. according to the WWF Water Risk Filter methodology sites having a medium to high Water Risk. In this definition of water risk, water scarcity is one important criterium but not the only one under physical risks.</li> <li>On top of these 17 sites, we have also identified 4 sites having a high physical water risks (but an overall WWF Risk below 3.2). Due to the importance of physical risks, these sites will keep being assessed regarding their exposure to water risks.</li> <li>These sites are now being analysed and water savings measures (correlated with GHG savings potentiel) have been identified during the year 2022.</li> <li>These identified facilities are the one that pose the biggest strategic risk of impact to our organization based on the above definition (W4.1a) of substancial risk. We assess risks as strategic risks for several reasons:     - most of the sites that have been identified are sites with relatively low production volumes (the 17 sites identified correspond to ~8% of the total production volume of the year 2022). Moreover these sites are not water intensive as they overall represent ~3% of the total Freshwater Intake of the company.</li> </ul>



<ul> <li>- in case of a business disruption e.g. because of water scarcity, we could continue deliver our customers thanks to our numerous production sites around the work and our high capability to react in term of logistic (for most of the sites identified).</li> <li>Nevertheless, our customers often have a high dependency to our supply and a business disruption would result in delays, claims and consequently in reputational damages.</li> <li>Facility is here interpreted as sites/locations where we have</li> </ul>
a production activity.
a production activity.
In order to include projection of future water risks, we have also identified water risks for the time horizon 2050 also using the WWF Water Risk Filter (Pessimistic scenario corresponding to an increase of global mean surface temperature likely to exceed 4°C by the end of the 21st century.) According to this scenario analyse, 21 additional sites would be located in areas with high water related risks. That would represent ~ 32% of our sites, 21% of our current sales volume and 7% of the current Freshwater Intake.

# 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 Brazil Other, please specify

Rio Tiete

#### 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 Less than 1%

#### Comment

Evonik has 17 sites situated in areas of medium to high water risks (physical, reputational or ragulatory risks). We have identified one production site in the Rio Tiete



(Brazil) that is impacted by water risk with the potential to have substantive impact for our operation.

The percentage of our global revenue that could be affected is estimated and depends on a range of factors such as the impact type, magnitude and duration,. However, due to the relatively small production volume of this site, the financial impact to the company's global revenue is expected to be very low. However, it is an important strategic site for Evonik that plays a important role in this region.

#### Country/Area & River basin

Turkey Other, please specify Black Sea

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

Less than 1%

#### Comment

Evonik has 17 sites situated in areas of medium to high water risks (physical, reputational or ragulatory risks). We have identified one production site in the Black Sea (Turkey) that is impacted by water risk with the potential to have substantive impact for our operation.

The percentage of our global revenue that could be affected is estimated and depends on a range of factors such as the impact type, magnitude and duration. However, due to the relatively small production volume of this site, the financial impact to the company's global revenue is expected to be very low. However, it is an important strategic site for Evonik that plays a important role in this region.

#### Country/Area & River basin

Brazil Other, please specify South Atlantic

#### 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



Less than 1%

#### Comment

Evonik has 17 sites situated in areas of medium to high water risks (physical, reputational or regulatory risks). We have identified one production site in the South Atlantic (Brazil) that is impacted by water risk with the potential to have substantive impact for our operation.

The percentage of our global revenue that could be affected is estimated and depends on a range of factors such as the impact type, magnitude and duration. However, due to the relatively small production volume of this site, the financial impact to the company's global revenue is expected to be very low. However, it is an important strategic site for Evonik that plays a important role in this region.

Country/Area & River basin

Brazil Parana

#### 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

Less than 1%

#### Comment

Evonik has 17 sites situated in areas of medium to high water risks (physical, reputational or ragulatory risks). We have identified one production site in Parana (Brazil) that is impacted by water risk with the potential to have substantive impact for our operation.

The percentage of our global revenue that could be affected is estimated and depends on a range of factors such as the impact type, magnitude and duration. However, due to the relatively small production volume of this site, the financial impact to the company's global revenue is expected to be very low. However, it is an important strategic site for Evonik that plays a important role in this region.

#### Country/Area & River basin

China Amur

#### 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

Less than 1%

#### Comment

Evonik has 17 sites situated in areas of medium to high water risks (physical, reputational or ragulatory risks). We have identified one production site in Amur (China) that is impacted by water risk with the potential to have substantive impact for our operation.

The percentage of our global revenue that could be affected is estimated and depends on a range of factors such as the impact type, magnitude and duration. However, due to the relatively small production volume of this site, the financial impact to the company's global revenue is expected to be very low. However, it is an important strategic site for Evonik that plays a important role in this region.

#### Country/Area & River basin

India Other, please specify Arabian Sea

Number of facilities exposed to water risk

#### 2

% company-wide facilities this represents

1-25

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

Less than 1%

#### Comment

Evonik has 17 sites situated in areas of medium to high water risks (physical, reputational or ragulatory risks). We have identified two production sites in Arabian Sea (India) that are impacted by water risk with the potential to have substantive impact for our operation. They represent less than 2% of our company-wide facilities. The percentage of our global revenue that could be affected is estimated and depends on a range of factors such as the impact type, magnitude and duration. However, due to the relatively small production volume of this site, the financial impact to the company's global revenue is expected to be very low. However, it is an important strategic site for Evonik that plays a important role in this region.

#### Country/Area & River basin

United States of America Other, please specify Arkansas & White 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

Less than 1%

#### Comment

Evonik has 17 sites situated in areas of medium to high water risks (physical, reputational or ragulatory risks). We have identified one production site in the USA (Arkansas and White River) that is impacted by water risk with the potential to have substantive impact for our operation.

The percentage of our global revenue that could be affected is estimated and depends on a range of factors such as the impact type, magnitude and duration. However, due to the relatively small production volume of this site, the financial impact to the company's global revenue is expected to be very low. However, it is an important strategic site for Evonik that plays a important role in this region.

#### Country/Area & River basin

United States of America Mississippi River

Number of facilities exposed to water risk

2

#### % company-wide facilities this represents

1-25

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

Less than 1%

#### Comment

Evonik has 17 sites situated in areas of medium to high water risks (physical, reputational or ragulatory risks). We have identified two production sites in the Mississippi River (USA) that are impacted by water risk with the potential to have substantive impact for our operation. They represent less than 2% of our company-wide facilities.

The percentage of our global revenue that could be affected is estimated and depends on a range of factors such as the impact type, magnitude and duration. However, due to the relatively small production volume of this site, the financial impact to the company's global revenue is expected to be very low. However, it is an important strategic site for Evonik that plays a important role in this region.



#### Country/Area & River basin

China Liao He

#### 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

Less than 1%

#### Comment

Evonik has 17 sites situated in areas of medium to high water risks (physical, reputational or ragulatory risks). We have identified one production site in the Liao He (China) that is impacted by water risk with the potential to have substantive impact for our operation.

The percentage of our global revenue that could be affected is estimated and depends on a range of factors such as the impact type, magnitude and duration. However, due to the relatively small production volume of this site, the financial impact to the company's global revenue is expected to be very low. However, it is an important strategic site for Evonik that plays a important role in this region.

#### Country/Area & River basin

China Yangtze River (Chang Jiang)

#### Number of facilities exposed to water risk

1

#### % company-wide facilities this represents

Less than 1%

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

Less than 1%

#### Comment

Evonik has 17 sites situated in areas of medium to high water risks (physical, reputational or ragulatory risks). We have identified one production site in the Yangtze River (China) that is impacted by water risk with the potential to have substantive impact for our operation.

The percentage of our global revenue that could be affected is estimated and depends on a range of factors such as the impact type, magnitude and duration. However, due to the relatively small production volume of this site, the financial impact to the company's global revenue is expected to be very low. However, it is an important strategic site for Evonik that plays a important role in this region.



#### Country/Area & River basin

China Huang He (Yellow River)

#### Number of facilities exposed to water risk

2

#### % company-wide facilities this represents

1-25

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

Less than 1%

#### Comment

Evonik has 17 sites situated in areas of medium to high water risks (physical, reputational or ragulatory risks). We have identified two production sites in the Huang He (China) that are impacted by water risk with the potential to have substantive impact for our operation. They represent less than 2% of our company-wide facilities. The percentage of our global revenue that could be affected is estimated and depends on a range of factors such as the impact type, magnitude and duration. However, due to the relatively small production volume of this site, the financial impact to the company's global revenue is expected to be very low. However, it is an important strategic site for Evonik that plays a important role in this region.

#### Country/Area & River basin

France Loire

#### 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

Less than 1%

#### Comment

Evonik has 17 sites situated in areas of medium to high water risks (physical, reputational or ragulatory risks). We have identified one production site in the Loire (France) that is impacted by water risk with the potential to have substantive impact for our operation.

The percentage of our global revenue that could be affected is estimated and depends on a range of factors such as the impact type, magnitude and duration. However, due to the relatively small production volume of this site, the financial impact to the company's



global revenue is expected to be very low. However, it is an important strategic site for Evonik that plays a important role in this region.

Country/Area & River basin

United States of America Other, please specify North Pacific

#### 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

Less than 1%

#### Comment

Evonik has 17 sites situated in areas of medium to high water risks (physical, reputational or ragulatory risks). We have identified one production site in the North Pacific (USA) that is impacted by water risk with the potential to have substantive impact for our operation.

The percentage of our global revenue that could be affected is estimated and depends on a range of factors such as the impact type, magnitude and duration. However, due to the relatively small production volume of this site, the financial impact to the company's global revenue is expected to be very low. However, it is an important strategic site for Evonik that plays a important role in this region.

#### Country/Area & River basin

South Africa Other, please specify Indian Ocean

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

Less than 1%

#### Comment

Evonik has 17 sites situated in areas of medium to high water risks (physical, reputational or ragulatory risks). We have identified one production site in the Indian Ocean (South Africa) that is impacted by water risk with the potential to have



substantive impact for our operation.

The percentage of our global revenue that could be affected is estimated and depends on a range of factors such as the impact type, magnitude and duration. However, due to the relatively small production volume of this site, the financial impact to the company's global revenue is expected to be very low. However, it is an important strategic site for Evonik that plays a important role in this region.

#### Country/Area & River basin

United States of America Other, please specify Gulf of Mexico

Number of facilities exposed to water risk 2

% company-wide facilities this represents

Less than 1%

% company's total global revenue that could be affected

Less than 1%

#### Comment

Evonik has 4 additional sites situated in areas having a high physical water risk. We have identified two production site in the Gulf of Mexico (US) that is impacted by physical water risk with the potential to have substantive impact for our operation. The percentage of our global revenue that could be affected is estimated and depends on a range of factors such as the impact type, magnitude and duration. However, due to the relatively small production volume of this site, the financial impact to the company's global revenue is expected to be very low. However, it is an important strategic site for Evonik that plays an important role in this region.

#### Country/Area & River basin

Spain Ebro

Number of facilities exposed to water risk

2

#### % company-wide facilities this represents

Less than 1%

% company's total global revenue that could be affected Less than 1%

#### Comment



Evonik has 4 additional sites situated in areas having a high physical water risk. We have identified two production site in the EBro (Spain) that is impacted by physical water risk with the potential to have substantive impact for our operation.

The percentage of our global revenue that could be affected is estimated and depends on a range of factors such as the impact type, magnitude and duration. However, due to the relatively small production volume of this site, the financial impact to the company's global revenue is expected to be very low. However, it is an important strategic site for Evonik that plays an important role in this region.

### 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

Brazil Other, please specify Rio Tiete

#### Type of risk & Primary risk driver

Acute physical Flood (coastal, fluvial, pluvial, groundwater)

#### Primary potential impact

Disruption to sales

#### **Company-specific description**

Based on the analysis performed with the WWF Water Risk Filter, the site located in the Rio Tiete in Brazil presents an imporant risk regarding to flooding. In addition, the reputational risk is also rated as high. Those risks are expected to increase in the scenario 2050.

SITUATION: Evonik is exposed to water risk downstream (affecting the demand of our customers), in direct operation and in our supply chain (higher cost of raw materials affected by flooding). Here we only address the risks related to direct operation. TARGET: Make direct operation risks exposure visible, understand the financial impact and cost for risk mitigation.

ACTION: Sites in areas of water risks have been identified with the WWF Water Risk Filter for now and for a 2050 time horizon (using the pessimistic scenario (increase of global mean surface temperature likely to exceed  $4^{\circ}$ )). Water stress sites are those having a water index > 3.2 (i.e. medium-high to extreme). Flooding is one important parameter of the physical risk category.

#### RESULT:



We have assessed the following risks to direct operation

- Production capacity can be affected by limitations of cooling water and waste water discharge in location with water quality and water scarcity challenges, as both worsens at elevated temperatures and drought and leads to the curtailment of industrial users, before consumers and agriculture are severely affected.

- Production capacity can also be affected by flooding due to the interuption of business activities for a certain time.

#### Timeframe

1-3 years

#### Magnitude of potential impact

Medium-high

#### Likelihood

More likely than not

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

No, we do not have this figure

#### Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

#### Potential financial impact figure - maximum (currency)

#### **Explanation of financial impact**

Flooding could cause a business and consequently sales disruption. and loss of contribution margin, either via higher cost or reduced capacity. The overall financial impact for the whole company is expected to be very low due to our capacity to adapt our logistic, delivering our customers with chemicals from another region/site. However, this would result in delays and eventually brand damages depending of the duration and frequency of flooding events.

The WWF Water Risk Filter has allowed us to identify our sites with the higher water risks and helps us the gain enough clarity to understand the relevance of risks. However, we do not have quantitative data yet on the precise financial impact resulting from water risks at the site level. If physical risks can easility be quantified with rough approximation, the estimation of the financial impact from regulatory and reputational risk is more challenging. We are working on this quantification as well as on a good approach for monetizing water risks. We also intend to use other tools (e.g. Swiss Re Tool) for a more detailed analyse of risks at the site level.

#### Primary response to risk

Develop flood emergency plans

#### **Description of response**



#### Cost of response

#### Explanation of cost of response

#### Country/Area & River basin

Turkey Other, please specify Black sea

#### Type of risk & Primary risk driver

Chronic physical Ecosystem vulnerability

#### Primary potential impact

Increased operating costs

#### **Company-specific description**

Based on the analysis performed with the WWF Water Risk Filter, the site located in the water basin Black Sea in Turkey presents an imporant risk regarding the status of ecosystem services . In addition, the risk regarded to water quality is estimated as high. Those risks are expected to increase in the scenario 2050.

SITUATION: Evonik is exposed to water risk downstream (affecting the demand of our customers), in direct operation and in our supply chain (higher cost of raw materials affected by flooding). Here we only address the risks related to direct operation. TARGET: Make direct operation risks exposure visible, understand the financial impact and cost for risk mitigation.

ACTION: Sites in areas of water risks have been identified with the WWF Water Risk Filter for now and for a 2050 time horizon (using the pessimistic scenario (increase of global mean surface temperature likely to exceed 4° )). Water stress sites are those having a water index > 3.2 (i.e. medium-high to high). Status of ecosystem services is one important parameter of the physical risk category. The category "status of ecosystem services" is informed by indicators of fragmentation status of river; catchment degradation (i.e. forest loss, as forests play an important role in terms of water regulation, supply and pollution control); and projected change in freshwater fish extinction). The degradation of ecosystems can result in businesses having restricted access in the long-term to the quantity and quality of water needed for their activities as well as other ecosystem services they rely on.

Even if a high risk is present regarded to "water quality" we do not expect it to have a substancial effect. Indeed water is mostly used for cooling purpose and does not need to have a certain quality. Where a certain quality is needed, there is an existing system for purifying water before use anyway.



#### RESULT:

We have assessed the following risks to direct operation

- Production capacity can be affected by limitations of cooling water and waste water discharge in location with water quality and water scarcity challenges, as both worsens at elevated temperatures and drought and leads to the curtailment of industrial users, before consumers and agriculture are severely affected.

- Production capacity can also be affected by flooding due to the interuption of business activities for a certain time.

#### Timeframe

1-3 years

#### Magnitude of potential impact

Medium-high

#### Likelihood

More likely than not

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

No, we do not have this figure

#### Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

#### Potential financial impact figure - maximum (currency)

#### **Explanation of financial impact**

The status of ecosystem services could cause a business restriction and consequently sales disruption. and loss of contribution margin, either via higher cost or reduced capacity. The overall financial impact for the whole company is expected to be very low due to our capacity to adapt our logistic, delivering our customers with chemicals from another region/site. However, this would result in delays and eventually brand damages depending of the duration and frequency of restrictions.

The WWF Water Risk Filter has allowed us to identify our sites with the higher water risks and helps us the gain enough clarity to understand the relevance of risks. However, we do not have quantitative data yet on the precise financial impact resulting from water risks at the site level. If physical risks can easility be quantified with rough approximation, the estimation of the financial impact from regulatory and reputational risk is more challenging. We are working on this quantification as well as on a good approach for monetizing water risks. We also intend to use other tools (e.g. Swiss Re Tool) for a more detailed analyse of risks at the site level.

#### Primary response to risk

Adopt water efficiency, water reuse, recycling and conservation practices



#### **Description of response**

Cost of response

#### Explanation of cost of response

Country/Area & River basin

Brazil Other, please specify south Atlantic

#### Type of risk & Primary risk driver

Reputation & markets Changes in consumer behavior

#### Primary potential impact

Brand damage

#### **Company-specific description**

Based on the analysis performed with the WWF Water Risk Filter, the site located in the water basin South Atlantic in Brazil presents an important reputational risk. Those risks are expected to increase in the scenario 2050.

SITUATION: Evonik is exposed to water risk downstream (affecting the demand of our customers), in direct operation and in our supply chain (higher cost of raw materials affected by flooding). Here we only address the risks related to direct operation. TARGET: Make direct operation risks exposure visible, understand the financial impact and cost for risk mitigation.

ACTION: Sites in areas of water risks have been identified with the WWF Water Risk Filter for now and for a 2050 time horizon (using the pessimistic scenario (increase of global mean surface temperature likely to exceed 4° )). Water stress sites are those having an overall index > 3.2 (i.e. medium-high to high). Reputational risk is an important risk category that represents stakeholders' and local communities' perceptions on whether companies conduct business sustainably or responsibly with respect to water. It comprises four risk categories: cultural importance of water to local communities, freshwater biodiversity importance, media crutiny/coverage of waterrelated issues, and risk of hydro-political conflicts in the river basins.

#### RESULT:

We have assessed the following risks to direct operation

- Production capacity can be affected by limitations of cooling water and waste water discharge in location with water quality and water scarcity challenges, as both worsens at elevated temperatures and drought and leads to the curtailment of industrial users,



before consumers and agriculture are severely affected.

- Production capacity can also be affected by flooding due to the interuption of business activities for a certain time.

#### Timeframe

1-3 years

#### Magnitude of potential impact

Medium-high

#### Likelihood

More likely than not

Are you able to provide a potential financial impact figure? No, we do not have this figure

#### Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

#### Potential financial impact figure - maximum (currency)

#### **Explanation of financial impact**

Reputational risks could cause brand damages and consequently loss of contribution margin, The overall financial impact for the whole company is expected to be very low due to the small volume produced at this site.

The WWF Water Risk Filter has allowed us to identify our sites with the higher water risks and helps us the gain enough clarity to understand the relevance of risks. However, we do not have quantitative data yet on the precise financial impact resulting from water risks at the site level. If physical risks can easility be quantified with rough approximation, the estimation of the financial impact from regulatory and reputational risk is more challenging. We are working on this quantification as well as on a good approach for monetizing water risks. We also intend to use other tools (e.g. Swiss Re Tool) for a more detailed analyse of risks at the site level.

#### Primary response to risk

Comply with local regulatory requirements

#### **Description of response**

#### Cost of response

#### Explanation of cost of response



#### Country/Area & River basin

Brazil Parana

#### Type of risk & Primary risk driver

Acute physical Flood (coastal, fluvial, pluvial, groundwater)

#### Primary potential impact

Disruption to sales

#### **Company-specific description**

Based on the analysis performed with the WWF Water Risk Filter, the site located in Parana in Brazil presents an imporant risk regarding to flooding. In addition, the reputational risk is also rated as high. Those risks are expected to increase in the scenario 2050.

SITUATION: Evonik is exposed to water risk downstream (affecting the demand of our customers), in direct operation and in our supply chain (higher cost of raw materials affected by flooding). Here we only address the risks related to direct operation. TARGET: Make direct operation risks exposure visible, understand the financial impact and cost for risk mitigation.

ACTION: Sites in areas of water risks have been identified with the WWF Water Risk Filter for now and for a 2050 time horizon (using the pessimistic scenario (increase of global mean surface temperature likely to exceed  $4^{\circ}$ )). Water stress sites are those having a water index > 3.2 (i.e. medium-high to extreme). Flooding is one important parameter of the physical risk category.

#### RESULT:

We have assessed the following risks to direct operation

- Production capacity can be affected by limitations of cooling water and waste water discharge in location with water quality and water scarcity challenges, as both worsens at elevated temperatures and drought and leads to the curtailment of industrial users, before consumers and agriculture are severely affected.

- Production capacity can also be affected by flooding due to the interuption of business activities for a certain time.

#### Timeframe

1-3 years

#### Magnitude of potential impact

Medium-high

#### Likelihood

More likely than not



#### Are you able to provide a potential financial impact figure? No, we do not have this figure

#### Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

#### Potential financial impact figure - maximum (currency)

#### **Explanation of financial impact**

Flooding could cause a business and consequently sales disruption. and loss of contribution margin, either via higher cost or reduced capacity. The overall financial impact for the whole company is expected to be very low due to our capacity to adapt our logistic, delivering our customers with chemicals from another region/site. However, this would result in delays and eventually brand damages depending of the duration and frequency of flooding events.

The WWF Water Risk Filter has allowed us to identify our sites with the higher water risks and helps us the gain enough clarity to understand the relevance of risks. However, we do not have quantitative data yet on the precise financial impact resulting from water risks at the site level. If physical risks can easility be quantified with rough approximation, the estimation of the financial impact from regulatory and reputational risk is more challenging. We are working on this quantification as well as on a good approach for monetizing water risks. We also intend to use other tools (e.g. Swiss Re Tool) for a more detailed analyse of risks at the site level.

#### Primary response to risk

Develop flood emergency plans

#### **Description of response**

#### **Cost of response**

#### **Explanation of cost of response**

#### Country/Area & River basin

China Amur

#### Type of risk & Primary risk driver

Reputation & markets Changes in consumer behavior



#### **Primary potential impact**

Brand damage

#### **Company-specific description**

Based on the analysis performed with the WWF Water Risk Filter, the site located in the water basin Amur in China presents an imporant reputational risk. Those risks are expected to increase in the scenario 2050.

SITUATION: Evonik is exposed to water risk downstream (affecting the demand of our customers), in direct operation and in our supply chain (higher cost of raw materials affected by flooding). Here we only address the risks related to direct operation. TARGET: Make direct operation risks exposure visible, understand the financial impact and cost for risk mitigation.

ACTION: Sites in areas of water risks have been identified with the WWF Water Risk Filter for now and for a 2050 time horizon (using the pessimistic scenario (increase of global mean surface temperature likely to exceed 4° )). Water stress sites are those having an overall index > 3.2 (i.e. medium-high to high). Reputational risk is an important risk category that represents stakeholders' and local communities' perceptions on whether companies conduct business sustainably or responsibly with respect to water. It comprises four risk categories: cultural importance of water to local communities, freshwater biodiversity importance, media crutiny/coverage of waterrelated issues, and risk of hydro-political conflicts in the river basins.

#### RESULT:

We have assessed the following risks to direct operation

- Production capacity can be affected by limitations of cooling water and waste water discharge in location with water quality and water scarcity challenges, as both worsens at elevated temperatures and drought and leads to the curtailment of industrial users, before consumers and agriculture are severely affected.

- Production capacity can also be affected by flooding due to the interuption of business activities for a certain time.

#### Timeframe

1-3 years

#### Magnitude of potential impact

Medium-high

#### Likelihood

More likely than not

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

No, we do not have this figure

#### Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)



#### Potential financial impact figure - maximum (currency)

#### **Explanation of financial impact**

Reputational risks could cause brand damages and consequently loss of contribution margin, The overall financial impact for the whole company is expected to be very low due to the small volume produced at this site.

The WWF Water Risk Filter has allowed us to identify our sites with the higher water risks and helps us the gain enough clarity to understand the relevance of risks. However, we do not have quantitative data yet on the precise financial impact resulting from water risks at the site level. If physical risks can easility be quantified with rough approximation, the estimation of the financial impact from regulatory and reputational risk is more challenging. We are working on this quantification as well as on a good approach for monetizing water risks. We also intend to use other tools (e.g. Swiss Re Tool) for a more detailed analyse of risks at the site level.

#### Primary response to risk

Comply with local regulatory requirements

#### **Description of response**

#### **Cost of response**

#### **Explanation of cost of response**

Country/Area & River basin

India Other, please specify Arabian sea

#### Type of risk & Primary risk driver

Chronic physical Water scarcity

#### Primary potential impact

Disruption to sales

#### **Company-specific description**

Based on the analysis performed with the WWF Water Risk Filter,our site located in the water basin "Arabian Sea" in India present an important risk regarding to water scarcity. In addition, the reputational risk is also rated as high. Those risks are expected to increase in the scenario 2050.



SITUATION: Evonik is exposed to water risk downstream (affecting the demand of our customers), in direct operation and in our supply chain (higher cost of raw materials affected by flooding). Here we only address the risks related to direct operation. TARGET: Make direct operation risks exposure visible, understand the financial impact and cost for risk mitigation.

ACTION: Sites in areas of water risks have been identified with the WWF Water Risk Filter for now and for a 2050 time horizon (using the pessimistic scenario (increase of global mean surface temperature likely to exceed  $4^{\circ}$ )). Water stress sites are those having a water index > 3.2 (i.e. medium-high to extreme). Water Scarcity is one important parameter of the physical risk category.

#### RESULT:

We have assessed the following risks to direct operation

- Production capacity can be affected by limitations of cooling water and waste water discharge in location with water quality and water scarcity challenges, as both worsens at elevated temperatures and drought and leads to the curtailment of industrial users, before consumers and agriculture are severely affected.

- Production capacity can also be affected by flooding due to the interuption of business activities for a certain time.

#### Timeframe

1-3 years

#### Magnitude of potential impact

Medium-high

#### Likelihood

More likely than not

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

No, we do not have this figure

#### Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

#### Potential financial impact figure - maximum (currency)

#### **Explanation of financial impact**

Water scarcity could cause a business and consequently sales disruption. and loss of contribution margin, either via higher cost or reduced capacity. The overall financial impact for the whole company is expected to be very low due to our capacity to adapt our logistic, delivering our customers with chemicals from another region/site. However, this would result in delays and eventually brand damages depending of the duration and frequency of scarcity events.

The WWF Water Risk Filter has allowed us to identify our sites with the higher water



risks and helps us the gain enough clarity to understand the relevance of risks. However, we do not have quantitative data yet on the precise financial impact resulting from water risks at the site level. If physical risks can easility be quantified with rough approximation, the estimation of the financial impact from regulatory and reputational risk is more challenging. We are working on this quantification as well as on a good approach for monetizing water risks. We also intend to use other tools (e.g. Swiss Re Tool) for a more detailed analyse of risks at the site level.

#### Primary response to risk

Develop flood emergency plans

#### **Description of response**

Cost of response

#### Explanation of cost of response

#### Country/Area & River basin

United States of America Other, please specify Arkansas and white river

#### Type of risk & Primary risk driver

Acute physical Flood (coastal, fluvial, pluvial, groundwater)

#### **Primary potential impact**

Disruption to sales

#### **Company-specific description**

Based on the analysis performed with the WWF Water Risk Filter, the site located in the water basin "Arabian sea" in India presents an imporant risk regarding to flooding. In addition, the reputational risk is also rated as high. Those risks are expected to increase in the scenario 2050.

SITUATION: Evonik is exposed to water risk downstream (affecting the demand of our customers), in direct operation and in our supply chain (higher cost of raw materials affected by flooding). Here we only address the risks related to direct operation. TARGET: Make direct operation risks exposure visible, understand the financial impact and cost for risk mitigation.

ACTION: Sites in areas of water risks have been identified with the WWF Water Risk Filter for now and for a 2050 time horizon (using the pessimistic scenario (increase of global mean surface temperature likely to exceed  $4^{\circ}$ )). Water stress sites are those having a water index > 3.2 (i.e. medium-high to extreme). Flooding is one important



parameter of the physical risk category.

RESULT:

We have assessed the following risks to direct operation

- Production capacity can be affected by limitations of cooling water and waste water discharge in location with water quality and water scarcity challenges, as both worsens at elevated temperatures and drought and leads to the curtailment of industrial users, before consumers and agriculture are severely affected.

- Production capacity can also be affected by flooding due to the interuption of business activities for a certain time.

#### Timeframe

1-3 years

Magnitude of potential impact Medium-high

# Likelihood

More likely than not

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

#### Potential financial impact figure - maximum (currency)

#### **Explanation of financial impact**

Flooding could cause a business and consequently sales disruption. and loss of contribution margin, either via higher cost or reduced capacity. The overall financial impact for the whole company is expected to be very low due to our capacity to adapt our logistic, delivering our customers with chemicals from another region/site. However, this would result in delays and eventually brand damages depending of the duration and frequency of flooding events.

The WWF Water Risk Filter has allowed us to identify our sites with the higher water risks and helps us the gain enough clarity to understand the relevance of risks. However, we do not have quantitative data yet on the precise financial impact resulting from water risks at the site level. If physical risks can easility be quantified with rough approximation, the estimation of the financial impact from regulatory and reputational risk is more challenging. We are working on this quantification as well as on a good approach for monetizing water risks. We also intend to use other tools (e.g. Swiss Re Tool) for a more detailed analyse of risks at the site level.

#### Primary response to risk



Develop flood emergency plans

#### **Description of response**

**Cost of response** 

#### Explanation of cost of response

Country/Area & River basin China Liao He

#### Type of risk & Primary risk driver

Chronic physical Ecosystem vulnerability

#### **Primary potential impact**

Increased production costs

#### **Company-specific description**

Based on the analysis performed with the WWF Water Risk Filter, the site located in the water basin Liao He in China presents an imporant risk regarding the status of ecosystem services . In addition, the risk regarded to water quality is estimated as high. Those risks are expected to increase in the scenario 2050.

SITUATION: Evonik is exposed to water risk downstream (affecting the demand of our customers), in direct operation and in our supply chain (higher cost of raw materials affected by flooding). Here we only address the risks related to direct operation. TARGET: Make direct operation risks exposure visible, understand the financial impact and cost for risk mitigation.

ACTION: Sites in areas of water risks have been identified with the WWF Water Risk Filter for now and for a 2050 time horizon (using the pessimistic scenario (increase of global mean surface temperature likely to exceed 4° )). Water stress sites are those having a water index > 3.2 (i.e. medium-high to high). Status of ecosystem services is one important parameter of the physical risk category. The category "status of ecosystem services" is informed by indicators of fragmentation status of river; catchment degradation (i.e. forest loss, as forests play an important role in terms of water regulation, supply and pollution control); and projected change in freshwater fish extinction). The degradation of ecosystems can result in businesses having restricted access in the long-term to the quantity and quality of water needed for their activities as well as other ecosystem services they rely on.

Even if a high risk is present regarded to "water quality" we do not expect it to have a substancial effect. Indeed water is mostly used for cooling purpose and does not need to have a certain quality. Where a certain quality is needed, there is an existing system



for purifying water before use anyway.

RESULT:

We have assessed the following risks to direct operation

- Production capacity can be affected by limitations of cooling water and waste water discharge in location with water quality and water scarcity challenges, as both worsens at elevated temperatures and drought and leads to the curtailment of industrial users, before consumers and agriculture are severely affected.

- Production capacity can also be affected by flooding due to the interuption of business activities for a certain time.

#### Timeframe

1-3 years

Magnitude of potential impact Medium-high

#### Likelihood

More likely than not

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

#### Potential financial impact figure - maximum (currency)

#### **Explanation of financial impact**

The status of ecosystem services could cause a business restriction and consequently sales disruption. and loss of contribution margin, either via higher cost or reduced capacity. The overall financial impact for the whole company is expected to be very low due to our capacity to adapt our logistic, delivering our customers with chemicals from another region/site. However, this would result in delays and eventually brand damages depending of the duration and frequency of restrictions.

The WWF Water Risk Filter has allowed us to identify our sites with the higher water risks and helps us the gain enough clarity to understand the relevance of risks. However, we do not have quantitative data yet on the precise financial impact resulting from water risks at the site level. If physical risks can easility be quantified with rough approximation, the estimation of the financial impact from regulatory and reputational risk is more challenging. We are working on this quantification as well as on a good approach for monetizing water risks. We also intend to use other tools (e.g. Swiss Re Tool) for a more detailed analyse of risks at the site level.

#### Primary response to risk



Adopt water efficiency, water reuse, recycling and conservation practices

#### **Description of response**

**Cost of response** 

#### Explanation of cost of response

Country/Area & River basin

United States of America Mississippi River

#### Type of risk & Primary risk driver

Acute physical Flood (coastal, fluvial, pluvial, groundwater)

#### Primary potential impact

Disruption to sales

#### **Company-specific description**

Based on the analysis performed with the WWF Water Risk Filter, two sites located in the water basin "Mississippi River" in the USA presents an imporant risk regarding to flooding. In addition, the reputational risk is also rated as high. Those risks are expected to increase in the scenario 2050.

SITUATION: Evonik is exposed to water risk downstream (affecting the demand of our customers), in direct operation and in our supply chain (higher cost of raw materials affected by flooding). Here we only address the risks related to direct operation. TARGET: Make direct operation risks exposure visible, understand the financial impact and cost for risk mitigation.

ACTION: Sites in areas of water risks have been identified with the WWF Water Risk Filter for now and for a 2050 time horizon (using the pessimistic scenario (increase of global mean surface temperature likely to exceed  $4^{\circ}$ )). Water stress sites are those having a water index > 3.2 (i.e. medium-high to extreme). Flooding is one important parameter of the physical risk category.

#### RESULT:

We have assessed the following risks to direct operation

- Production capacity can be affected by limitations of cooling water and waste water discharge in location with water quality and water scarcity challenges, as both worsens at elevated temperatures and drought and leads to the curtailment of industrial users, before consumers and agriculture are severely affected.

- Production capacity can also be affected by flooding due to the interuption of business activities for a certain time.



#### Timeframe

1-3 years

## Magnitude of potential impact

Medium-high

Likelihood More likely than not

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

No, we do not have this figure

## Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

## Potential financial impact figure - maximum (currency)

## **Explanation of financial impact**

Flooding could cause a business and consequently sales disruption. and loss of contribution margin, either via higher cost or reduced capacity. The overall financial impact for the whole company is expected to be very low due to our capacity to adapt our logistic, delivering our customers with chemicals from another region/site. However, this would result in delays and eventually brand damages depending of the duration and frequency of flooding events.

The WWF Water Risk Filter has allowed us to identify our sites with the higher water risks and helps us the gain enough clarity to understand the relevance of risks. However, we do not have quantitative data yet on the precise financial impact resulting from water risks at the site level. If physical risks can easility be quantified with rough approximation, the estimation of the financial impact from regulatory and reputational risk is more challenging. We are working on this quantification as well as on a good approach for monetizing water risks. We also intend to use other tools (e.g. Swiss Re Tool) for a more detailed analyse of risks at the site level.

#### Primary response to risk

Develop flood emergency plans

#### **Description of response**

Cost of response

#### **Explanation of cost of response**



#### Country/Area & River basin

China Yangtze River (Chang Jiang)

#### Type of risk & Primary risk driver

Acute physical Flood (coastal, fluvial, pluvial, groundwater)

#### **Primary potential impact**

Disruption to sales

#### **Company-specific description**

Based on the analysis performed with the WWF Water Risk Filter, the site located in the water basin "Yangtze River" in China presents an imporant risk regarding to flooding. In addition, the reputational risk is also rated as high. Those risks are expected to increase in the scenario 2050.

SITUATION: Evonik is exposed to water risk downstream (affecting the demand of our customers), in direct operation and in our supply chain (higher cost of raw materials affected by flooding). Here we only address the risks related to direct operation. TARGET: Make direct operation risks exposure visible, understand the financial impact and cost for risk mitigation.

ACTION: Sites in areas of water risks have been identified with the WWF Water Risk Filter for now and for a 2050 time horizon (using the pessimistic scenario (increase of global mean surface temperature likely to exceed  $4^{\circ}$ )). Water stress sites are those having a water index > 3.2 (i.e. medium-high to extreme). Flooding is one important parameter of the physical risk category.

#### RESULT:

We have assessed the following risks to direct operation

- Production capacity can be affected by limitations of cooling water and waste water discharge in location with water quality and water scarcity challenges, as both worsens at elevated temperatures and drought and leads to the curtailment of industrial users, before consumers and agriculture are severely affected.

- Production capacity can also be affected by flooding due to the interuption of business activities for a certain time.

#### Timeframe

1-3 years

#### Magnitude of potential impact

Medium-high

#### Likelihood

More likely than not

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

No, we do not have this figure



#### Potential financial impact figure (currency)

#### Potential financial impact figure - minimum (currency)

#### Potential financial impact figure - maximum (currency)

#### **Explanation of financial impact**

Flooding could cause a business and consequently sales disruption. and loss of contribution margin, either via higher cost or reduced capacity. The overall financial impact for the whole company is expected to be very low due to our capacity to adapt our logistic, delivering our customers with chemicals from another region/site. However, this would result in delays and eventually brand damages depending of the duration and frequency of flooding events.

The WWF Water Risk Filter has allowed us to identify our sites with the higher water risks and helps us the gain enough clarity to understand the relevance of risks. However, we do not have quantitative data yet on the precise financial impact resulting from water risks at the site level. If physical risks can easility be quantified with rough approximation, the estimation of the financial impact from regulatory and reputational risk is more challenging. We are working on this quantification as well as on a good approach for monetizing water risks. We also intend to use other tools (e.g. Swiss Re Tool) for a more detailed analyse of risks at the site level.

#### Primary response to risk

Develop flood emergency plans

#### **Description of response**

**Cost of response** 

#### Explanation of cost of response

#### Country/Area & River basin

China Huang He (Yellow River)

#### Type of risk & Primary risk driver

Chronic physical Water scarcity

#### Primary potential impact

Disruption to sales



#### **Company-specific description**

Based on the analysis performed with the WWF Water Risk Filter, two sites located in the water basin "Yellow River" in China present an imporant risk regarding to water scarcity. In addition, the reputational risk is also rated as high. Those risks are expected to increase in the scenario 2050.

SITUATION: Evonik is exposed to water risk downstream (affecting the demand of our customers), in direct operation and in our supply chain (higher cost of raw materials affected by flooding). Here we only address the risks related to direct operation. TARGET: Make direct operation risks exposure visible, understand the financial impact and cost for risk mitigation.

ACTION: Sites in areas of water risks have been identified with the WWF Water Risk Filter for now and for a 2050 time horizon (using the pessimistic scenario (increase of global mean surface temperature likely to exceed  $4^{\circ}$ )). Water stress sites are those having a water index > 3.2 (i.e. medium-high to extreme). Water Scarcity is one important parameter of the physical risk category.

#### RESULT:

We have assessed the following risks to direct operation

- Production capacity can be affected by limitations of cooling water and waste water discharge in location with water quality and water scarcity challenges, as both worsens at elevated temperatures and drought and leads to the curtailment of industrial users, before consumers and agriculture are severely affected.

- Production capacity can also be affected by flooding due to the interuption of business activities for a certain time.

#### Timeframe

1-3 years

#### Magnitude of potential impact

Medium-high

#### Likelihood

More likely than not

Are you able to provide a potential financial impact figure?

No, we do not have this figure

#### Potential financial impact figure (currency)

#### Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

#### **Explanation of financial impact**



Water scarcity could cause a business and consequently sales disruption. and loss of contribution margin, either via higher cost or reduced capacity. The overall financial impact for the whole company is expected to be very low due to our capacity to adapt our logistic, delivering our customers with chemicals from another region/site. However, this would result in delays and eventually brand damages depending of the duration and frequency of scarcity events.

The WWF Water Risk Filter has allowed us to identify our sites with the higher water risks and helps us the gain enough clarity to understand the relevance of risks. However, we do not have quantitative data yet on the precise financial impact resulting from water risks at the site level. If physical risks can easility be quantified with rough approximation, the estimation of the financial impact from regulatory and reputational risk is more challenging. We are working on this quantification as well as on a good approach for monetizing water risks. We also intend to use other tools (e.g. Swiss Re Tool) for a more detailed analyse of risks at the site level.

#### Primary response to risk

Secure alternative water supply

#### **Description of response**

Cost of response

Explanation of cost of response

#### Country/Area & River basin

France Loire

#### Type of risk & Primary risk driver

Chronic physical Ecosystem vulnerability

#### **Primary potential impact**

Brand damage

#### **Company-specific description**

Based on the analysis performed with the WWF Water Risk Filter, the site located in the water basin Loire in France presents an important risk regarding the status of ecosystem services . In addition, the risk regarded to water quality is estimated as high. Those risks are expected to increase in the scenario 2050.

SITUATION: Evonik is exposed to water risk downstream (affecting the demand of our customers), in direct operation and in our supply chain (higher cost of raw materials affected by flooding). Here we only address the risks related to direct operation.



TARGET: Make direct operation risks exposure visible, understand the financial impact and cost for risk mitigation.

ACTION: Sites in areas of water risks have been identified with the WWF Water Risk Filter for now and for a 2050 time horizon (using the pessimistic scenario (increase of global mean surface temperature likely to exceed 4° )). Water stress sites are those having a water index > 3.2 (i.e. medium-high to high). Status of ecosystem services is one important parameter of the physical risk category. The category "status of ecosystem services" is informed by indicators of fragmentation status of river; catchment degradation (i.e. forest loss, as forests play an important role in terms of water regulation, supply and pollution control); and projected change in freshwater fish extinction). The degradation of ecosystems can result in businesses having restricted access in the long-term to the quantity and quality of water needed for their activities as well as other ecosystem services they rely on.

Even if a high risk is present regarded to "water quality" we do not expect it to have a substancial effect. Indeed water is mostly used for cooling purpose and does not need to have a certain quality. Where a certain quality is needed, there is an existing system for purifying water before use anyway.

#### RESULT:

We have assessed the following risks to direct operation

- Production capacity can be affected by limitations of cooling water and waste water discharge in location with water quality and water scarcity challenges, as both worsens at elevated temperatures and drought and leads to the curtailment of industrial users, before consumers and agriculture are severely affected.

- Production capacity can also be affected by flooding due to the interuption of business activities for a certain time.

#### Timeframe

1-3 years

#### Magnitude of potential impact

Medium-high

#### Likelihood

More likely than not

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

No, we do not have this figure

#### Potential financial impact figure (currency)

#### Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

**Explanation of financial impact** 



The status of ecosystem services could cause a business restriction and consequently sales disruption. and loss of contribution margin, either via higher cost or reduced capacity. The overall financial impact for the whole company is expected to be very low due to to the low amount of sales volume at this site. However, chemicals produced at this site are very specific so that customers could not be delivered with same chemicals from another location. A disruption would result in delays and eventually brand damages depending of the duration and frequency of restrictions.

The WWF Water Risk Filter has allowed us to identify our sites with the higher water risks and helps us the gain enough clarity to understand the relevance of risks. However, we do not have quantitative data yet on the precise financial impact resulting from water risks at the site level. If physical risks can easility be quantified with rough approximation, the estimation of the financial impact from regulatory and reputational risk is more challenging. We are working on this quantification as well as on a good approach for monetizing water risks. We also intend to use other tools (e.g. Swiss Re Tool) for a more detailed analyse of risks at the site level.

#### Primary response to risk

Adopt water efficiency, water reuse, recycling and conservation practices

#### **Description of response**

#### Cost of response

#### **Explanation of cost of response**

#### Country/Area & River basin

South Africa Other, please specify Indian ocean

#### Type of risk & Primary risk driver

Acute physical Flood (coastal, fluvial, pluvial, groundwater)

#### **Primary potential impact**

Disruption to sales

#### **Company-specific description**

Based on the analysis performed with the WWF Water Risk Filter, the site located in the water basin "Indian Ocean" in South Africa presents an imporant risk regarding to flooding. In addition, the reputational risk is also rated as high. Those risks are expected to increase in the scenario 2050.

SITUATION: Evonik is exposed to water risk downstream (affecting the demand of our



customers), in direct operation and in our supply chain (higher cost of raw materials affected by flooding). Here we only address the risks related to direct operation. TARGET: Make direct operation risks exposure visible, understand the financial impact and cost for risk mitigation.

ACTION: Sites in areas of water risks have been identified with the WWF Water Risk Filter for now and for a 2050 time horizon (using the pessimistic scenario (increase of global mean surface temperature likely to exceed  $4^{\circ}$ )). Water stress sites are those having a water index > 3.2 (i.e. medium-high to extreme). Flooding is one important parameter of the physical risk category.

#### RESULT:

We have assessed the following risks to direct operation

- Production capacity can be affected by limitations of cooling water and waste water discharge in location with water quality and water scarcity challenges, as both worsens at elevated temperatures and drought and leads to the curtailment of industrial users, before consumers and agriculture are severely affected.

- Production capacity can also be affected by flooding due to the interuption of business activities for a certain time.

#### Timeframe

1-3 years

#### Magnitude of potential impact

Medium-high

#### Likelihood

More likely than not

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

No, we do not have this figure

#### Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

#### Potential financial impact figure - maximum (currency)

#### **Explanation of financial impact**

Flooding could cause a business and consequently sales disruption. and loss of contribution margin, either via higher cost or reduced capacity. The overall financial impact for the whole company is expected to be very low due to our capacity to adapt our logistic, delivering our customers with chemicals from another region/site. However, this would result in delays and eventually brand damages depending of the duration and frequency of flooding events.

The WWF Water Risk Filter has allowed us to identify our sites with the higher water risks and helps us the gain enough clarity to understand the relevance of risks.



However, we do not have quantitative data yet on the precise financial impact resulting from water risks at the site level. If physical risks can easility be quantified with rough approximation, the estimation of the financial impact from regulatory and reputational risk is more challenging. We are working on this quantification as well as on a good approach for monetizing water risks. We also intend to use other tools (e.g. Swiss Re Tool) for a more detailed analyse of risks at the site level.

#### Primary response to risk

Develop flood emergency plans

#### **Description of response**

**Cost of response** 

#### Explanation of cost of response

#### Country/Area & River basin

United States of America Other, please specify Indian ocean

#### Type of risk & Primary risk driver

Chronic physical Water scarcity

#### Primary potential impact

Disruption to sales

#### **Company-specific description**

Based on the analysis performed with the WWF Water Risk Filter, our site located in the water basin "Indian Ocean" in the USA present an imporant risk regarding to water scarcity. In addition, the reputational risk is also rated as high. Those risks are expected to increase in the scenario 2050.

SITUATION: Evonik is exposed to water risk downstream (affecting the demand of our customers), in direct operation and in our supply chain (higher cost of raw materials affected by flooding). Here we only address the risks related to direct operation. TARGET: Make direct operation risks exposure visible, understand the financial impact and cost for risk mitigation.

ACTION: Sites in areas of water risks have been identified with the WWF Water Risk Filter for now and for a 2050 time horizon (using the pessimistic scenario (increase of global mean surface temperature likely to exceed  $4^{\circ}$ )). Water stress sites are those having a water index > 3.2 (i.e. medium-high to extreme). Water Scarcity is one important parameter of the physical risk category.



#### RESULT:

We have assessed the following risks to direct operation

- Production capacity can be affected by limitations of cooling water and waste water discharge in location with water quality and water scarcity challenges, as both worsens at elevated temperatures and drought and leads to the curtailment of industrial users, before consumers and agriculture are severely affected.

- Production capacity can also be affected by flooding due to the interuption of business activities for a certain time.

#### Timeframe

1-3 years

#### Magnitude of potential impact

Medium-high

#### Likelihood

More likely than not

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

No, we do not have this figure

#### Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

#### Potential financial impact figure - maximum (currency)

#### **Explanation of financial impact**

Water scarcity could cause a business and consequently sales disruption. and loss of contribution margin, either via higher cost or reduced capacity. The overall financial impact for the whole company is expected to be very low due to our capacity to adapt our logistic, delivering our customers with chemicals from another region/site. However, this would result in delays and eventually brand damages depending of the duration and frequency of scarcity events.

The WWF Water Risk Filter has allowed us to identify our sites with the higher water risks and helps us the gain enough clarity to understand the relevance of risks. However, we do not have quantitative data yet on the precise financial impact resulting from water risks at the site level. If physical risks can easility be quantified with rough approximation, the estimation of the financial impact from regulatory and reputational risk is more challenging. We are working on this quantification as well as on a good approach for monetizing water risks. We also intend to use other tools (e.g. Swiss Re Tool) for a more detailed analyse of risks at the site level.

#### Primary response to risk

Adopt water efficiency, water reuse, recycling and conservation practices



#### **Description of response**

Cost of response

#### Explanation of cost of response

## Country/Area & River basin

United States of America Other, please specify Gulf of Mexico

#### Type of risk & Primary risk driver

Acute physical Flood (coastal, fluvial, pluvial, groundwater)

#### Primary potential impact

Disruption to sales

#### **Company-specific description**

Based on the analysis performed with the WWF Water Risk Filter, the site located in the water basin "Gulf of Mexico" in the US present an imporant risk regarding to flooding. In addition, the reputational risk is also rated as high. Those risks are expected to increase in the scenario 2050.

SITUATION: Evonik is exposed to water risk downstream (affecting the demand of our customers), in direct operation and in our supply chain (higher cost of raw materials affected by flooding). Here we only address the risks related to direct operation. TARGET: Make direct operation risks exposure visible, understand the financial impact and cost for risk mitigation.

ACTION: Sites in areas of water risks have been identified with the WWF Water Risk Filter for now and for a 2050 time horizon (using the pessimistic scenario (increase of global mean surface temperature likely to exceed  $4^{\circ}$ )). Water stress sites are those having a water index > 3.2 (i.e. medium-high to extreme). Flooding is one important parameter of the physical risk category.

#### RESULT:

We have assessed the following risks to direct operation

- Production capacity can be affected by limitations of cooling water and waste water discharge in location with water quality and water scarcity challenges, as both worsens at elevated temperatures and drought and leads to the curtailment of industrial users, before consumers and agriculture are severely affected.

- Production capacity can also be affected by flooding due to the interuption of business activities for a certain time.



#### Timeframe

1-3 years

## Magnitude of potential impact

Medium-high

Likelihood More likely than not

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

No, we do not have this figure

## Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

## Potential financial impact figure - maximum (currency)

## **Explanation of financial impact**

Flooding could cause a business and consequently sales disruption. and loss of contribution margin, either via higher cost or reduced capacity. The overall financial impact for the whole company is expected to be very low due to our capacity to adapt our logistic, delivering our customers with chemicals from another region/site. However, this would result in delays and eventually brand damages depending of the duration and frequency of flooding events.

The WWF Water Risk Filter has allowed us to identify our sites with the higher water risks and helps us the gain enough clarity to understand the relevance of risks. However, we do not have quantitative data yet on the precise financial impact resulting from water risks at the site level. If physical risks can easility be quantified with rough approximation, the estimation of the financial impact from regulatory and reputational risk is more challenging. We are working on this quantification as well as on a good approach for monetizing water risks. We also intend to use other tools (e.g. Swiss Re Tool) for a more detailed analyse of risks at the site level.

#### Primary response to risk

Develop drought emergency plans

#### **Description of response**

Cost of response

#### **Explanation of cost of response**



#### Country/Area & River basin

Spain Ebro

#### Type of risk & Primary risk driver

Chronic physical Water scarcity

#### Primary potential impact

Disruption to sales

#### **Company-specific description**

Based on the analysis performed with the WWF Water Risk Filter, our 2 sites located in the water basin "Ebro" in Spain present an imporant risk regarding to water scarcity. In addition, the reputational risk is also rated as high. Those risks are expected to increase in the scenario 2050.

SITUATION: Evonik is exposed to water risk downstream (affecting the demand of our customers), in direct operation and in our supply chain (higher cost of raw materials affected by flooding). Here we only address the risks related to direct operation. TARGET: Make direct operation risks exposure visible, understand the financial impact and cost for risk mitigation.

ACTION: Sites in areas of water risks have been identified with the WWF Water Risk Filter for now and for a 2050 time horizon (using the pessimistic scenario (increase of global mean surface temperature likely to exceed  $4^{\circ}$ )). Water stress sites are those having a water index > 3.2 (i.e. medium-high to extreme). Water Scarcity is one important parameter of the physical risk category.

#### RESULT:

We have assessed the following risks to direct operation

- Production capacity can be affected by limitations of cooling water and waste water discharge in location with water quality and water scarcity challenges, as both worsens at elevated temperatures and drought and leads to the curtailment of industrial users, before consumers and agriculture are severely affected.

- Production capacity can also be affected by flooding due to the interuption of business activities for a certain time.

#### Timeframe

1-3 years

#### Magnitude of potential impact

Medium-high

#### Likelihood

More likely than not

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

No, we do not have this figure



## Potential financial impact figure (currency)

#### Potential financial impact figure - minimum (currency)

#### Potential financial impact figure - maximum (currency)

#### **Explanation of financial impact**

Water scarcity could cause a business and consequently sales disruption. and loss of contribution margin, either via higher cost or reduced capacity. The overall financial impact for the whole company is expected to be very low due to our capacity to adapt our logistic, delivering our customers with chemicals from another region/site. However, this would result in delays and eventually brand damages depending of the duration and frequency of scarcity events.

The WWF Water Risk Filter has allowed us to identify our sites with the higher water risks and helps us the gain enough clarity to understand the relevance of risks. However, we do not have quantitative data yet on the precise financial impact resulting from water risks at the site level. If physical risks can easility be quantified with rough approximation, the estimation of the financial impact from regulatory and reputational risk is more challenging. We are working on this quantification as well as on a good approach for monetizing water risks. We also intend to use other tools (e.g. Swiss Re Tool) for a more detailed analyse of risks at the site level.

#### Primary response to risk

Adopt water efficiency, water reuse, recycling and conservation practices

#### **Description of response**

**Cost of response** 

Explanation of cost of response

## 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 United States of America Other, please specify Missouri



#### Stage of value chain

Supply chain

#### Type of risk & Primary risk driver

Acute physical Drought

#### **Primary potential impact**

Increased production costs due to changing input prices from supplier

#### **Company-specific description**

Locally sourced corn needs to be irrigated to secure crop yields and thus leads to higher costs. Since the affected revenue is lower than 500 Mio. € this risk is not labelled as a risk with a substantive financial or strategic impact on your business (see definition of risks in our mid time planning in W4.1.a.

#### Timeframe

Unknown

#### Magnitude of potential impact

Low

#### Likelihood

About as likely as not

Are you able to provide a potential financial impact figure?

No, we do not have this figure

#### Potential financial impact figure (currency)

#### Potential financial impact figure - minimum (currency)

#### Potential financial impact figure - maximum (currency)

#### **Explanation of financial impact**

Scarcity of corn due to drought increases prices.

#### Primary response to risk

Upstream Other, please specify We source corn at higher cost from other regions and hedge prices with corn future

#### **Description of response**

Corn is a commodity trade at CBOT and it is a common practice to manage exposure to higher prices with a hedging strategy buying corn futures for the coming year. Water risks affecting harvest yield will be priced in a simulation of supply and demand, which will drive the prices of futures.



#### Cost of response

#### Explanation of cost of response

Fees for future trading are in the range of 0.05% and are thus neglectable.

## 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

Reduced impact of product use on water resources

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

SITUATION: Our Next Generation Solutions (NGS) make substantial positive contributions to sustainability topics described in Evonik's 4 Sustainability Focus Areas. TARGET: We will substantially increase the sales share of our Next Generation Solutions – products that give a superior sustainability benefit to our customers – from 43 percent at present to over 50 percent by 2030, despite higher sustainability requirements materializing in most markets until 2030.

ACTION: We commit > 3 billion € investment between 2022 and 2030 to grow our Next Generation solutions.

The annual Portfolio Sustainability Assessment ensures that we address negative sustainability signals in time. We continuously evolve the PSA method under the roof of the WBCSD to include additional sustainability requirements. It is important to note, that any Next Generation Solutions must not have any negative sustainability signal and must have clear evidence of a positive sustainability impact. We push all businesses to better quantify the sustainability impact in the respective applications and publish our positive impact per Sustainability Focus Area on an annual basis.

RESULTS: Many Next Generation Solutions (NGS) have positive sustainability impacts in several impact categories and in very diverse markets and application. We assign them to each of the 4 Sustainability Focus Areas to better explain to our stakeholder, where we want to make a difference.

Evonik is offering raw material solutions that can lead to lower water-usage footprint



consumers products. Evonik's product technologies enable a wide range of approaches to water conservation, from no-rinse cleaning to low water-usage formats (e.g. Rewoferm biosurfactants). These product applications belong to our Next Generation Solutions.

Animal feed additives like MetAMINO or BioLYS also enable a reduction of the Water Footprint of animal feed in some region in comparison to stardard feed mixes used for animal nutrition. As side effects, the use of feed additives also enable a reduction of the crude protein content in animal feed what has for consequence that animal consume less drinking water. This effect was quantified by a Life Cycle Assessment. This product application is rated an Next Genration Solution in specific regions.

#### Estimated timeframe for realization

More than 6 years

Magnitude of potential financial impact

Medium-high

Are you able to provide a potential financial impact figure? No, we do not have this figure

#### Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

#### **Explanation of financial impact**

## Type of opportunity

Efficiency

#### Primary water-related opportunity

Improved water efficiency in operations

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

SITUATION: In 2022, Evonik had a specific freshwater intake of 28.3 m3/ton.

TARGET: Our target is to reduce our specific freshwater intake by 3 percent between 2022 and 2030.

ACTION: In project EAGER, measures were identified to reduce Scope 1&2 emissions in our Top 20 sites by 25% until 2030 (baseline 2021). To implement these measures, additional CAPEX of 700 M€ will be spent from 2022-2030. While savings greenhouse gases, these measures also enable water savings.



RESULT: By now, a roadmap for the implementation of water savings measures is under definition. This roadmap is not rigid but will be regularly updated and adapted to future developments. These water savings measures will also enable cost savings.

- Estimated timeframe for realization More than 6 years
- Magnitude of potential financial impact Medium-high
- Are you able to provide a potential financial impact figure? No, we do not have this figure
- Potential financial impact figure (currency)

Potential financial impact figure - minimum (currency)

Potential financial impact figure - maximum (currency)

Explanation of financial impact

## 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) Americana Country/Area & River basin Brazil Other, please specify Rio Tiete

Latitude



-22,6951Longitude -47,3614 Located in area with water stress No Total water withdrawals at this facility (megaliters/year) 615 Comparison of total withdrawals with previous reporting year Lower Withdrawals from fresh surface water, including rainwater, water from wetlands. rivers and lakes 613 Withdrawals from brackish surface water/seawater 0 Withdrawals from groundwater - renewable 2 Withdrawals from groundwater - non-renewable 0 Withdrawals from produced/entrained water 0 Withdrawals from third party sources 0 Total water discharges at this facility (megaliters/year) 472 Comparison of total discharges with previous reporting year Lower Discharges to fresh surface water 472 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)



#### 144

## Comparison of total consumption with previous reporting year

Lower

#### Please explain

For site no. 1, the WWF water risk filter score for water scarcity risk was 2,2, i.e., < 3.0, hence, not considered as a water stressed area.

For withdrawals and discharges, data are collected from several sources, including water meters, bills, internal calculations and estimates.

We currently do not centrally collect information on total dissolved solids or electrical conductivity of surface- or groundwater sources or discharge points. We assume that all water sources or discharge points reported on here are freshwater.

For the facilities reported on here, we use water from rivers as fresh surface water sources. We do not collect data on the renewability of groundwater sources, but we assume that all groundwater and aquifer sources are renewable within 50 years. Our definition for change: Much higher: >+50%, Higher: >+10%, About the same:  $\leq$ +10% to  $\geq$ -10%, Lower: <-10%, Much lower: <-50%, with the year ago value as comparative basis.

Consumption is calculated using withdrawals minus discharges.

#### Facility reference number

Facility 2

Facility name (optional) Arifive

#### Country/Area & River basin

Turkey Other, please specify Black Sea

#### Latitude

40,70037

#### Longitude

30,37304

#### Located in area with water stress

No

#### Total water withdrawals at this facility (megaliters/year)

2.343

## Comparison of total withdrawals with previous reporting year

About the same



Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes 2.343 Withdrawals from brackish surface water/seawater 0 Withdrawals from groundwater - renewable 0 Withdrawals from groundwater - non-renewable 0 Withdrawals from produced/entrained water 0 Withdrawals from third party sources 0 Total water discharges at this facility (megaliters/year) 2.110 Comparison of total discharges with previous reporting year About the same Discharges to fresh surface water 0 Discharges to brackish surface water/seawater 2.110 **Discharges to groundwater** 0 **Discharges to third party destinations** 0 Total water consumption at this facility (megaliters/year) 233

Comparison of total consumption with previous reporting year About the same

#### **Please explain**

For site no. 2, the water scarcity risk score was 3,2, i.e.,  $\geq$  3.0. In previous assessments, we used the highest non-irrigation AWARE-score in a 20 km radius around our facilities and classified the results according to Thinkstep / Sphera: moderate risk (low, moderate, medium, high, extreme at <2,6, <7,3, <14,1, <77,1 and  $\geq$ 77,1, respectively). Translating these categories to scores 1 to 5 and using the default WWF weighting factors for chemical industry, we obtained a water risk score of 2.8. Hence, we do not regard this site to be located in a water stressed area.



For withdrawals and discharges, data are collected from several sources, including water meters, bills, internal calculations and estimates.

We currently do not centrally collect information on total dissolved solids or electrical conductivity of surface- or groundwater sources or discharge points. We assume that all water sources or discharge points reported on here are freshwater. Our definition for change: Much higher: >+50%, Higher: >+10%, About the same:

 $\leq$ +10% to  $\geq$ -10%, Lower: <-10%, Much lower: <-50%, with the year ago value as comparative basis.

Consumption is calculated using withdrawals minus discharges.

Facility reference number Facility 3

r acinty 5

Facility name (optional)

Barra do Riacho

#### Country/Area & River basin

Brazil Other, please specify South Atlantic

Latitude

-19,826

Longitude

-40,0613

Located in area with water stress

No

## Total water withdrawals at this facility (megaliters/year)

370

#### Comparison of total withdrawals with previous reporting year About the same

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

0

## Withdrawals from brackish surface water/seawater

0

Withdrawals from groundwater - renewable

Withdrawals from groundwater - non-renewable



#### 0

Withdrawals from produced/entrained water 0

- Withdrawals from third party sources 370
- Total water discharges at this facility (megaliters/year) 140
- Comparison of total discharges with previous reporting year About the same

Discharges to fresh surface water

140

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) 230
- Comparison of total consumption with previous reporting year

About the same

#### **Please explain**

For site no. 3, the WWF water risk filter score for water scarcity risk was 2,6, i.e., < 3.0, hence, not considered as a water stressed area.

For withdrawals and discharges, data are collected from several sources, including water meters, bills, internal calculations and estimates.

We currently do not centrally collect information on total dissolved solids or electrical conductivity of surface- or groundwater sources or discharge points. Based on the locations of the facilities reported here, we assume that all water sources or discharge points reported on here are freshwater.

Our definition for change: Much higher: >+50%, Higher: >+10%, About the same:  $\leq$ +10% to  $\geq$ -10%, Lower: <-10%, Much lower: <-50%, with the year ago value as comparative basis.

Consumption is calculated using withdrawals minus discharges. Water consumption is mainly explained by water incorporated into products and evaporation losses in cooling towers.



#### Facility reference number Facility 4

#### Facility name (optional) Castro

#### Country/Area & River basin

Brazil Parana

#### Latitude

-24,6891

## Longitude

-49,8691

## Located in area with water stress

**Total water withdrawals at this facility (megaliters/year)** 1.180

#### Comparison of total withdrawals with previous reporting year About the same

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

1.180

## Withdrawals from brackish surface water/seawater

#### 0

## Withdrawals from groundwater - renewable

0

## Withdrawals from groundwater - non-renewable 0

## Withdrawals from produced/entrained water 0

## Withdrawals from third party sources

0

## Total water discharges at this facility (megaliters/year) 472

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

#### Discharges to fresh surface water



106

## Discharges to brackish surface water/seawater

0

#### **Discharges to groundwater**

0

#### Discharges to third party destinations

367

## Total water consumption at this facility (megaliters/year)

708

#### Comparison of total consumption with previous reporting year

About the same

#### **Please explain**

For site no. 4, the WWF water risk filter score for water scarcity risk was 1,5, i.e., < 3.0, hence, not considered as a water stressed area.

For withdrawals and discharges, data are collected from several sources, including water meters, bills, internal calculations and estimates.

We currently do not centrally collect information on total dissolved solids or electrical conductivity of surface- or groundwater sources or discharge points. We assume that all water sources or discharge points reported on here are freshwater.

For the facilities reported on here, we use water from rivers as fresh surface water sources.

Our definition for change: Much higher: >+50%, Higher: >+10%, About the same:  $\leq$ +10% to  $\geq$ -10%, Lower: <-10%, Much lower: <-50%, with the year ago value as comparative basis.

Consumption is calculated using withdrawals minus discharges. Water consumption is mainly explained by water incorporated into products and evaporation losses in cooling towers.

Facility reference number

Facility 5

## Facility name (optional)

Changchun

#### Country/Area & River basin

China Amur

Latitude

43,88415

#### Longitude



#### 125,3037

Located in area with water stress No Total water withdrawals at this facility (megaliters/year) 61 Comparison of total withdrawals with previous reporting year About the same Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes 0 Withdrawals from brackish surface water/seawater 0 Withdrawals from groundwater - renewable 61 Withdrawals from groundwater - non-renewable 0 Withdrawals from produced/entrained water 0 Withdrawals from third party sources 0 Total water discharges at this facility (megaliters/year) 52 Comparison of total discharges with previous reporting year About the same Discharges to fresh surface water 52 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 Comparison of total consumption with previous reporting year



#### About the same

#### **Please explain**

For site no. 5, the water scarcity risk score was 3,1, i.e.,  $\geq$  3.0. In previous assessments, we used the highest non-irrigation AWARE-score in a 20 km radius around our facilities and classified the results according to Thinkstep / Sphera: moderate risk (low, moderate, medium, high, extreme at <2,6, <7,3, <14,1, <77,1 and  $\geq$ 77,1, respectively). Translating these categories to scores 1 to 5 and using the default WWF weighting factors for chemical industry, we obtained a water risk score of 2.9. Hence, we do not regard this site to be located in a water stressed area.

For withdrawals and discharges, data are collected from several sources, including water meters, bills, internal calculations and estimates.

We assume that all water sources or discharge points reported on here are freshwater. We do not collect data on the renewability of groundwater sources, but we assume that all groundwater and aquifer sources are renewable within 50 years.

This sites discharges once-through cooling water directly to a river and process wastewater to a third party wastewater treatment plant. At present, we can only disclose the aggregated volume of both streams.

Our definition for change: Much higher: >+50%, Higher: >+10%, About the same:  $\leq$ +10% to  $\geq$ -10%, Lower: <-10%, Much lower: <-50%, with the year ago value as comparative basis.

Consumption is calculated using withdrawals minus discharges.

#### Facility reference number

Facility 6

#### Facility name (optional)

Dombivli

#### Country/Area & River basin

India Other, please specify Arabean Sea

#### Latitude

19,21916

#### Longitude

73,11399

#### Located in area with water stress

No

#### Total water withdrawals at this facility (megaliters/year)

Comparison of total withdrawals with previous reporting year



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

Withdrawals from brackish surface water/seawater

Withdrawals from groundwater - renewable

Withdrawals from groundwater - non-renewable

Withdrawals from produced/entrained water

Withdrawals from third party sources

Total water discharges at this facility (megaliters/year)

Comparison of total discharges with previous reporting year

Discharges to fresh surface water

Discharges to brackish surface water/seawater

**Discharges to groundwater** 

Discharges to third party destinations

Total water consumption at this facility (megaliters/year)

Comparison of total consumption with previous reporting year

#### **Please explain**

For site no. 6, the WWF water risk filter score for water scarcity risk was 2,1, i.e., < 3.0, hence, not considered as a water stressed area. We decided to disclose no data of this site because we have to improve the data quality.



Facility reference number Facility 7

Facility name (optional) Jhagadia/Bharuch

#### Country/Area & River basin

India Other, please specify Arabean Sea

#### Latitude

21,64236

Longitude

73,13994

Located in area with water stress Yes

Total water withdrawals at this facility (megaliters/year)

Comparison of total withdrawals with previous reporting year

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

Withdrawals from brackish surface water/seawater

Withdrawals from groundwater - renewable

Withdrawals from groundwater - non-renewable

Withdrawals from produced/entrained water

Withdrawals from third party sources

Total water discharges at this facility (megaliters/year)

Comparison of total discharges with previous reporting year



#### Discharges to fresh surface water

#### Discharges to brackish surface water/seawater

**Discharges to groundwater** 

Discharges to third party destinations

Total water consumption at this facility (megaliters/year)

Comparison of total consumption with previous reporting year

#### **Please explain**

For site no. 7, the water scarcity risk score was 3,5, i.e.,  $\geq$  3.0, hence, considered as a water stressed area.

We decided to disclose no data of this site because we have to improve the data quality.

Facility reference number Facility 8

Facility name (optional)

Haysville

#### Country/Area & River basin

United States of America Other, please specify Arkansas & White River

#### Latitude

37,57453

#### Longitude

-97,4286

## Located in area with water stress

No

#### Total water withdrawals at this facility (megaliters/year)

Comparison of total withdrawals with previous reporting year



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

Withdrawals from brackish surface water/seawater

Withdrawals from groundwater - renewable

Withdrawals from groundwater - non-renewable

Withdrawals from produced/entrained water

Withdrawals from third party sources

Total water discharges at this facility (megaliters/year)

Comparison of total discharges with previous reporting year

Discharges to fresh surface water

Discharges to brackish surface water/seawater

**Discharges to groundwater** 

Discharges to third party destinations

Total water consumption at this facility (megaliters/year)

#### Comparison of total consumption with previous reporting year

#### Please explain

For site no. 8, the WWF water risk filter score for water scarcity risk was 2,7, i.e., < 3.0, hence, not considered as a water stressed area. We decided to disclose no data of this site because we have to improve the data quality.



## Facility 9

## Facility name (optional)

Janesville

Country/Area & River basin United States of America Mississippi River
Latitude 42,66871
Longitude -89,04975
Located in area with water stress No
<b>Total water withdrawals at this facility (megaliters/year)</b> 740
Comparison of total withdrawals with previous reporting year Lower
Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes
Withdrawals from brackish surface water/seawater
Withdrawals from groundwater - renewable
Withdrawals from groundwater - non-renewable
Withdrawals from produced/entrained water
Withdrawals from third party sources 740
Total water discharges at this facility (megaliters/year) 761
Comparison of total discharges with previous reporting year About the same
Discharges to fresh surface water

557



## Discharges to brackish surface water/seawater

0

#### **Discharges to groundwater**

0

#### Discharges to third party destinations

204

#### Total water consumption at this facility (megaliters/year)

-21

#### Comparison of total consumption with previous reporting year

Much lower

#### **Please explain**

For site no. 9, the WWF water risk filter score for water scarcity risk was 1,7, i.e., < 3.0, hence, not considered as a water stressed area.

For withdrawals and discharges, data are collected from several sources, including water meters, bills, internal calculations and estimates.

We currently do not centrally collect information on total dissolved solids or electrical conductivity of surface- or groundwater sources or discharge points. We assume that all water sources or discharge points reported on here are freshwater.

Our definition for change: Much higher: >+50%, Higher: >+10%, About the same:  $\leq$ +10% to  $\geq$ -10%, Lower: <-10%, Much lower: <-50%, with the year ago value as comparative basis.

Consumption is calculated using withdrawals minus discharges.

We currently evaluate the reasons of the negative water consumption.

Facility reference number

Facility 10

## Facility name (optional)

Milton

#### Country/Area & River basin

United States of America Mississippi River

#### Latitude

42,77936

## Longitude

-88,967724

#### Located in area with water stress

No

0



## Total water withdrawals at this facility (megaliters/year) 23

Comparison of total withdrawals with previous reporting year About the same

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

Withdrawals from brackish surface water/seawater 0 Withdrawals from groundwater - renewable 0 Withdrawals from groundwater - non-renewable 0 Withdrawals from produced/entrained water 0 Withdrawals from third party sources 23 Total water discharges at this facility (megaliters/year) 28 Comparison of total discharges with previous reporting year Higher Discharges to fresh surface water 0 Discharges to brackish surface water/seawater 0 **Discharges to groundwater** 0 **Discharges to third party destinations** 28 Total water consumption at this facility (megaliters/year) -5 Comparison of total consumption with previous reporting year Much lower **Please explain** 



For site no. 10, the WWF water risk filter score for water scarcity risk was 1,7, i.e., < 3.0, hence, not considered as a water stressed area.

For withdrawals and discharges, data are collected from several sources, including water meters, bills, internal calculations and estimates.

Our definition for change: Much higher: >+50%, Higher: >+10%, About the same:  $\leq$ +10% to  $\geq$ -10%, Lower: <-10%, Much lower: <-50%, with the year ago value as comparative basis.

Consumption is calculated using withdrawals minus discharges.

We currently evaluate the reasons of the negative water consumption.

Facility reference number

Facility 11

## Facility name (optional)

Liaoyang

### Country/Area & River basin

China Liao He

#### Latitude

41,23278

## Longitude

123,16972

#### Located in area with water stress

No

## Total water withdrawals at this facility (megaliters/year)

100

## Comparison of total withdrawals with previous reporting year About the same

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

0

## Withdrawals from brackish surface water/seawater

0

## Withdrawals from groundwater - renewable

0

Withdrawals from groundwater - non-renewable

Withdrawals from produced/entrained water



#### 0

Withdrawals from third party sources

100

Total water discharges at this facility (megaliters/year)

78

Comparison of total discharges with previous reporting year Lower

Discharges to fresh surface water

12

Discharges to brackish surface water/seawater

0

**Discharges to groundwater** 

0

## Discharges to third party destinations

66

Total water consumption at this facility (megaliters/year)

22

Comparison of total consumption with previous reporting year Higher

## **Please explain**

For site no. 11, the WWF water risk filter score for water scarcity risk was 2,9, i.e., < 3.0, hence, not considered as a water stressed area.

For withdrawals and discharges, data are collected from several sources, including water meters, bills, internal calculations and estimates.

We currently do not centrally collect information on total dissolved solids or electrical conductivity of surface- or groundwater sources or discharge points. We assume that all water sources or discharge points reported on here are freshwater.

Our definition for change: Much higher: >+50%, Higher: >+10%, About the same:  $\leq$ +10% to  $\geq$ -10%, Lower: <-10%, Much lower: <-50%, with the year ago value as comparative basis.

Consumption is calculated using withdrawals minus discharges.

Facility reference number Facility 12

Facility name (optional) Nanjing



Country/Area & River basin China

Yangtze River (Chang Jiang)

Latitude

32,28912

Longitude 118,72772

Located in area with water stress

Total water withdrawals at this facility (megaliters/year)

Comparison of total withdrawals with previous reporting year

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

Withdrawals from brackish surface water/seawater

Withdrawals from groundwater - renewable

Withdrawals from groundwater - non-renewable

Withdrawals from produced/entrained water

Withdrawals from third party sources

Total water discharges at this facility (megaliters/year)

Comparison of total discharges with previous reporting year

Discharges to fresh surface water

Discharges to brackish surface water/seawater

**Discharges to groundwater** 



## Discharges to third party destinations

### Total water consumption at this facility (megaliters/year)

#### Comparison of total consumption with previous reporting year

#### **Please explain**

For site no. 12, the WWF water risk filter score for water scarcity risk was 1,7, i.e., < 3.0, hence, not considered as a water stressed area. We decided to disclose no data of this site because we have to improve the data quality.

## Facility reference number

Facility 13

## Facility name (optional)

Qingdao

#### Country/Area & River basin

China Huang He (Yellow River)

#### Latitude

36,00222

#### Longitude

120,13194

#### Located in area with water stress

Yes

### Total water withdrawals at this facility (megaliters/year)

399

## Comparison of total withdrawals with previous reporting year

Lower

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

0

## Withdrawals from brackish surface water/seawater

0

#### Withdrawals from groundwater - renewable



0

Withdrawals from groundwater - non-renewable 0 Withdrawals from produced/entrained water Ω Withdrawals from third party sources 399 Total water discharges at this facility (megaliters/year) 362 Comparison of total discharges with previous reporting year Lower Discharges to fresh surface water 362 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)

37

### Comparison of total consumption with previous reporting year About the same

## **Please explain**

For site no. 13, the water scarcity risk score was 3,7, i.e.,  $\geq$  3.0. In previous assessments, we used the highest non-irrigation AWARE-score in a 20 km radius around our facilities and classified the results according to Thinkstep / Sphera: extreme risk (low, moderate, medium, high, extreme at <2,6, <7,3, <14,1, <77,1 and  $\geq$ 77,1, respectively). Translating these categories to scores 1 to 5 and using the default WWF weighting factors for chemical industry, we obtained a water risk score of 3.9. Hence, we regard this site to be located in a water stressed area.

For withdrawals and discharges, data are collected from several sources, including water meters, bills, internal calculations and estimates.

We currently do not centrally collect information on total dissolved solids or electrical conductivity of surface- or groundwater sources or discharge points. We assume that all water sources or discharge points reported on here are freshwater.

Our definition for change: Much higher: >+50%, Higher: >+10%, About the same:  $\leq$ +10% to  $\geq$ -10%, Lower: <-10%, Much lower: <-50%, with the year ago value as



comparative basis. Consumption is calculated using withdrawals minus discharges.

Facility reference number

Facility 14

Facility name (optional)

Shanghai-MUSC

## Country/Area & River basin

China Huang He (Yellow River)

Latitude 31,402

Longitude 121,32317

Located in area with water stress No

Total water withdrawals at this facility (megaliters/year)

Comparison of total withdrawals with previous reporting year

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

Withdrawals from brackish surface water/seawater

Withdrawals from groundwater - renewable

Withdrawals from groundwater - non-renewable

Withdrawals from produced/entrained water

Withdrawals from third party sources

Total water discharges at this facility (megaliters/year)



## Comparison of total discharges with previous reporting year

Discharges to fresh surface water

Discharges to brackish surface water/seawater

**Discharges to groundwater** 

Discharges to third party destinations

Total water consumption at this facility (megaliters/year)

Comparison of total consumption with previous reporting year

#### **Please explain**

For site no. 14, the WWF water risk filter score for water scarcity risk was 1,9, i.e., < 3.0. In previous assessments, we used the highest non-irrigation AWARE-score in a 20 km radius around our facilities and classified the results according to Thinkstep / Sphera: high risk (low, moderate, medium, high, extreme at <2,6, <7,3, <14,1, <77,1 and  $\geq$ 77,1, respectively). Translating these categories to scores 1 to 5 and using the default WWF weighting factors for chemical industry, we obtained a water risk score of 2.5. Hence, we do not regard this site to be located in a water stressed area.

We decided to disclose no data of this site because we have to improve the data quality.

Facility reference number

Facility 16

Facility name (optional)

Vernon - Los Angeles

### Country/Area & River basin

United States of America Other, please specify North Pacific

#### Latitude

34,01335

Longitude

-118,2128



Located in area with water stress Yes Total water withdrawals at this facility (megaliters/year) 27 Comparison of total withdrawals with previous reporting year Higher Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes 0 Withdrawals from brackish surface water/seawater 0 Withdrawals from groundwater - renewable 0 Withdrawals from groundwater - non-renewable 0 Withdrawals from produced/entrained water 0 Withdrawals from third party sources 27 Total water discharges at this facility (megaliters/year) 22 Comparison of total discharges with previous reporting year Lower Discharges to fresh surface water 9 Discharges to brackish surface water/seawater 0 **Discharges to groundwater** 0 **Discharges to third party destinations** 13 Total water consumption at this facility (megaliters/year) 5 Comparison of total consumption with previous reporting year Much lower



### Please explain

For site no. 16, the water scarcity risk score was 4,3, i.e.,  $\geq$  3.0. In previous assessments, we used the highest non-irrigation AWARE-score in a 20 km radius around our facilities and classified the results according to Thinkstep / Sphera: highrisk (low, moderate, medium, high, extreme at <2,6, <7,3, <14,1, <77,1 and  $\geq$ 77,1, respectively). Translating these categories to scores 1 to 5 and using the default WWF weighting factors for chemical industry, we obtained a water risk score of 4.1 Hence, we regard this site to be located in a water stressed area.

For withdrawals and discharges, data are collected from several sources, including water meters, bills, internal calculations and estimates.

We currently do not centrally collect information on total dissolved solids or electrical conductivity of discharge points. We assume that all discharge points reported on here are freshwater.

Our definition for change: Much higher: >+50%, Higher: >+10%, About the same:  $\leq$ +10% to  $\geq$ -10%, Lower: <-10%, Much lower: <-50%, with the year ago value as comparative basis.

Changes in water withdrawal and discharges are explained, e.g., by variations of produced goods and local rain events.

Consumption is calculated using withdrawals minus discharges.

#### Facility reference number

Facility 17

#### Facility name (optional)

Umbogintwini - Durban

#### Country/Area & River basin

South Africa Other, please specify Indian Ocean

#### Latitude

-30,02701

### Longitude

30,87925

#### Located in area with water stress

No

#### Total water withdrawals at this facility (megaliters/year)

Comparison of total withdrawals with previous reporting year



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

Withdrawals from brackish surface water/seawater

Withdrawals from groundwater - renewable

Withdrawals from groundwater - non-renewable

Withdrawals from produced/entrained water

Withdrawals from third party sources

Total water discharges at this facility (megaliters/year)

Comparison of total discharges with previous reporting year

Discharges to fresh surface water

Discharges to brackish surface water/seawater

**Discharges to groundwater** 

**Discharges to third party destinations** 

Total water consumption at this facility (megaliters/year)

## Comparison of total consumption with previous reporting year

## Please explain

For site no. 17, the WWF water risk filter score for water scarcity risk was 2,7, i.e., < 3.0, hence, not considered as a water stressed area. We decided to disclose no data of this site because we have to improve the data quality.



Facility 18

### Facility name (optional)

Deer Park - Houston

## Country/Area & River basin

United States of America Other, please specify Gulf of Mexico

#### Latitude

29,727565

Longitude -95,100116

Located in area with water stress

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

Comparison of total withdrawals with previous reporting year About the same

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

101

Withdrawals from brackish surface water/seawater

#### 0

Withdrawals from groundwater - renewable 12

Withdrawals from groundwater - non-renewable

Withdrawals from produced/entrained water 0

Withdrawals from third party sources

2

Total water discharges at this facility (megaliters/year) 113

Comparison of total discharges with previous reporting year Higher

Discharges to fresh surface water



98

## Discharges to brackish surface water/seawater

0

**Discharges to groundwater** 

0

## Discharges to third party destinations

15

## Total water consumption at this facility (megaliters/year)

2

## Comparison of total consumption with previous reporting year

Much lower

### **Please explain**

For site no. 18, the WWF water risk filter score for water scarcity risk was 2,9, i.e., < 3.0. In previous assessments, we used the highest non-irrigation AWARE-score in a 20 km radius around our facilities and classified the results according to Thinkstep / Sphera: low risk (low, moderate, medium, high, extreme at <2,6, <7,3, <14,1, <77,1 and  $\geq$ 77,1, respectively). Translating these categories to scores 1 to 5 and using the default WWF weighting factors for chemical industry, we obtained a water risk score of 2.7. Hence, we do not regard this site to be located in a water stressed area.

For withdrawals and discharges, data are collected from several sources, including water meters, bills, internal calculations and estimates.

We currently do not centrally collect information on total dissolved solids or electrical conductivity of sources and discharge points. We assume that all sources and discharge points reported on here are freshwater.

We do not collect data on the renewability of groundwater sources, but we assume that all groundwater and aquifer sources are renewable within 50 years.

Our definition for change: Much higher: >+50%, Higher: >+10%, About the same:  $\leq$ +10% to  $\geq$ -10%, Lower: <-10%, Much lower: <-50%, with the year ago value as comparative basis.

Consumption is calculated using withdrawals minus discharges.

#### Facility reference number

Facility 19

#### Facility name (optional)

Bayport - Pasadena

#### Country/Area & River basin

United States of America Other, please specify Gulf of Mexico



Latitude 29.626863 Longitude -95,041474 Located in area with water stress Yes Total water withdrawals at this facility (megaliters/year) 1.145 Comparison of total withdrawals with previous reporting year About the same Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes 0 Withdrawals from brackish surface water/seawater 0 Withdrawals from groundwater - renewable 0 Withdrawals from groundwater - non-renewable 0 Withdrawals from produced/entrained water 0 Withdrawals from third party sources 1.145 Total water discharges at this facility (megaliters/year) 730 Comparison of total discharges with previous reporting year About the same Discharges to fresh surface water 0 Discharges to brackish surface water/seawater 0 **Discharges to groundwater** 0 **Discharges to third party destinations** 730



## **Total water consumption at this facility (megaliters/year)** 415

## Comparison of total consumption with previous reporting year

About the same

### **Please explain**

For site no. 19, the WWF water risk filter score for water scarcity risk was 2,8, i.e., < 3.0. In previous assessments, we used the highest non-irrigation AWARE-score in a 20 km radius around our facilities and classified the results according to Thinkstep / Sphera: medium risk (low, moderate, medium, high, extreme at <2,6, <7,3, <14,1, <77,1 and  $\geq$ 77,1, respectively). Translating these categories to scores 1 to 5 and using the default WWF weighting factors for chemical industry, we obtained a water risk score of 3.0. Hence, we regard this site to be located in a water stressed area.

For withdrawals and discharges, data are collected from several sources, including water meters, bills, internal calculations and estimates.

Our definition for change: Much higher: >+50%, Higher: >+10%, About the same:  $\leq$ +10% to  $\geq$ -10%, Lower: <-10%, Much lower: <-50%, with the year ago value as comparative basis.

Consumption is calculated using withdrawals minus discharges.

## Facility reference number

Facility 20

Facility name (optional)

La Zaida

#### Country/Area & River basin

Spain Ebro

#### Latitude

41,50282

#### Longitude

-0,85693

#### Located in area with water stress

No

Total water withdrawals at this facility (megaliters/year)

Comparison of total withdrawals with previous reporting year

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



### Withdrawals from brackish surface water/seawater

Withdrawals from groundwater - renewable

Withdrawals from groundwater - non-renewable

Withdrawals from produced/entrained water

Withdrawals from third party sources

Total water discharges at this facility (megaliters/year)

Comparison of total discharges with previous reporting year

Discharges to fresh surface water

Discharges to brackish surface water/seawater

**Discharges to groundwater** 

Discharges to third party destinations

Total water consumption at this facility (megaliters/year)

Comparison of total consumption with previous reporting year

#### Please explain

For site no. 20, the water scarcity risk score was 3, i.e.,  $\geq$  3.0. In previous assessments, we used the highest non-irrigation AWARE-score in a 20 km radius around our facilities and classified the results according to Thinkstep / Sphera: high risk (low, moderate, medium, high, extreme at <2,6, <7,3, <14,1, <77,1 and  $\geq$ 77,1, respectively). Translating these categories to scores 1 to 5 and using the default WWF weighting factors for chemical industry, we obtained a water risk score of 2.8. Hence, we do not regard this site to be located in a water stressed area.

We decided to disclose no data of this site because we have to improve the data quality.



Facility reference number Facility 21 Facility name (optional) Zubillaga Country/Area & River basin Spain Ebro Latitude 42,715184 Longitude -2,983657Located in area with water stress Yes Total water withdrawals at this facility (megaliters/year) 1.251 Comparison of total withdrawals with previous reporting year About the same Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes 1.251 Withdrawals from brackish surface water/seawater 0 Withdrawals from groundwater - renewable 0 Withdrawals from groundwater - non-renewable 0 Withdrawals from produced/entrained water 0 Withdrawals from third party sources 0 Total water discharges at this facility (megaliters/year) 1.021 Comparison of total discharges with previous reporting year Lower



Discharges to fresh surface water

0

Discharges to brackish surface water/seawater

**Discharges to groundwater** 

0

Discharges to third party destinations

0

Total water consumption at this facility (megaliters/year)

231

Comparison of total consumption with previous reporting year

## **Please explain**

For site no. 21, the water scarcity risk score was 3,4, i.e.,  $\geq$  3.0. In previous assessments, we used the highest non-irrigation AWARE-score in a 20 km radius around our facilities and classified the results according to Thinkstep / Sphera: high risk (low, moderate, medium, high, extreme at <2,6, <7,3, <14,1, <77,1 and  $\geq$ 77,1, respectively). Translating these categories to scores 1 to 5 and using the default WWF weighting factors for chemical industry, we obtained a water risk score of 3.2. Hence, we regard this site to be located in a water stressed area.

For withdrawals and discharges, data are collected from several sources, including water meters, bills, internal calculations and estimates.

We currently do not centrally collect information on total dissolved solids or electrical conductivity of surfacewater sources or discharge points. We assume that all water sources or discharge points reported on here are freshwater.

For the facilities reported on here, we use water from rivers as fresh surface water sources.

Our definition for change: Much higher: >+50%, Higher: >+10%, About the same:  $\leq$ +10% to  $\geq$ -10%, Lower: <-10%, Much lower: <-50%, with the year ago value as comparative basis.

Consumption is calculated using withdrawals minus discharges.

## 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

Standard: ISAE 3000

Methodology: The auditor PricewaterhouseCoopers GmbH has verified water data as part of the limited assurance for the Evonik Sustainability report 2022; including the following procedures: recording of systems and processes for collection, analysis, validation and aggregation of data and their documentation on a sample basis; site visits, analytical procedures. Scope global; Water data is measured at site level and monitored annually at global level in the Evonik Ester-system

### Water withdrawals - volume by source

#### % verified

76-100

### Verification standard used

#### Standard: ISAE 3000

Methodology: The auditor PricewaterhouseCoopers GmbH has verified water data as part of the limited assurance for the Evonik Sustainability report 2022; including the following procedures: recording of systems and processes for collection, analysis, validation and aggregation of data and their documentation on a sample basis; site visits, analytical procedures. Scope global; Water data is measured at site level and monitored annually at global level in the Evonik Ester-system

#### Water withdrawals - quality by standard water quality parameters

### % verified

76-100

### Verification standard used

#### Standard: ISAE 3000

Methodology: The auditor PricewaterhouseCoopers GmbH has verified water data as part of the limited assurance for the Evonik Sustainability report 2022; including the following procedures: recording of systems and processes for collection, analysis, validation and aggregation of data and their documentation on a sample basis; site visits, analytical procedures. Scope global; Water data is measured at site level and monitored annually at global level in the Evonik Ester-system

#### Water discharges - total volumes

#### % verified

76-100

#### Verification standard used



#### Standard: ISAE 3000

Methodology: The auditor PricewaterhouseCoopers GmbH has verified water data as part of the limited assurance for the Evonik Sustainability report 2022; including the following procedures: recording of systems and processes for collection, analysis, validation and aggregation of data and their documentation on a sample basis; site visits, analytical procedures. Scope global; Water data is measured at site level and monitored annually at global level in the Evonik Ester-system

### Water discharges - volume by destination

#### % verified

76-100

### Verification standard used

Standard: ISAE 3000

Methodology: The auditor PricewaterhouseCoopers GmbH has verified water data as part of the limited assurance for the Evonik Sustainability report 2022; including the following procedures: recording of systems and processes for collection, analysis, validation and aggregation of data and their documentation on a sample basis; site visits, analytical procedures. Scope global; Water data is measured at site level and monitored annually at global level in the Evonik Ester-system

## Water discharges - volume by final treatment level

% verified

Not verified

#### **Please explain**

volume by final treatment level is not part of Evonik's sustainability report and therefore not subject to external verification.

## Water discharges – quality by standard water quality parameters

% verified

76-100

## Verification standard used

#### Standard: ISAE 3000

Methodology: The auditor PricewaterhouseCoopers GmbH has verified water data as part of the limited assurance for the Evonik Sustainability report 2022; including the following procedures: recording of systems and processes for collection, analysis, validation and aggregation of data and their documentation on a sample basis; site visits, analytical procedures. Scope global; Water data is measured at site level and monitored annually at global level in the Evonik Ester-system

## Water consumption – total volume



## % verified

76-100

## Verification standard used

Standard: ISAE 3000

Methodology: The auditor PricewaterhouseCoopers GmbH has verified water data as part of the limited assurance for the Evonik Sustainability report 2022; including the following procedures: recording of systems and processes for collection, analysis, validation and aggregation of data and their documentation on a sample basis; site visits, analytical procedures. Scope global; Water data is measured at site level and monitored annually at global level in the Evonik Ester-system

## W6. Governance

## W6.1

## (W6.1) Does your organization have a water policy?

Yes, we have a documented water policy, but it is not publicly available

## W6.1a

	Scope	Content	Please explain
Row 1	Company- wide	Description of the scope (including value chain stages) covered by the policy Description of business dependency on water Description of business impact on water Commitment to align with international frameworks, standards, and widely-recognized water initiatives Commitment to prevent, minimize, and control pollution Commitment to reduce water withdrawal and/or consumption	Our Corporate Policy "Responsibility for Environment, Safety, Health and Quality in the Evonik Group" expresses our commitment to protect and use water responsibly within the company and along our value chains. Our ESHQ values with its integrated water policy and the related operational procedure guidelines help to identify, evaluate, monitor and handle our operational impact on the resource water. Global rules, standards, and procedures are defined alongside. Furthermore water related goals and targets on company level are being adressed. (1) Dependency: Since water is needed for the chemical production we are committed to its responsible use along the entire value chain.(2) Impact: Evonik's production sites impact water by emitting thermal energy (cooling water) and discharge of substances which are subject to regulatory requirements. (3) Performance standards: Evonik's production sites are subject to laws and regulations. Internal global standards are set by our Responsible Care Management System. (4) Standards

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



## 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	The highest level of direct responsibility for water topics lies with the member of the Board of Management responsible for Human Resources, Sustainabilty and HSEQ



(Health, Safety, Environment and Quality) RATIONALE: Sustainability including
water is a core element within Evonik's business strategy and risk management.
As the corporate structure of Evonik consists of three different business units
supported by a fourth one providing infrastructure services only on board level can
be assured that an overarching approch takes place with respect to sustainability.
Decisions about production, water intake, water quality and water discharge
initiatives can go hand in hand. This Board Member is one of four corporate
directors on the board. The position was selected for oversight of all water related
issues to ensure water targets and measures are driven on a Group level to ensure
a comprehensive and cohesive approach to water protection.
Members of the board approved a new water Target in 2022. The decision was
taken by all members of the board; however activities started on initiative of
member of the Board of Management responsible for Human Resources,
Sustainabilty and HSEQ (Health, Safety,

## W6.2b

(W6.2b) Provide f	urther details on the b	oard's oversight of	water-related issues.

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Scheduled - some meetings	Monitoring implementation and performance Monitoring progress towards corporate targets Overseeing acquisitions, mergers, and divestitures Overseeing and guiding public policy engagement Overseeing major capital expenditures Overseeing the setting of corporate targets Overseeing value chain engagement	The executive board bears overall responsibility for sustainability and all water-related aspects at Evonik. Direct responsibility is assigned to the chief human resources officer. Responsibility for sustainability management is defined in a corporate policy. In view of the increasing relevance of sustainability for the management of the Evonik Group, we integrated further ESG aspects into our governance framework in the reporting period. Since September 2022, our sustainability council has met at the executive board level, chaired by the chairman of the executive board. To strengthen the alignment with our businesses, alongside the executive board, members include the heads of the divisions. The sustainability council is responsible for the management of water- and sustainability- related aspects and the associated decisions. Following approval by the executive board, the measures are implemented by the operational units in close consultation with the relevant functions, for example, Strategy, Sustainability, Research, Development & Innovation, and Procurement. The



	g re g a R g m R g rr g rr g S S	Reviewing and guiding corporate esponsibility strategy Reviewing and guiding major plans of action Reviewing and guiding risk nanagement policies Reviewing and guiding strategy Reviewing nnovation/R&D oriorities Setting performance objectives	decisions taken by the sustainability council are prepared by the sustainability circle, which comprises representatives of the functions and departments of relevance for sustainability. The sustainability circle is chaired by the chief human resources officer, who is the executive board member responsible for sustainability. Among other things, in the reporting period, both the sustainability council and the sustainability circle considered the results of the EAGER project to reduce water usage and water intake at our sites, and the establishment of sustainability data management. CONTRIBUTION OF GOVERNANCE MECHANISMS TO BOARD OVERSIGHT: The governance mechanisms selected ensure that the Board has a comprehensive view on water-related issues and can ensure a coherent and Group-wide response, if needed. Example: The decision of the board in May 2022 to commit to setting a new water reduction target.
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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	<ul> <li>Criteria:</li> <li>long-term experience in decision-making position on corporate level</li> <li>at least five years of experience in responsible position on environmental topics</li> <li>at least three years of experience as member of the sustainability council or comparable decision-making committee</li> <li>Evonik's CHRO (Chief Human resource officer) does meet the criteria mentioned above and is the appointed responsible person for climate- related issues at the board of Evonik. The position of the CHRO at</li> <li>Evonik covers the responsibility for</li> <li>Function "Human resources",</li> <li>Function "ESHQ" (Environmental, Safety, Health and Quality and Security)</li> <li>Function "Sustainability".</li> <li>Evonik's current CHRO does provide a proven track record on the</li> </ul>



	topics mentioned above for the last ten years.
	However, all members of the board are attending the regular meetings
	of the sustainability council since 2020.
	RATIONALE: Sustainability including water protection is a core element
	within Evonik's business strategy and risk management. Thus the
	sustainability council of Evonik was established some years ago with
	members consisting of "senior vice presidents" and higher positions as
	a sounding board for long-term strategic alignment of Evonik. Two
	members of the board are participating regularly in this meetings.
	Decisions about production, resource efficiency and water security
	initiatives can go hand in hand as all members of the council do have
	decision making responsibilities.
	The sustainability council is supported by the sustainability circle
	representing internal experts and specialists from relevant fields i.e.
	chemists, (process) engineers, physicists, economists, life-cycle-
	management et.al.
	These experts and specialists do inform the sustainability council
	regularly, at least four times a year, about societal and economic
	developments around sustainability on regional and global level (which
	is water security a part of) and do propose internal activities and/or
	measures to the sustainability council for decision.
	Hence, members of the sustainability council are not necessarily
	subject matter experts in the field of "water security" but do provide a
	wide range of expertise on sustainability and water topics with its impact
	on economic development.
	The decision of the CHRO 2022 to define a new water target with
	external support was prepared and discussed comprehensively about
	6month in the sustainability council prior to the board approval.

## W6.3

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

## Name of the position(s) and/or committee(s)

Other C-Suite Officer, please specify C-HRO Chief Human resource officer, member of the board of Evonik

## Water-related responsibilities of this position

Assessing future trends in water demand Assessing water-related risks and opportunities Managing water-related risks and opportunities Setting water-related corporate targets Monitoring progress against water-related corporate targets



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

## **Please explain**

The head of ESHQ reports quarterly directly water-related KPIs, as well as waterrelated target achievement to the sustainability council. The sustainability council has met at the executive board level, chaired by the chairman of the executive board. The sustainability council is responsible for the management of climate- and sustainabilityrelated aspects and the associated decisions. Following approval by the executive board, the measures are implemented by the operational units in close consultation with the relevant functions, for example, Strategy, Sustainability, Research, Development & Innovation, and Procurement. The decisions taken by the sustainability council are prepared by the sustainability circle, which comprises representatives of the functions and departments of relevance for sustainability. The sustainability circle is chaired by the chief human resources officer, who is the executive board member responsible for sustainability.

## W6.4

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

	Provide incentives for management of water-related issues	Comment
Row 1	No, and we do not plan to introduce them in the next two years	

## W6.5

## (W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?

Yes, trade associations

Yes, other

## 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?

Evonik's organizational processes are designed to ensure a common approach for all direct and indirect engagement activities, consistent with our policy on sustainable water use - across divisions and geographies.

Sustainability including water related topics is a core element within Evonik's business strategy and risk management. Thus the sustainability council of Evonik chaired by the CHRO was established some years ago with members from all strategic functions consisting of "senior vice presidents" and higher positions as a sounding board for long-term strategic alignment of Evonik. However, all members of the board are attending the regular quarterly meetings of the sustainability council since 2020. Decisions about production or water efficiency initiatives can go hand in hand as all members of the council do have decision making responsibilities.



The sustainability council is supported by the sustainability circle representing internal experts and specialists from relevant fields i.e. chemists, (process) engineers, physicists, economists, life-cycle-management et.al..

The involvement of these representatives mentioned ensures the consideration of our overall water security strategy in all political activities and the alignment of the activities with our strategy. Any known inconsistency is managed by expert circles which do consist of members from the Business lines and strategic functions.

## 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)

## W7. Business strategy

## W7.1

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

	Are water- related issues integrated?	Long- term time horizon (years)	Please explain
Long-term business objectives	Yes, water- related issues are integrated	21-30	As Evonik's production assets and the assets of our suppliers operate several decades. Thus we not only address sustainability related risks and opportunities within the 10-year strategy horizon, but also in a structured assessment of risks and opportunities in a scenario space leading up to 2050. When we construct our Net-Zero Transition Plan, we not only consider GHG emissions, but also exposure to other risks. Especially for water, there is an inverse relationship to GHG emissions. Circular raw materials based on agriculture or recycling often have higher water footprints than fossil based raw materials. INTEGRATION OF WATER RELATED DECISIONS IN STRATEGIC BUSINESS PLANNING: - Adjusting regional market growth rates for market with a known, high water-footprint if affected by water stress or extreme weather frequencies on a water basin level - Adjusting our manufacturing asset strategies, if sites are affected by cooling water scarcity, extreme weather frequency, etc.



			<ul> <li>Adjusting our innovation focus if we see the need for more water efficient manufacturing processes or for solutions that enable consumers and farmers consume less water or to avoid any pollution of the water cycle</li> <li>Actively engage our customers in a strategic dialogue to reduce water related externalities by reformulating their products and applying different technologies.</li> <li>Consider water stress for our main raw materials in for supply chain set-up and manufacturing asset strategy decisions.</li> </ul>
Strategy for achieving long-term objectives	Yes, water- related issues are integrated	16-20	CONSIDERTION OF WATER IN STRATEGIC MANAGEMENT PROCESS (SMP): Our annual strategy process covers a 10-year projection of revenue and margins, as well as a 10-year projection of GHG emissions, taking into account stakeholder ambitions, market development and the development of our competitive position. Water topics surface in this process if they affect our revenue development (requirements from markets and customers), or affect our cost position (availability and price for production site consumption and for major raw materials). Because water related risks typically become more pronounced between 2040 and 2050, they presently do not show up as a major topic in this process. CONSIDERATION OF WATER IN SITE PORTFOLIO MANAGEMENT (SPM). We annually assess our product sites in our Site Portfolio Management. Here consider sustainability constraints for the production facility and for major raw materials in the assessment category "long-term competitiveness of the production technology". A substantial threat of water scarcity would affect this assessment category. CONSIDERATION OF WATER IN RISK EXPOSURE IN SCENARIO SCENARIO SPACE ACCORDING TO TNFD. We assess the local exposure via the LEAP process and with the help of the WWF water risk tool. We have identified 17 sites as exposed to water risks and the high risk scenario. We are presently preparing proper consequences for the consideration in the SPM and SMP.



Financial planning	Yes, water- related issues are integrated	16-20	To ensure we consider the water specific risk exposure properly, we consider water in the scenario space for our 2050 roadmap to flag our exposure. For our financial planning, supply chain water risks are considered as higher costs and water risks for our production sites are considered as an impact on costs and and impact on capacity utilization. CONSIDERATION IN RISK ASSESSMENT OF LARGE CAPITAL PROJECTS: All investments to be decided by the board (> €10 million) must be evaluated with regard to their environmental impact by a separate ESHQ-Questionnaire. The assessment includes both a product and process evaluation. The evaluation assesses the impacts of the new investment projects on the local environment which are specific to the location and the facility (e.g.water use and emissions into water). CONSIDERATION OF WATER RELATED OPPORTUNITIES IN FINANCIAL PLANNING: €3 billion growth CAPEX will be spent from 2022-2030 in order to increase the sales share of "Next Generation Solutions" from 37% to >50% (products with superior sustainability performance). CONSIDERATION OF WATER RELATED RISKS IN FINANCIAL PLANNING: €700 million additional CAPEX will be spent from 2022-2030 in order to decrease GHG emissions as well as water intake demand e.g. by decreased cooling water demand resulting in >€100 m OPEX savings (p.a.). Cost increases through the internalization of water related externality are considered with 10-year projections of major energy and raw material sources.
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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)



5

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

5

Water-related OPEX (+/- % change)

0

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

0

## Please explain

We will invest app. 10% of or annual CapEx Volume for the footprint reduction of our existing assets (700 M  $\in$  for EAGER). Not all of this is related to water, but as much of this CapEx is related for energy efficiency via heat integration, if will have a positive effect on cooling water intake. We anticipate that for our journey towards Net-Zero we will continue to see investments in heat integration and closed water cycles.

We estimate that water related measures have not a significant effect on OpEx.

## W7.3

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

	Use of scenario analysis	Comment
Row 1	Yes	We construct scenarios according to TCFD and TNFD guideline to descripe the longterm risk and opportunity exposure in to industry transition and to physical effects of climate change. We align nature and water shaping factors with shaping factors of climate scenario this way, that a "net-zero scenario" (>1.5 degree) has the lowest water risks and that the "current policy scenario" (> 3.2 degree) has the highest water risk. To identify high exposure sites via the WWF water risk tool, we choose the physical scenario (> 3.2 degree). To identify market risks, we also use the physical scenario (>3.2 degree) as a reference.

## 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	Parameters, assumptions,	Description of	Influence on business
	scenario	analytical choices	possible water-	strategy
	analysis used		related outcomes	
Row 1	scenario analysis used	analytical choices To identify our risk and opportunity exposure in a Transition scenario we have aligned the following scenarios for the construction of "critical uncertainties" or shaping factors: - International Energy Agency "Net Zero 2050" - Network for Greening the Financial Sector "Net Zero 2050" - IPCC Shared Social Economic Pathways "SSP1" - SystemIQ Planet Positive Chemcials Scenario "No Fossil Capacity After 2030" - German Chemical Association VCI "Klimaneutralitätspfad" from 2019 updated for 3 technology options in the 2023 C4C study - TNFD "Ahead of the Game" scenario - WWF Water Risk "optimistic" scenario in a "Net Zero 2050" transition scenario, which also encompasses shaping factors on nature, equity, health & well-being.	possible water- related outcomesAs the availability of water is vital for our production and some of our supply chains. Special attention is paid on long-term availability of water as well as for existing sites as well for new investments. A waterstress analysis conducted at all production sites (102 sites) presented about one quarter of our sites may be possibly impacted by water stress within the next two decades (-2030 / - 2040): •Existing designated water scarce Evonik production sites do not see significant changes w.r.t. basin water supply. •Changes in water supply due to climate change projections do not appear to be a major	strategy Inclusion of manufacturing sites water measures in the "NEXT GENERATION TECHNOLOGIES" roadmap for 2030. Involving suppliers, local authorities and scientific community on the long- term effects on our raw material supply chain for large scale biotech process in the US and in
		To identify our risk and opportunity exposure in a pysical climate scenario for a mean global warming > 3.1°, we have aligned the following scenarios for "critical		
		uncertainties" or shaping factors: - International Energy	unclear, require further analysis Water Demand:	



	Ageney "Oteted Delisies	· Evenile nuclustice	
	Agency "Stated Policies	•Evonik production	
	Scenario STEPS"	sites will see	
	- Network for Greening the	increases in water	
	Financial Sector "Current	demand implying	
	Policies"	greater competition	
	- IPCC Shared Social	for remaining water	
	Economic Pathways "SSP5	resources in the	
	Fossil Fueled"	future due to stable	
	- German Chemical	or decreasing water	
	Association VCI	stocks	
	"Referenzpfad" from 2019 in	<ul> <li>Changes in water</li> </ul>	
	a "Current Policies" physical	demand due to	
	scenario, which also	projected socio-	
	encompasses shaping	economic factors	
	factors on nature, equity,	appear to drive most	
	health & well-being to	of the future water	
	assess risks and	scarcity for Evonik	
	opportunities from other	production sites	
	Sustainability Focus Areas	Water Stress:	
	(SFA).	•Most Evonik	
	- TNFD "Sand in the Gears"	production sites	
	scenario	already designated	
	- WWF Water Risk	as water scarce will	
	"pessimistic" scenario	see increases in	
	Data on physical scenarios	water stress or no	
	are often very conservative,	change from present	
	as environmental, social and	conditions.	
	financial tipping points are	All sites in water	
	not considered. Country level	stressed areas are	
	risk assessment are available		
	for Swiss Re Institute 2021	attention by the risk	
	"Economics of Climate	management	
	Change" and McKinsey 2020	effective 2019. Sites	
	"Climate risk and response:	in water stressed	
	Physical hazards and socio-	areas have been	
	economic impacts".	required to bring in	
		de-risking measures	
		into the EAGER	
		program, so they	
		can be considered in	
		the "NGS" roadmap.	
		the NOO Toaumap.	

## W7.4

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



## Row 1

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

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

#### **Please explain**

Evonik has discussed internally the possibility of introducing an internal price of water. As a result of this discussion process shadow pricing does not seem to be an appropriate or meaningful approach as supplier prices for water do vary substantially than shadow prices available in literature. This may lead to bias the profitability of Investments unjustified under current real conditions. We have seen that GHG emission reduction and water use reduction go hand in hand. Thus, we prioritize "NEXT GENERATION TECHNOLOGY" measures based on CO2 abatement cost and flag the few "water-only" measures, to be included in the roadmap but falling out the CO2 abatement cost.

## 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	Products defined as low water impact are those having a positive impact upstream or downstream in comparison to a market reference. Here are a few examples regarding a positive impact on water consumption in product application: - Evonik animal feed additives (amino acids) enable water savings thanks to the lower amount of ingredients required to feed animals (higher feed conversion ratio) in comparison to feeding systems with less or no amino acids. An additional benefit is the significantly lower nitrogen emission from livestock farming and consequently an improved effect on ecosystem and water quality. - Evonik is investing in the Danish hydrogen peroxide company HPNow that develops decentralized systems for electrochemical production of H2O2. HPNow mainly addressses the market for agricultural drip	Products having a low water impact means that these products enable water savings or improving water quality in comparison to established alternative on the market in their application. These products are flagged as Next Generation Solution in the scope of the Sustainability Analysis of our business. Low water impact can mean enabling water savings (reduce quantity), improving water quality,



	irrigation water treatment. Drip irrigation uses	
	water very efficiently in the irrigation of plants	
	and is used as a solution to the problem of	
	increasingly inadequate water supply. HPNow	
	helps customers with increased crop yields and	
	reduced irrigation system maintenance.	
	- Evonik is offering raw material solutions that	
	can lead to lower water-usage footprint	
	consumers products. Evonik's product	
	technologies enable a wide range of	
	approaches to water conservation, from no-	
	rinse cleaning to low water-usage formats (e.g.	
	Rewoferm biosurfactants	
	Here are a few examples regarding improved	
	water qualilty in the product application:	
	- Some cosmetic ingredients like esterquats	
	have a better biodegradability that market	
	reference what has a positive impact on	
	freshwater quality. Evonik also produced home	
	cleaning ingredients fully biodegradable	
	(biosurfactants).	
	- Evonik also introduced new structure	
	modified silica type for Anti-Fouling Coatings to	
	enable the reduction of biocide release.	

## W8. Targets

## W8.1

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

Yes

## W8.1a

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

	Target set in this category	Please explain
Water pollution	No, and we do not plan to within the next two years	Water discharge quality also considered as Wastewater loads (nitrates, phosphates, sulphate, chlorine, heavy metals, COD, AOX) is analysed partly continuously and partly daily and recorded by water analysis systems on site and reported to corporate center for company-wide aggregation and evaluation



		quarterly. We monitor our wastewater loads at the facility level using automatic water samplers and lab testing. As waste water loads are subject to sit-specific regulations that are based on precautionary principles we do not assume to set specific targets on pollution.
Water withdrawals	Yes	
Water, Sanitation, and Hygiene (WASH) services	No, and we do not plan to within the next two years	Health and safety of our employees are very important aspects. We constantly monitor and assess our HSE performance on a monthly basis including the existence of fully-functioning wash services through our internal audits worldwide, according to annual HSEAudit programs. Thus we do not assume to set specific targets.
Other		

## W8.1b

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

## Target reference number

Target 1

## Category of target

Water withdrawals

## **Target coverage**

Company-wide (direct operations only)

## **Quantitative metric**

Reduction in withdrawals per product

## Year target was set 2021

Base year 2021

## Base year figure 26,8

Target year 2030

Target year figure 26

**Reporting year figure** 



#### 28,3

## % of target achieved relative to base year

-187,5

### Target status in reporting year

Underway

### Please explain

APPROACH TO SETTING TARGETS AND GOALS:

Evonik aims to protect water resources and improve water-use-efficiency both within the company and beyond. Clean water in sufficient quantities is essential for the health of people, animals and plants. That is why it is crucial that industrial water usage will continue not to lead to local problems such as water shortages for the people living in the catchment areas of our production sites.

In the context of setting its non-financial Group targets, Evonik assesses its water performance in a holistic way since 2010. This includes, inter alia, the analysis of water parameters such as water use, quality and discharge, the identification of sites exposed to water risks using the Aqueduct Tool as well as the analysis of site-specific water projects and initiatives in local communities.

MOTIVATION:

We aim to identify potential for improvement particularly at sites located in (future) water-scarce areas, and use as little water there as possible.

IDENTIFCATION AND PRIORITIZATION:

Our water management (WM) tools are based on site specific data. However, we set a GROUP-WIDE TARGET to ascertain whether all our sites that are located in (future) water-scarce areas have a WM system.

CONSIDERATION OF CONTEXTUAL FACTORS:

A sustainable WM is balancing water consumption and availability. Due to widely varying local situations, each WM system is designed individually on the basis of a risk analysis that takes into account local circumstances and the main parameters of our water supply and disposal. With our 'Ecological and Sustainability Assessment of New Investments Guideline', we assess the environmental impacts of new investment projects, considering specific conditions of the location and the facility (e.g. water use). IMPACT MONITORING:

Using a monitoring tool developed by Evonik all water-related KPIs are annually analyzed; the site data at corporate level including a site-specific risk review and progress analysis.

## **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



Evonik\_Sustainability\_Report\_2022\_ungeschützt.pdf

## 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	Total water withdrawl,(T12 on page 91) Total water discharges,(G29 on page 92)) Waste water loads (T13 on page 92)) for all environmentally relevant sites worldwide	ISAE 3000	Total water withdrawls are described in Evonik's sustainability report 2022 Thus they are included in the verification process by the auditor KPMG Please note: Figures provided within the sustainability Report partly are based on projections for q4 as agreed with the Auditor to meet the sustainability Report publication timeline. Thus figures in sustainability report may vary from measured figures reported in WaterCDP. Please do check T12 page 91 of attached report - Auditors statement on pages 148/149
W8 Targets	Water target	ISAE 3000	Water target is described in Evonik's sustainability report 2022. Thus they are included in the verification process by the auditor KPMG Please do check pages 90/91 of attached report - Auditors statement on pages 148/149

## 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	Direct operations Supply chain Product use phase	As explained in previous part of the questionnaire, we apply the sustainability analysis (PSA) on all our chemical business. Through the PSA, we have the possibility to determine where plastics are used/ or produced in our portfolio and more generally to understand our inflows. Some of our businesses produce plastic producs (e.g. Polyamide



		12). Howevr, plastic products represent a small share of our
		product portfolio.

## 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 Supply chain Product use phase	Potential environmental and human health impact of the production of plastics will be assessed via the Signal Category 5 of the Portfolio Sustainability Assessment. This includes direct operation, raw materials and product use phase.

## 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	Please explain
Row	Not assessed – but	We are currently working on an assessment of our material risk and
1	we plan to within the	opportunities regarding to climate, water and circular economy. Within
	next two years	the next two years, we will be able to describe our plastic-related risks
		with substantive or strategic impact on our business.

## W10.4

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

	gets Target	type Target metric	Please explain
Row Yes	Plastic polymen Plastic packagi Plastic Waste manage	ng with solutions for the circular plastic econo develop solutions for recyclable plastics - r specific production w increase sales of Nex	<ul> <li>1) Generate more than €350 million in additional sales with solutions for the circular plastics economy from 2030.</li> <li>2) Solutions for around 400,000 metric tons of recyclable plastics by 2025.</li> </ul>



to over 50 percent by 2030.
5) Proportion of sales from challenged
products should
be permanently <5 percent
With our Circular Plastics Program we
enable value chains to become more
circular. Target 1) and 2) relate to this.
We also have a waste target (3) for
our production waste, which includes
but is not limited to plastic material.
Evonik is publicly committed to
increase the revenue share with
products and solutions that have a
superior sustainability performance
("Next Generation Solution") and
permanetly limit the revenue share
with products and solutions with strong
negative sustainability impacts
("Challenged") , which includes but is
not limited to plastic materials and
value chains (Target 4) and 5), see
below)

## W10.5

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

	Activity applies	Comment
Production of plastic polymers	Yes	E.g. Polyamide 12. They overall represents a small share of our product portfolio,
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	
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**

These data are available internally but not intented to be disclosed due to competitivness and antitrust reasons.

## 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	% post- consumer recycled content	Please explain
Plastic packaging used	31.233,07	% post-consumer recycled content	22	Please consider the recycling content as an overall content. Please also consider that we solely are a user of platic packaging and not a producer. We expect this precentage to increase in the short term. Indeed, we are working on various ways of increasing recycling rates for rigid bulk containers depending on the products, processes, and customers. These include the reuse of reconditioned IBCs (recycling rate: 100 percent ) and rebottled IBCs1 where the steel cage and pallet are reused with a new plastic liner (recycling rate: 70 –



	80 percent). In other areas, we
	use IBS with a plastic liner
	made from about 40 percent
	post-consumer recyclate (PCR),
	which results in a recycling rate
	of about 60-65 percent. We are
	trialing PCR IBCs on the filling
	lines for non-hazardous goods
	at
	initial sites in Germany. The
	plan is to roll out usage further
	locally, nationally, and globally.

## 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	As plastic packaging user, we are committing to use plastic packaging with an increased recycling and reused rate where it is technically feasibel and allowed by regulators. However, we cannot provide any insights to the overall quantitative circularity potential of our platic packaging used since this is highly depedent from externalities.

## 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.

nothing to add

## 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	Chief human resource officer	Director on board



## SW. Supply chain module

## SW0.1

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

	Annual revenue
Row 1	18.488.000.000

## SW1.1

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

This is confidential

## SW1.2

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

	Are you able to provide geolocation data for your facilities?	Comment
Row 1	No, this is confidential data	

## SW2.1

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

## SW2.2

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

No

## SW3.1

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

## Submit your response

In which language are you submitting your response? English

Please confirm how your response should be handled by CDP



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

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

Yes, CDP may share our Main User contact details with the Pacific Institute

## Please confirm below

I have read and accept the applicable Terms