

Wastewater Zero Commitment: Guidance document



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① Wastewater Zero



① Wastewater Zero

INTRODUCTION

Wastewater pollution from industry impacts climate, biodiversity, and water security. It has been increasing significantly and is a key driver of freshwater biodiversity loss and further impacts

freshwater availability.¹ Improper management of industrial wastewater contributes to Greenhouse Gas (GHG) emissions and impedes adaptation to climate change, undermining the realization of

the Paris Climate Agreement goals. Several reports published since 2017 have highlighted the scope, scale and urgency that is required for wastewater management (see table 1).

Table 1: Reports highlighting the urgency of action on wastewater pollution

Name of report	Author	Year of publication	Key messages
World Water Development Report 2017 on Wastewater: The Untapped Resource ²	United Nations World Water Assessment Programme	2017	80% of wastewater is discharged directly into the environment without treatment
SDG 6 Synthesis Report 2018 on Water and Sanitation ³	United Nations	2018	The world is off track to meet SDG6 targets
Quality Unknown: The Invisible Water Crisis ⁴	World Bank	2019	In regions downstream from heavily polluted rivers, GDP growth is lower by a third
Achieving Abundance: Understanding the Cost of a Sustainable Water Future ⁵	World Resources Institute (WRI) and Valuing Nature	2020	Estimated annual cost to reduce pollution caused by industrial wastewater is USD\$ 87.4 billion
CDP Global Water Report 2019: Cleaning up their act ⁶	CDP	2020	Only 10% of companies surveyed reported risks linked to water pollution and only 12% of companies have set pollution-related targets

The cost of business as usual far outweighs the cost of action to fix the problems linked to industrial wastewater pollution⁷. This also leads to missed opportunities for business to make progress on biodiversity, climate change and water security to achieve the Sustainable Development Goals (SDGs). To raise the ambition for SDG 6.3 - which calls for halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse- business must commit to Wastewater Zero.

WASTEWATER ZERO REPORT

WBCSD's report [Wastewater Zero: A call to action for business to raise ambition for SDG 6.3](#) presents wastewater pollution as a climate, freshwater biodiversity and water security challenge, and describes what it means for business risk and continuity and highlights the opportunity to address the challenge. The report triggers an urgent call to action to business to eliminate wastewater pollution.

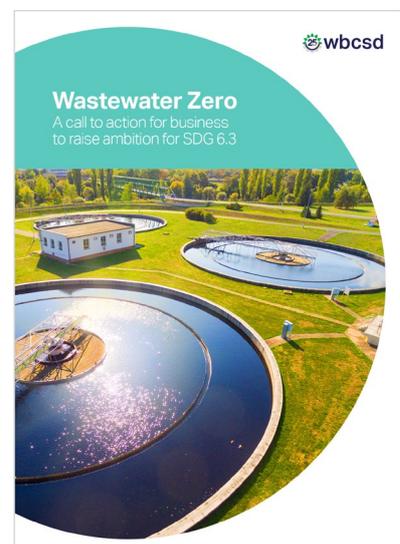
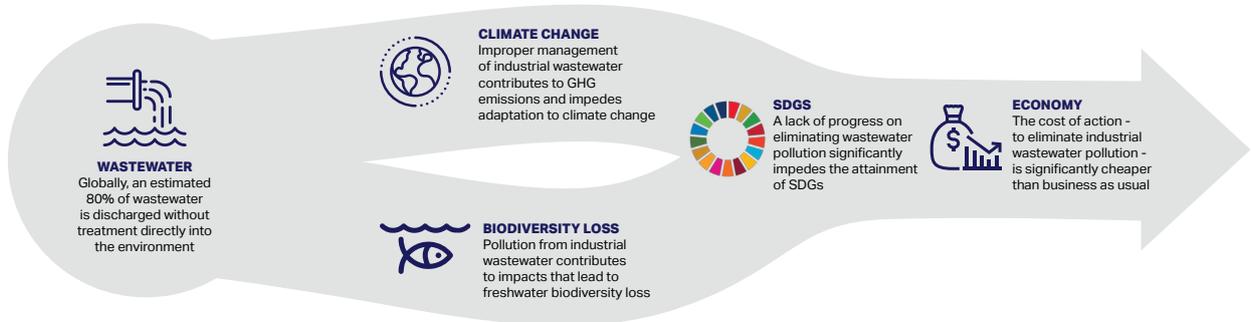


Figure 1: Industrial pollution impacts climate and biodiversity

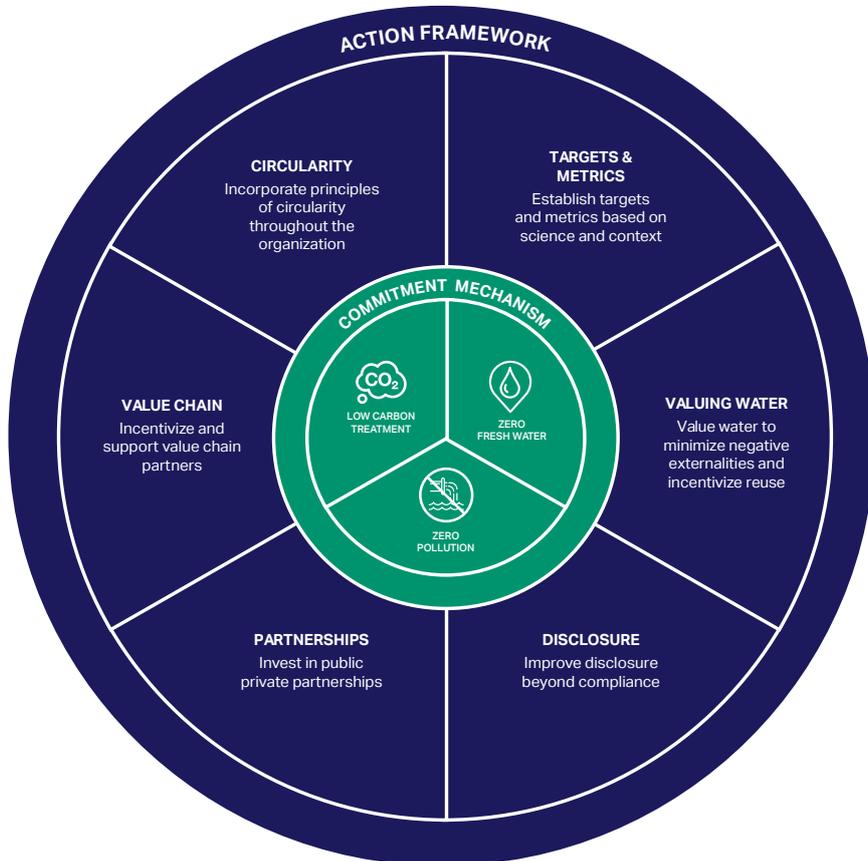
Wastewater pollution impacts climate and nature leading to negative social, environmental and economic outcomes



Essential to the report are three aspects:

- An action framework – six high-level principles for business to focus its attention for wastewater management.
- Commitment mechanism – three areas for corporate commitment to demonstrate leadership around wastewater and monitor progress over time.
- Policy asks – areas where there needs to be policy changes to enable business to take action.

Figure 2: Action framework and commitment mechanism (as described in Wastewater Zero report)



As a follow up to this report, the Wastewater Zero Initiative aims to mobilize business to reduce the impact of wastewater pollution and drive performance improvements for wastewater management that benefit climate, biodiversity and water security.

WHAT WE MEAN BY WASTEWATER ZERO

The Wastewater Zero Initiative is a mechanism to raise ambition for business to meet SDG 6.3 – which calls for halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse. The Wastewater Zero Commitment calls on business to release no hazardous substances into the environment and treat all generated wastewater, through

- Treating all wastewater so that the discharge has no negative impact* on the receiving water body;
- Increasing the proportion of reused and recycled water to replace freshwater withdrawals in water scarce areas;

- Adopting wastewater treatment processes that reduce GHG emissions and net energy requirements, where feasible.

The Wastewater Zero Commitment calls on business to set a deadline of 2030 to achieve their Wastewater Zero targets. The Initiative emphasizes on the need to collaborate at sector, industrial or basin level to establish a standardized and transparent mechanism with a common vision to monitor progress of business action on wastewater.

WHAT THIS MEANS FOR BUSINESS

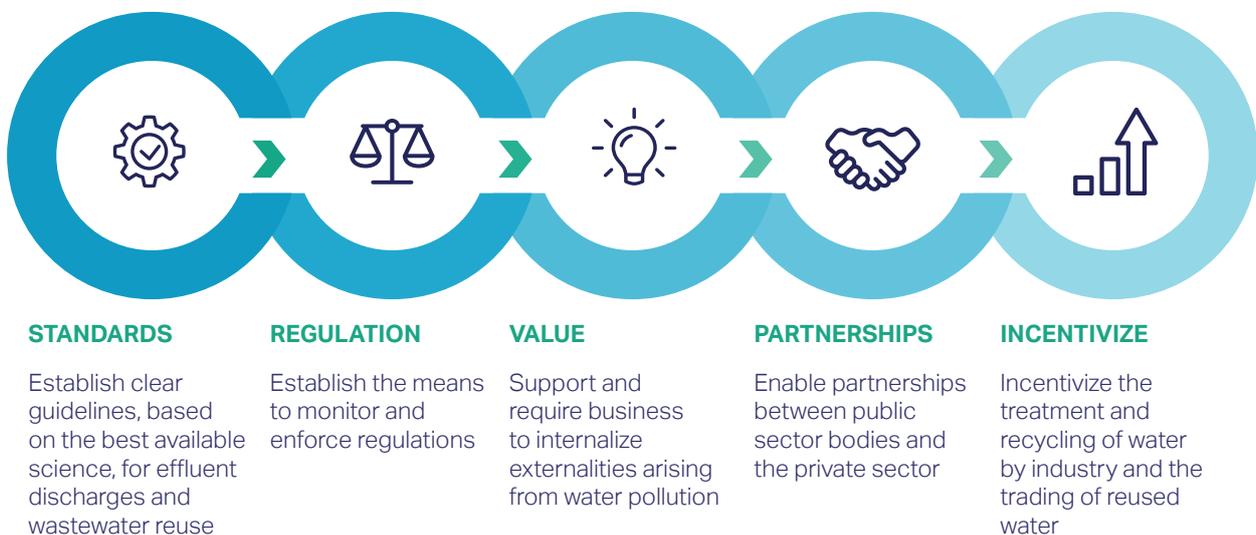
For those companies that have identified water security and / or freshwater biodiversity as a material issue, water quality and the impact of wastewater pollution is a key issue to address at a site-level and / or supplier level. For those companies that have a large wastewater footprint – within their own operations or in their supply chain - reducing wastewater pollution will also contribute to meeting climate goals and targets.⁸

Further downstream, wastewater pollution also impacts other key stakeholders, including farmers, who may use untreated wastewater for irrigation, which in turn negatively impacts yields; large water users, who will need to invest in additional treatment capacity to ensure water quality is fit for purpose, and the public, whose water supply may be sourced from polluted waters and / or use polluted water for recreational purposes. Understanding water quality status at a basin-scale, the impacts of wastewater pollution on key stakeholders and the externalities of these impacts are key steps to understand the scope and scale of the issue.

Although considerable efforts are made by business in reducing water withdrawals, only 59% of respondents to CDP monitor the quality of their wastewater discharges and merely 4.4% are setting/ reporting progress against pollution targets that demonstrably improve water quality.⁸

* "No negative impact" to be assessed using science-based target setting in the long term.

Figure 3: Call to action for policy makers (as described in Wastewater Zero report)



WASTEWATER ZERO INITIATIVE

The scale of wastewater pollution and its impacts is significant and the risk to business is multifaceted. Thus, the Wastewater Zero Initiative aims to mobilize business to reduce the impact of wastewater pollution and drive performance improvements. It places wastewater at the heart of business strategy by enabling businesses to:

- Be aware of the impacts of wastewater pollution and identifying ways to address the link between biodiversity, climate, and water security.
- Understand the urgency of industry action on eliminating wastewater pollution to respond to risk and opportunities in their operations and supply chains.
- Be proactive in measuring, monitoring and reporting of impacts from wastewater and take concrete steps in mitigating impacts for achieving the raised ambition for SDG 6.3.

Wastewater pollution risk can often originate from value chain partners and manifest itself downstream, meaning that business needs to look beyond the fence to fully assess and manage risk. Addressing wastewater pollution in supply chains is an important action area highlighted by the Initiative and provides concrete steps to collect and report supply chain related data.

The Initiative aims to build business resilience by unlocking opportunities in wastewater management and disclosure, thereby contributing to overall water security. It intends to strengthen corporate disclosure of water-related dependencies and impacts to provide insights on how improvements in wastewater governance can translate into action and impact.

HOW IT LINKS TO CORPORATE PRACTICE AND GLOBAL POLICY

There is great momentum around corporate target setting, reporting and disclosure.

This provides actionable information for business and to critical stakeholders including government, civil society, and investors. Also, more companies are aligning their strategies with the SDGs to demonstrate impact. This section highlights some of the key initiatives and guidance in this space and describes their relevance to wastewater pollution.



Corporate targets and standards

Initiatives that support and validate science-based targets and provide specific guidance and standards for water stewardship targets and approaches are important tools to guide business on their strategy.

Table 2 below highlights some of the most relevant initiatives for wastewater.

Table 2: Corporate initiatives and standards and their relevance to wastewater

Initiative	Description	Relevance to wastewater	Relevance to Wastewater Zero
The Science Based Targets initiative (SBTi)⁹	SBTi drives ambitious climate action in the private sector by enabling companies to set science-based emissions reduction targets.	Wastewater (untreated and treated) emits GHGs, including methane, nitrous oxide and carbon dioxide.	Committing to Wastewater Zero, for companies with a large wastewater footprint, can contribute to reaching science-based emissions reduction targets.
The Science Based Targets Network¹⁰	The Science Based Targets Network are developing SBTs for Nature ¹¹ covering all aspects of nature: biodiversity, climate, freshwater, land, and ocean.	Wastewater pollution impacts biodiversity, climate, freshwater and oceans, so it is likely that eliminating wastewater pollution will contribute to achieving corporate SBTs for Nature.	Committing to Wastewater Zero will provide extra impetus to companies who need to take significant actions to eliminate wastewater pollution to reach their Science Based Targets for Nature.
Alliance for Water Stewardship (AWS) Standard¹²	The AWS Standard is a globally applicable framework for major water users to understand their water use and impacts, and to work collaboratively and transparently for sustainable water management within a catchment context.	Good water quality status is one of the five outcomes of the AWS standard, driving best practices for wastewater management and reuse.	Committing to Wastewater Zero will provide companies with extra tools and insights to implement and certify the AWS Standard, specifically as it relates to the good water quality outcome.
Contextual Water Targets¹³	Site water targets informed by catchment context aims to help companies set effective site water targets that are informed by catchment context.	Data and information related to wastewater effluent, water quality and reuse are important in setting contextual water targets.	Committing to Wastewater Zero will provide companies with extra tools and insights to develop contextual water targets, specifically related to water quality and reuse.
WWF Water Risk Filter (WWF Water Risk Filter)²	The WWF Water Risk Filter is a corporate and portfolio-level screening tool to help companies and investors to prioritize action on what and where it matters the most to address water risks.	Enables initial screening of facilities to prioritize where action needs to be taken.	Committing to Wastewater Zero will enable companies to go the extra mile after identifying which facilities have the highest risks and take action to set water quantity and quality targets.

²WWF Water Risk Filter Methodology is based on a questionnaire to assess the exposure to water risks
<https://waterriskfilter.org/explore/dataandmethods>

Reporting and disclosure

Prominent global reporting and disclosure frameworks and initiatives recommend the inclusion of key indicators related to wastewater pollution, associated GHG emissions, and the transition to low carbon economy across industrial operations and their supply chains. Although publicly accessible annual reports already include some reporting elements, table 3 provides a comprehensive overview of various existing reporting and disclosure guidelines and mechanisms, which can be used to disclose and report on wastewater pollution.

Table 3: Corporate reporting and disclosure guidance and initiatives with their relevance to wastewater pollution

Initiative	Description	Relevance to wastewater	Relevance to Wastewater Zero
Climate Disclosure Standards Board (CDSB)¹⁴	The CDSB Framework application guidance for water-related disclosures supports companies in reporting material water-related information in mainstream company reports.	The disclosure of wastewater-related information is recommended to identify and assess various risks and opportunities and support decision-making to drive impactful action.	Company reports in line with CDSB guidance are a means to guide the disclosure of the company's Wastewater Zero commitments and progress.
CDP¹⁵	CDP's work with water security motivates companies to disclose and reduce their environmental impacts by using the power of investors and customers. The data CDP collects help influential decision makers to reduce risk, capitalize on opportunities and drive action towards a more sustainable world.	Wastewater treatment, reuse, recycling and freshwater pollution aspects are covered in the different parts of the CDP Water Security questionnaire. Part 8 enables to share goals and targets.	Information reported to the CDP questionnaire is a means to disclose the company's Wastewater Zero commitments and progress.
Global Reporting Initiative (GRI)¹⁶	The GRI 303: Water and Effluents 2018 represents global best practice in water stewardship and disclosures on reporting water withdrawal, water consumption, water discharge, impacts in areas with water stress, and impacts in the supply chain.	Guidance on how to report effluents, reuse and recycling are included in the GRI 303 standard.	The GRI standards can be used to report on the means implemented to manage wastewater, but not on the ambition.
Task Force on Climate-related Financial Disclosures (TCFD)¹⁷	TCFD is an industry-led initiative created to develop a set of recommendations for voluntary climate-related financial disclosures with an aim to provide consistent and transparent information to global markets.	TCFD recommends transition to a low carbon economy including: resource efficiency (greater use of recycling and reduced water usage and consumption); energy sources that have lower emissions; resilience through working with supply chains.	Data collected as part of the Wastewater Zero Initiative can be used for TCFD-aligned disclosures.
Task Force on Nature-related Financial Disclosures (TNFD)¹⁸	TNFD will provide ¹⁹ a framework for corporates and financial institutions to assess, manage and report on their dependencies and impact on nature to aid appraisal of nature-related risk and direction of financial flows towards nature positive outcomes. The TNFD framework will be finalized and released in September 2023.	The scope of final TNFD recommendations is very likely to encompass the freshwater biodiversity impact of wastewater.	Data collected as part of the Wastewater Zero Initiative are likely to be very relevant for TNFD-aligned disclosures.

UN SDG 6: Water and Sanitation

The main relevance for Wastewater Zero is water quality, which directly corresponds with SDG 6.3,²⁰ which seeks to halve the proportion of untreated wastewater discharged into our water bodies:

“By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.”²¹

SDG 6 is about “clean water and sanitation for all” and the elimination of wastewater pollution contributes to several SDG 6 targets (see table 4 below), making the Wastewater Zero Commitment a clear signal of intent and ambition to directly contribute to the attainment of SDG 6.3 and support other SDG 6 targets.

Figure 4: Journey to impact driven action towards SDG 6.3 framework

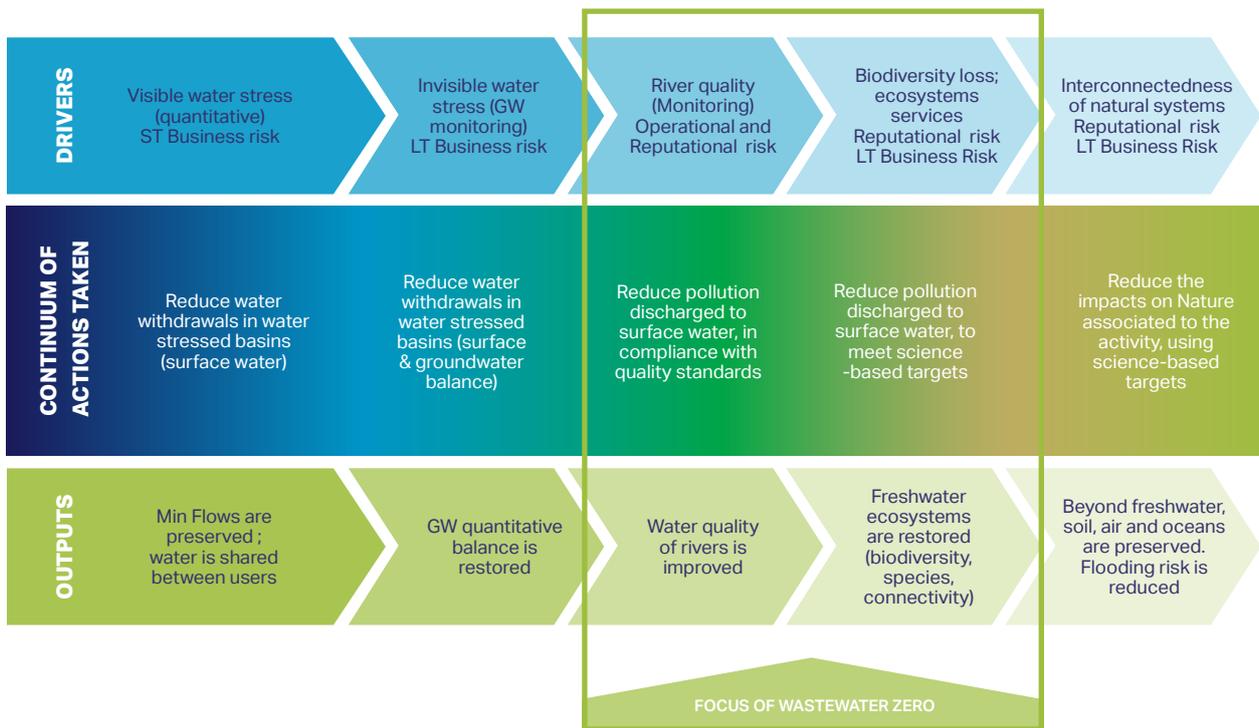


Table 4: SDG 6 targets and linkage to Wastewater Zero

SDG Targets	Contribution of Wastewater Zero Commitment
SDG 6.1: achieve universal and equitable access to safe and affordable drinking water for all	Eliminating industrial wastewater pollution protects freshwater sources and supports access to safe drinking water supplies.
SDG 6.2: achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations	
SDG 6.3: improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally	Eliminating industrial wastewater pollution through improved treatment and increased reuse and recycling in water scarce areas, protects freshwater sources and supports improved water quality.
SDG 6.4: substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity	Reusing and recycling water supports water efficiency and can contribute to alleviating water scarcity.
SDG 6.5: implement integrated water resources management at all levels, including through transboundary cooperation as appropriate	Eliminating industrial wastewater pollution and increasing water reuse and recycling can contribute to effective and efficient implementation of IWRM and transboundary cooperation.
SDG 6.6: protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes	Eliminating industrial wastewater pollution protects water-related ecosystems.
SDG 6.a: expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies	Eliminating industrial wastewater pollution and increasing water reuse and recycling can lead to greater stakeholder cooperation and capacity building efforts.
SDG 6.b: support and strengthen the participation of local communities in improving water and sanitation management	

② Why commit



② Why commit

WHY COMMIT TO WASTEWATER ZERO

By taking the Wastewater Zero Commitment, companies:

- Demonstrate leadership in tackling a major global challenge: water quality
- Generate impact by contributing to the implementation of the SDGs
- Align wastewater actions with climate, biodiversity, and water targets
- Connect to peers and partners active in this space
- Have access to and inform the development of tools to support reaching Wastewater Zero Commitment

WHO CAN JOIN

The commitment encourages all companies to join and demonstrate their leadership in reducing wastewater impact on climate, biodiversity and water security. Particularly, it welcomes commitments from priority sectors such as textiles, food and beverage and pharmaceuticals to understand the importance of wastewater impacts and enable this transition to Wastewater Zero.

Companies not reporting to CDP or other Small and Medium Enterprises (SMEs) are welcome to commit to Wastewater Zero. To encourage SMEs to make commitments and drive performance improvement, the Wastewater Zero Commitment does not expect SMEs to make supplier commitments. However, forward thinking SMEs are welcome to demonstrate leadership by engaging their supply chains.

BENEFITS OF COMMITMENT

Making the Wasterwater Zero Commitment will benefit companies in the following ways:

- The commitment will bring wastewater dimensions to corporate climate, biodiversity and water security goals and help business understand the role wastewater plays in these material issues.
- The commitment will be validated through a credible and globally accepted reporting system that promotes best practice in data collection and assessment on water.
- The commitment will allow business to send signals to stakeholders including suppliers, investors, government and other partners that they are committed to reducing their wastewater impact and strengthen their opportunities to collaborate for wastewater governance.
- The commitment will over the time establish a track record of performance as year-on-year progress with long-term targets is tracked. This will in turn strengthen corporate disclosure of wastewater to provide insights on how improvements in wastewater governance can translate into action and impact.

③ Wastewater Zero Commitments



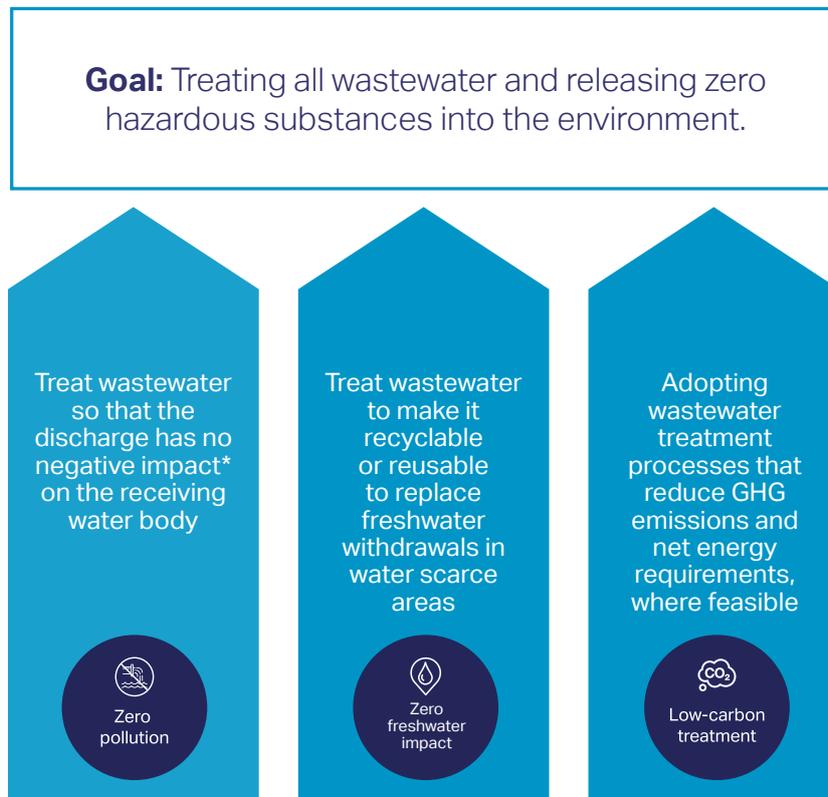
③ Wastewater Zero Commitments

THREE PILLARS OF COMMITMENT

The Wastewater Zero Commitment enables business to share their internal commitments towards eliminating wastewater pollution by 2030, thereby raising their ambitions for SDG 6.3. In this commitment, business quantify and qualify their commitment against three action pathways and report progress annually:

- 1. Zero pollution:** Treating wastewater so that the discharge has no negative impact* on the receiving water body.
- 2. Zero freshwater impact:** Treating wastewater so that it can be recycled or reused to replace freshwater withdrawals in water scarce areas.
- 3. Low-carbon treatment:** Accounting for all GHG emissions related to wastewater, and adopting wastewater treatment processes that reduce GHG emissions and net energy requirements, where feasible.

Figure 5: Action pathways of the Wastewater Zero Commitment



* "No negative impact" to be assessed using science-based target setting in the long term.

COMMITMENT SCOPE

The scope of the commitment encompasses the company's own facilities only and/or its suppliers.

The commitment has four modular components to reflect the journey from compliance to impact driven action of a company in its own facilities and supply chain.

Impact is to be assessed as the share of responsibility in the change in the State of Nature at watershed scale on the three aspects as proposed by the Wastewater Impact Guidance—introduced below:

- Water availability
- Water quality (N, P, COD, Temperature, Priority Pollutants)
- GHG emissions from wastewater

The data to be collected and reported align with the requirements of the CDP Water Security Questionnaire; Appendix B of this report links the data points to the relevant questions with the CDP questionnaire.

Table 5: Modular commitment to reflect an increasing ambition

	COMMITMENT NAME	COMMITMENT SCOPE
 INCREASING AMBITION	Wastewater Zero Operations	Own facilities only and compliance driven approach. Timeline as per company's choice, prior to 2030.
	Wastewater Zero Supply Chains	X% of Tier 1 suppliers that produce point source wastewater with a compliance driven approach. Timeline as per company's choice, prior to 2030.
	Impact driven Wastewater Zero Facilities	Committing to use the Wastewater Impact Assessment Tool for the assessment of <ul style="list-style-type: none"> • X% of own or supply chains facilities OR <ul style="list-style-type: none"> • X% of our total water use to strengthen the company's impact driven approach. Timeline as per company's choice.
	Water Quality Watersheds	Committing to evaluate the fair share responsibility for each company to improve the current State of Nature in each relevant watershed. Then set Facility level science-based targets for X% of their facilities and suppliers: <ul style="list-style-type: none"> • Water availability • Water quality (N, P, COD, Temp & Priority Pollutants) • GHG emissions from wastewater Timeline as per company's choice

Table 6: Reporting indicators to share progress towards eliminating industrial wastewater pollution

Area of commitment	Existing Reporting Indicators in the CDP Water Questionnaire	Further Reporting Indicators that can be reported in Chapter 8 of CDP Water Questionnaire
 <p>Zero Pollution</p>	<ul style="list-style-type: none"> • Proportion of wastewater treated and treatment level (primary to tertiary) either on-site, or by a third-party • Number of fines/ penalties/ enforcement orders <p>Specify in the comments section: Proportion of wastewater discharged in compliance with an international quality level.</p>	<ul style="list-style-type: none"> • Proportion of wastewater treated to meet water quality science-based targets
 <p>Zero Freshwater Impacts</p>	<ul style="list-style-type: none"> • Proportion of reused and recycled water (of total water used) <p>Specify in the comments section: the proportion of reused and recycled water in facilities located in water scarce areas (i.e.: areas with a Water Stress indicator above 20%, as per WRI Aqueduct)</p>	<ul style="list-style-type: none"> • Proportion of wastewater reused or recycled to meet water quantity science-based targets
 <p>Low Carbon Treatment</p>	<ul style="list-style-type: none"> • Company-wide science-based emissions reduction targets 	<ul style="list-style-type: none"> • GHG emissions associated to wastewater treatment • Energy use and production associated to wastewater treatment

SUPPORTING TOOLS

Two tools will be made available to companies who commit to Wastewater Zero, which will guide and support their actions (see figure 6):

Wastewater Impact Assessment Tool (WIAT)

The tool aims to provide a site-level assessment of the pressures resulting from the industrial activities, also called change in the State of Nature under the SBTN methodology. These changes lead to impacts

on climate, biodiversity and water security. The current tool allows users to visualize the impacts of wastewater for as many facilities or supplier sites as they want, worldwide and in the local watershed context documented by global datasets.

The tool allows prioritization of facilities/ sites/suppliers within the company highlighting the impact level and pointing to where action is most needed.

A second phase of the tool development will support science-based target setting for facilities acknowledging the share of responsibility for impacts at watershed scale.

Wastewater Impact Guidance

The Guidance provides an approach for measuring the impacts of wastewater on climate, biodiversity and water security. Three sets of independent metrics are proposed for calculation of impact. The metrics are there to guide the evaluation of impact of action in facilities and supply chains as well as to monitor progress on Wastewater Zero commitments.

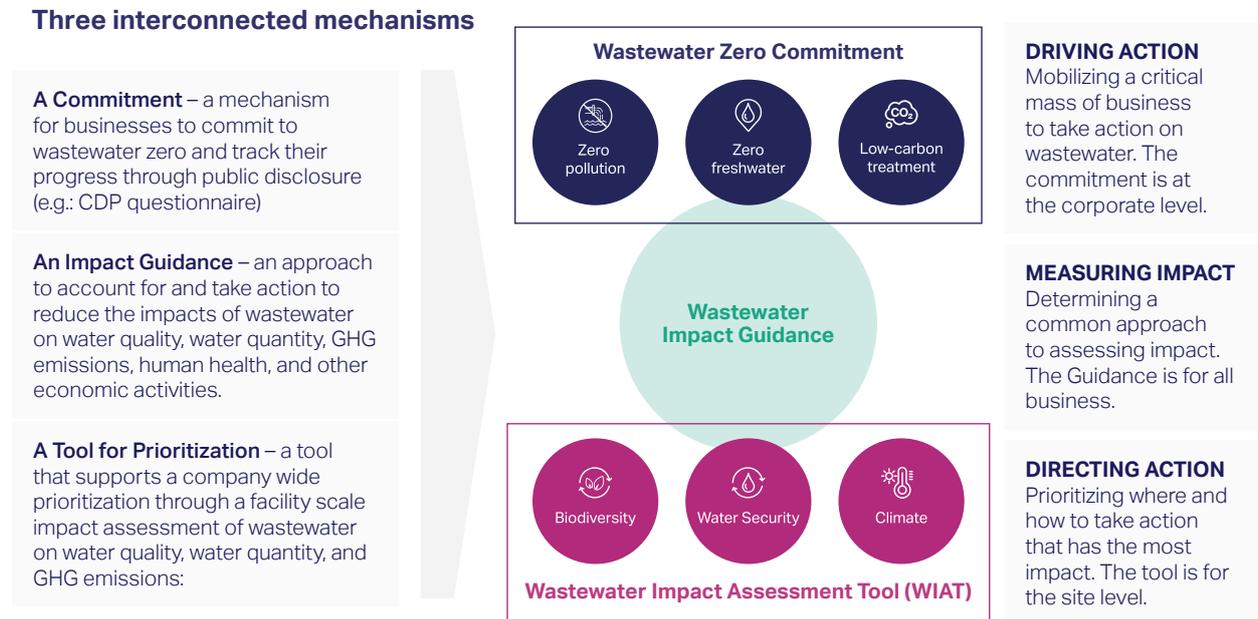
WHAT THE WIAT PROVIDES:

- Site level impact assessment and levers for action
- Overview of impacts from all industrial sites of the company
- Overview of the wider water security context for each industrial site and supplier site (summary table and map)
 - > All based on global environmental datasets and facility level user data

WHAT THE WIAT ACHIEVES

- Guides water users towards impact driven action
- Points to where action would be most impactful
- Points to the type of action that could be considered
 - > Not appropriate for “Science-Based Target” setting

Figure 6: Convergence between the Wastewater Zero Commitment, Wastewater Impact Assessment tool and Wastewater Impact Guidance



Content of the commitment

Companies are expected to develop their own internal commitment and share it through the Wastewater Zero initiative as a means to inspire others in the sector.

The commitment made should be clear, measurable, and transparent.

For each of the wastewater zero commitment levels, the companies are to provide the specific language corresponding to their internal commitments. WBCSD will validate that the proposed statement is aligned with the Wastewater Zero ambition to drive action towards eliminating wastewater pollution by 2030.

Companies are expected to set initial targets for their own facilities/ operations and /or supply chain, as relevant.

For companies' commitments to be recognized on the WBCSD Wastewater Zero website, the targets set are to be:

- ambitious to drive meaningful action and impact;
- achievable;
- robust - based on best available science.

WBCSD reserves the right to reject the initial language proposed and request company to rethink/ resubmit targets based on mutual discussions.

Reporting

The signatory should report baseline and annual data on operations and/or supply chain using an existing public disclosure mechanism, such as the CDP's water security questionnaire which is already a well-established, highly credible system for corporate reporting and validation. The signatory should report data and monitor progress on reaching the targets on an annual basis to CDP – during their annual reporting period from mid-April to the end of July. In addition, it is recommended to disclose data and progress reported through the company's annual report, sustainability report and company's website.

Note: Companies are encouraged to make their CDP response public by choosing 'Make responses Public' option while submitting data to CDP.

As per CDP, public and non-public responses are defined as follows:

Public responses:

- Shared with the investors and/ or customers requesting your response
- Made available via the CDP website
- Shared with scoring partners for the purposes of scoring your response
- Response/information published by CDP or third parties in reports

Non-public responses:

- Shared with the investors and/ or customers requesting your response
- Not made available on the CDP website
- Shared with scoring partners for the purposes of scoring your response
- Data only published in CDP reports if anonymized

Companies not reporting to CDP

SMEs not already reporting to CDP are advised to complete the minimum version of the [water security questionnaire](#) available on the CDP website. Companies are eligible to complete the minimum version of the CDP questionnaire if their annual revenue is less than EUR/USD \$250 million.

Companies with an annual revenue of more than EUR/ USD \$250 million are strongly recommended to report through the full version of CDP's water security questionnaire.

Progress on Commitment-use of CDP data

WBCSD will use CDP data to provide annual feedback on progress of commitment by companies based on the data reported to CDP. The feedback will enable each company to understand the progress of commitment and re-plan strategy to achieve targets or adjust targets as required.

Please note: If a company chooses to provide 'private' or 'non-public responses' while submitting data to CDP, then WBCSD will not be able to provide annual feedback on progress of commitment. Hence Wastewater Zero committed companies are encouraged to provide 'public' responses.

Development of case study

After stated Wastewater Zero targets have been met, the companies are expected to develop case studies to share best practices and experience of implementation of their commitments.

COMMITMENT WEBSITE AND STATISTICS

The details of the Wastewater Zero commitment by companies will be made available on the [Wastewater Zero website](#). The logos of the companies will be displayed on the website along with other statistics related to the commitment like sectors and geographies represented and progress made against targets. The statistics related to progress on commitment will be updated on the website annually.



④ Explanatory notes



④ Explanatory notes

IMPACTS TARGETED THROUGH THE COMMITMENT

Health and social impact of wastewater

The commitment acknowledges the fact that improper wastewater management significantly impacts public health, livelihoods and other social aspects.

For example, pollutants from wastewater can find their way into municipal water supplies, recreational waters and the food chain posing significant human health risks. The World Health Organization (WHO) and Food and Agriculture Organization of the United Nations (FAO) estimate that 10% of the world's population relies on food grown with contaminated wastewater.²² This can lead to build-up of heavy metals in soil, plants, food chain and ultimately in human beings. Thus, pollution should be prevented and reduced at source to protect public health and environment in a cost-effective way. The social impacts of industrial wastewater can be difficult to disaggregate and attribute. Therefore, the scope of this commitment is limited to impacts of wastewater on climate, biodiversity and water security.

The social impact of wastewater will be explored as part of the Wastewater Impact Guidance for potential further inclusion in the commitment at later stages.

Point source pollution to surface water

The commitment exclusively focuses on wastewater generated from industrial operations. The scope includes all the point sources of wastewater (generated from operations as well as effluent from treatment plants).

It considers reducing pollution to surface water (including stormwater runoffs) by efficient collection and treatment of industrial wastewater (including drainage from mining, intensive livestock farming, oil and gas etc.) as well as reducing the dependence on freshwater (withdrawal from groundwater, surface water and harvested rainwater) by optimum management of wastewater (reduce, reuse, recycle, recover, replenish).

Hence groundwater and stormwater are closely related to the commitment although the focus is on wastewater reduction and treatment.

Climate mitigation and adaptation

Both treated and untreated wastewater are sources of GHG emissions. Methane emissions from untreated or partially treated wastewater (industrial and domestic) accounts for an estimated 4.5% of global non-carbon dioxide emissions.²³ With more than 80% of all wastewater released to the environment going untreated, treating organic matter prior to release will significantly reduce GHG emissions.

Wastewater treatment produces carbon dioxide, methane and nitrous oxide during biological treatment processes. Carbon dioxide is also emitted as part of the energy requirement for wastewater treatment processes. The scope of the commitment considers efficient treatment of wastewater using low carbon processes to reduce the emissions from untreated wastewater and emissions from energy requirement for treatment process. Hence it primarily focuses on climate mitigation measures. Although improving wastewater management will secure water supplies for domestic, agricultural and industrial use through increased water reuse and recycling. This will improve water security for all users/ environment and build basin resilience to water resource variability/unpredictability and potentially more frequent/intense dry periods, thereby enhancing climate adaptation measures.

LOCAL REGULATIONS

The company commitment requires wastewater effluent to meet or exceed relevant regulatory/ industry requirements. Water quality or effluent regulations define the maximum acceptable limit of specific biological, chemical and physical properties of effluent or wastewater.

Standards for ambient water quality are commonly designated according to the intended use of the water resource (e.g., drinking water, fishing water, spawning grounds). In many countries, no comprehensive policy and legislation exists for water pollution and there is a need to develop a framework of defined policies, plans and regulations. The commitment recognizes that improved policy and regulatory frameworks are required for control and elimination of pollution. Also, the policy ask from the Wastewater Zero report highlights the need for clear guidelines, with appropriate thresholds and limits based on the best available science, for industrial effluent discharges and wastewater reuse in industry and agriculture. In the absence of comprehensive water quality/ effluent regulations, companies should aim for at least secondary treatment standards.²⁴ The onus is on companies to define the level of treatment required to ensure no discharge of hazardous substances into the environment.

An example of an industry standard is the Zero Discharge of Hazardous Chemicals (ZDHC) Wastewater Guidelines that standardize wastewater testing requirements in the global apparel, textile and footwear supply chain and define the standard for wastewater discharge and sludge quality.²⁵

AMBITIOUS AND REALISTIC TARGETS

The company commitment includes ambitious and achievable targets for their operations as well as for their supply chains. WBCSD will engage in active dialogue with companies to develop targets that are ambitious and realistic.

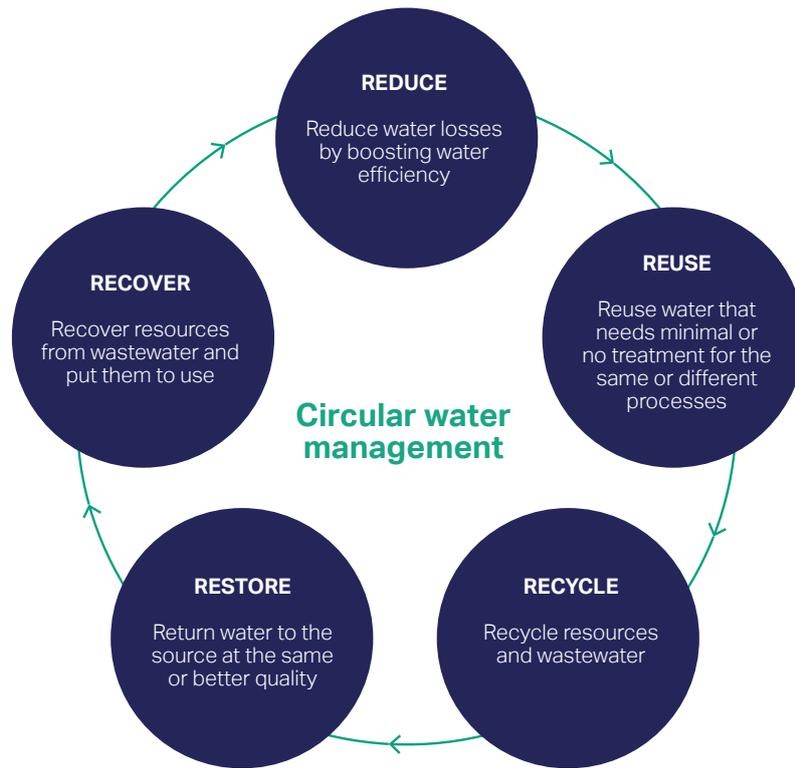
Zero Pollution: The target for treating all wastewater should always be 100% in every case. The only variable will be the timeframe for achievement where companies can choose to achieve the target ahead of the deadline target of 2030.

Zero Freshwater: The commitments on reuse and recycling targets may vary as it is sector and geography driven. Different sectors will have different possibilities, drivers and challenges to increase the proportion of water that is reused and recycled. There are no global benchmarks currently available for developing sector-specific and context-based targets at present. The ambition should be defined in relation to the company's existing baseline or scenario analysis, keeping in mind the ambition to also reduce GHG emissions and energy consumption, as well as ensure proper management of brine and solids resulting from wastewater treatment. Wastewater Zero encourages reuse and recycling that leads to a reduction in withdrawals from freshwater sources, in particular in water stressed watersheds.

The commitment recognizes that reusing and recycling is only a part of a company's total water use. However, reusing and recycling should lead to reducing dependencies on freshwater use. The commitment recognizes that reusing and recycling are just two approaches within a portfolio of options to reduce dependencies on freshwater (as shown in figure 7).

Low-carbon treatment: The commitment includes the ambition to reduce GHG emissions and net energy requirements related to wastewater management. Companies are to include this component in their corporate, science-based GHG reduction commitments.

Figure 7: Circular water management



WASTEWATER TREATMENT LEVELS (SECONDARY/TERTIARY TREATMENT)

The commitment requires wastewater to be treated to achieve local regulatory/ industry requirements and if they are not available then up to at least secondary standards. It understands that secondary standards are not always sufficient for treating industrial wastewater to an acceptable level for specific substances but is taken as a good general level of treatment that most industries can meet.

An appendix that provides further details on primary, secondary and tertiary treatment technologies will be developed later in the year.

LOW CARBON TECHNOLOGY OPTIONS AND ZERO LIQUID DISCHARGE (ZLD)

ZLD is an ambitious wastewater management strategy to reduce the risk of environmental pollution associated with wastewater discharge which maximizes the efficiency of water usage, to prevent exploitation of freshwater resources and preservation of aquatic environment. Two challenges are linked to this strategy: requirement of energy for treatment, and disposal of residual solids. This is a rapidly evolving space with lot of research being done on different technologies for addressing the challenges.

GLOSSARY

Hazardous substances:

A hazardous substance is any substance that has one or more inherent hazardous property. This includes flammability, explosiveness, toxicity, and the ability to oxidize. Hazardous substances will often be regulated by local legislations and / or standards defined for industry. For the Wastewater Zero Initiative, the definition of hazardous substances under development, until then for more details on hazardous substances relevant to your industry the signatory should refer to local jurisdiction or industry requirements. Several jurisdictions like the US Environmental Protection

Agency (EPA), the EU Water Framework Directive have also defined priority hazardous substances that require progressive reduction or phasing out of these substances.

Incidents reported/

Violations: Penalties, fines and/or enforcement orders for breaches of abstraction licenses, discharge consents or other water and wastewater related regulations in the reporting year.

Low-carbon processes:

Treatment processes that focus on switching conventional processes to lower energy alternatives, improving operational energy efficiency, optimizing treatment processes, biogas valorization, capturing fugitive emissions thereby substantially reducing greenhouse gas emissions.

Small and Medium Enterprises

(SMEs): SMEs are defined as companies with annual revenue of less than EUR/US\$250 million (to meet the eligibility criteria of minimum version of CDP questionnaire)

Wastewater footprint:

The quantity of wastewater generated from the production of goods and provision of services. It consists of two components: Direct footprint-wastewater generated in direct operations e.g., for producing/manufacturing and supporting activities and Indirect footprint-wastewater generated in the producer's supply chain.

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WBCSD is the premier global, CEO-led community of over 200 of the world's leading sustainable businesses working collectively to accelerate the system transformations needed for a net zero, nature positive, and more equitable future.

We do this by engaging executives and sustainability leaders from business and elsewhere to share practical insights on the obstacles and opportunities we currently face in tackling the integrated climate, nature and inequality sustainability challenge; by co-developing "how-to" CEO-guides from these insights; by providing science-based target guidance including standards and protocols; and by developing tools and platforms to help leading businesses in sustainability drive integrated actions to tackle climate, nature and inequality challenges across sectors and geographical regions.

Our member companies come from all business sectors and all major economies, representing a combined revenue of more than USD \$8.5 trillion and 19 million employees. Our global network of almost 70 national business councils gives our members unparalleled reach across the globe. Since 1995, WBCSD has been uniquely positioned to work with member companies along and across value chains to deliver impactful business solutions to the most challenging sustainability issues.

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