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. Improper management of industrial wastewater contributes to 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

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

The cost of business as usual far outweighs the cost of action to fix the problems linked to industrial wastewater pollution. 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.
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.
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;
- Increase the proportion of reused and recycled water;
- Treat all wastewater with low-carbon treatment processes.

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 BUSINESSES

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.

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 maybe 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% 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.

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 and drive performance improvements. It places wastewater at the heart of business strategy by enabling businesses to:

• 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

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Description</th>
<th>Relevance to wastewater</th>
<th>Relevance to Wastewater Zero</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Science Based Targets initiative (SBTi)⁹</td>
<td>SBTi drives ambitious climate action in the private sector by enabling companies to set science-based emissions reduction targets.</td>
<td>Wastewater (untreated and treated) emits GHGs, including methane, nitrous oxide and carbon dioxide.</td>
<td>Committing to Wastewater Zero, for companies with a large wastewater footprint, can contribute to reaching science-based emissions reduction targets.</td>
</tr>
<tr>
<td>The Science Based Targets Network¹⁰</td>
<td>The Science Based Targets Network are developing SBTs for Nature:¹¹ integrated SBTs for all aspects of nature: biodiversity, climate, freshwater, land, and ocean.</td>
<td>Wastewater pollution impacts biodiversity, climate, freshwater and oceans, so it is likely that eliminating wastewater pollution will contribute to achieving corporate SBTs for Nature.</td>
<td>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.</td>
</tr>
<tr>
<td>Alliance for Water Stewardship (AWS) Standard¹²</td>
<td>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.</td>
<td>Good water quality status is one of the five outcomes of the AWS standard, driving best practices for wastewater management and reuse.</td>
<td>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.</td>
</tr>
<tr>
<td>Contextual Water Targets¹³</td>
<td>Site water targets informed by catchment context aims to help companies set effective site water targets that are informed by catchment context.</td>
<td>Data and information related to wastewater effluent, water quality and reuse are important in setting contextual water targets.</td>
<td>Committing to Wastewater Zero will provide companies with extra tools and insights to develop contextual water targets, specifically related to water quality and reuse.</td>
</tr>
</tbody>
</table>
**Reporting and disclosure**

Prominent global reporting and disclosure frameworks and initiatives recommend inclusion of key indicators related to wastewater pollution, associated GHG emissions and transition to low carbon economy across industrial operations and their supply chains. Table 3 provides an overview of various reporting and disclosure guidance and initiatives and their relevance to wastewater pollution.

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

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Description</th>
<th>Relevance to wastewater pollution</th>
<th>Relevance to Wastewater Zero Initiative</th>
</tr>
</thead>
<tbody>
<tr>
<td>**Climate Disclosure Standards Board (CDSB)**14</td>
<td>The CDSB Framework application guidance for water-related disclosures supports companies in reporting material water-related information in mainstream company reports.</td>
<td>The disclosure of wastewater-related information is recommended to identify and assess various risks and opportunities to support enhanced internal decision support for mainstream reporting.</td>
<td>Information reported as part of the Wastewater Zero Initiative can be used to report in line with CDSB guidance.</td>
</tr>
<tr>
<td><strong>CDP</strong>15</td>
<td>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.</td>
<td>Wastewater treatment, reuse, recycling and freshwater pollution aspects are covered in the CDP Water Security questionnaire.</td>
<td>Information reported as part of the Wastewater Zero Initiative can be used to respond to parts of the CDP water security questionnaire.</td>
</tr>
<tr>
<td>**Global Reporting Initiative (GRI)**16</td>
<td>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.</td>
<td>Guidance on how to report effluents, reuse and recycling are included in the GRI 303 standard.</td>
<td>The information reported as part of the Wastewater Zero Initiative can be used to report information using GRI standards.</td>
</tr>
<tr>
<td>Initiative</td>
<td>Description</td>
<td>Relevance to wastewater</td>
<td>Relevance to Wastewater Zero</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Task Force on Climate-related Financial Disclosures (TCFD)¹⁷</td>
<td>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.</td>
<td>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.</td>
<td>Data collected as part of the Wastewater Zero Initiative can be used for TCFD aligned disclosures.</td>
</tr>
<tr>
<td>Task Force on Nature-related Financial Disclosures (TNFD)¹⁸</td>
<td>TNFD will provide 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.</td>
<td>The scope of final TNFD recommendations is very likely to encompass the freshwater biodiversity impact of wastewater.</td>
<td>Data collected as part of the Wastewater Zero Initiative are likely to be very relevant for TNFD aligned disclosures.</td>
</tr>
</tbody>
</table>
UN SDG 6: Water and Sanitation

The main relevance for Wastewater Zero is water quality, which directly corresponds with SDG 6.20 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.

Table 4: SDG 6 targets and linkage to Wastewater Zero

<table>
<thead>
<tr>
<th>SDG Targets</th>
<th>Contribution of Wastewater Zero Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDG 6.1: achieve universal and equitable access to safe and affordable drinking water for all</td>
<td>Eliminating wastewater pollution protects freshwater sources and supports access to safe drinking water supplies.</td>
</tr>
<tr>
<td>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</td>
<td></td>
</tr>
<tr>
<td>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</td>
<td>Eliminating wastewater pollution protects freshwater sources and supports improved water quality. Reusing and recycling water supports progress towards substantially increasing its practice.</td>
</tr>
<tr>
<td>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</td>
<td>Reusing and recycling water supports water efficiency and can contribute to alleviating water scarcity.</td>
</tr>
<tr>
<td>SDG 6.5: implement integrated water resources management at all levels, including through transboundary cooperation as appropriate</td>
<td>Eliminating wastewater pollution and increasing water reuse and recycling can contribute to effective and efficient implementation of IWRM and transboundary cooperation.</td>
</tr>
<tr>
<td>SDG 6.6: protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes</td>
<td>Eliminating wastewater pollution protects water-related ecosystems.</td>
</tr>
<tr>
<td>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</td>
<td>Eliminating wastewater pollution and increasing water reuse and recycling can lead to greater stakeholder cooperation and capacity building efforts.</td>
</tr>
<tr>
<td>SDG 6.b: support and strengthen the participation of local communities in improving water and sanitation management</td>
<td></td>
</tr>
</tbody>
</table>
2 Why commit
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
- Aligning wastewater actions with climate, biodiversity, and water targets
- Be connected to peers and partners active in this space
- Have access to and inform the development of tools to support reaching your 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 commitment 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 commitment as described in Part 1b of the Scope & Phased approach section. However, forward thinking SMEs are welcome to demonstrate leadership by engaging their supply chains.

BENEFITS OF COMMITMENT

Making the wastewater 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 Commitment
Wastewater Zero Commitment

THREE PILLARS OF COMMITMENT
The Wastewater Zero Commitment enables business to commit to eliminating wastewater pollution by 2030, thereby raising their ambitions for SDG 6.3.

In this commitment, business will quantify and qualify their commitment against three goals and report progress annually:

1. **Zero pollution**: Treating all wastewater and releasing zero hazardous substances into the environment.

2. **Zero freshwater**: Increasing the proportion of water reused and recycled.


**Figure 4:** Pillars of Wastewater Zero Commitment
**COMMITMENT REQUIREMENTS**

The commitment requires signing companies to align their targets, strategies, and actions towards the three pillars of the commitment within own facilities and facilities of tier one suppliers as indicated in Table 5 below:

**Table 5: Requirements of the Wastewater Zero Commitment for own operations and supply chains**

<table>
<thead>
<tr>
<th>ZERO POLLUTION</th>
<th>Commit to ensuring that 100% of wastewater produced within own facilities is treated to achieve or exceed relevant regulatory or industry requirements and minimizes the release of priority hazardous substances.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reporting requirements:</td>
<td>• Proportion of wastewater treated to at least secondary treatment standards either on-site, or by a third-party &lt;br&gt;• Compliance will be measured by number of incidents reported</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ZERO FRESHWATER</th>
<th>Commit to ensuring that a pre-defined percentage of total water use in own facilities is reused or recycled water by a target year set by the company.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reporting requirements:</td>
<td>• Proportion of reused and recycled water &lt;br&gt;• Facilities and suppliers with reuse or recycling capabilities</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LOW-CARBON TREATMENT</th>
<th>Commit to ensuring a pre-defined percentage of suppliers have reuse or recycling capabilities by a target year set by the company.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reporting requirements:</td>
<td>• Commitment to science-based emissions reduction targets</td>
</tr>
</tbody>
</table>

The commitment statement to be submitted is provided in Appendix A to this report.
SCOPE AND PHASED APPROACH

The initial scope of the commitment will be a company’s own facilities only and then expand to suppliers. The data to be collected for own facilities (Part 1a) and suppliers (Part 1b) is given in figure 5 below. The data collected 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.

Part 2 of the commitment focuses on the impact of a company taking action in both its own facilities and supply chain. A set of metrics will be developed to measure impact on the three aspects of climate, freshwater biodiversity and water security through the Wastewater Impact Protocol – introduced below.

Figure 5: Data to be collected for Wastewater Zero Commitment

<table>
<thead>
<tr>
<th>Part 1a</th>
<th>Part 1b</th>
<th>Part 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>OWN FACILITIES</td>
<td>SUPPLIERS</td>
<td>IMPACT</td>
</tr>
<tr>
<td>Commitment scope is for own facilities only</td>
<td>Commitment scope is expanded to include tier one suppliers</td>
<td>Commitment metrics expanded to include impact footprints</td>
</tr>
<tr>
<td>Data</td>
<td>Data</td>
<td>Data</td>
</tr>
<tr>
<td>• % wastewater treated (to secondary level)</td>
<td>• # fines/ penalties/ enforcement orders issued to suppliers</td>
<td>• Climate</td>
</tr>
<tr>
<td>• # fines/ penalties/ enforcement orders</td>
<td>• % suppliers reusing or recycling water</td>
<td>• Freshwater biodiversity*</td>
</tr>
<tr>
<td>• % reused &amp; recycled water (of total used water)</td>
<td>• % suppliers with validated climate goals aligned with net-zero</td>
<td>• Water security*</td>
</tr>
</tbody>
</table>

* Currently under development as part of the Wastewater Impact Protocol.
An indicative approach and timeline to move from own facilities to suppliers and then calculation of impact is given in figure 6 below:

**Figure 6:** An indicative timeline to make commitments for supply chain and impact

<table>
<thead>
<tr>
<th>Part 1a</th>
<th>Part 1b</th>
<th>Part 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;75% operations/ &lt;25% supply chain</td>
<td>Not later than 12 months</td>
<td></td>
</tr>
<tr>
<td>50% operations/ 50% supply chain</td>
<td>Not later than 18 months</td>
<td></td>
</tr>
<tr>
<td>&lt;25% operations/ &gt;75% supply chain</td>
<td>Not later than 24 months</td>
<td></td>
</tr>
</tbody>
</table>

Not later than 12 months
Not later than 18 months
Not later than 24 months

*The wastewater footprint is the quantity of wastewater generated from the production of goods and the provision of services. It consists of two components: (1) Direct footprint: wastewater generated in direct operations – e.g., for producing/manufacturing and supporting activities. (2) Indirect footprint: wastewater generated in the producer’s supply chain.*

For example: If a company has more than 75% of their wastewater footprint in their own operations then it should:

- make the supplier commitment no later than 12 months after signing the commitment
- make the commitment for Impact no later than 24 months after signing the commitment

Similarly, if a company has more than 75% of their wastewater footprint in their supply chain, then it should:

- make the supplier commitment no later than 24 months after signing the commitment
- make the commitment for Impact no later than 36 months after signing the commitment

This timeline considers that the greater the footprint in the supply chain, the more time will be required for making the commitment.

**Impact measurement**

Measurement of impact as indicated in part 2 of the commitment will be based on the outcomes of the Wastewater Impact Assessment Tool and the Wastewater Impact Protocol.
SUPPORTING TOOLS

Two tools will be made available to companies who commit to Wastewater Zero, which will guide and support their actions (see figure 7):

**Wastewater Impact Assessment Tool (WIAT)**

The tool aims to provide high-level impact assessments on climate, biodiversity and water security for industrial water users and their suppliers. The tool will be developed in two phases. The first phase will allow users to visualize the impacts of wastewater at each of its facilities and suppliers worldwide and in the local watershed context using global datasets.

The second phase will support comparison of scenarios that include modifications of the facility wastewater management and the engagement with local basin stakeholders using site specific data and local watershed data.

The WIAT will be used for the assessment of impacts on climate, biodiversity and water security for the calculation of impact in part 2 of the commitment as referred to in the Scope & Phased approach section of this guidance document. The tool will also allow prioritization of facilities/sites/suppliers within industries that are most impactful and where action is most needed.

**Wastewater Impact Protocol**

The Protocol intends to develop a standardized approach for measuring the impacts of wastewater on climate, biodiversity and water security. Three sets of independent metrics will be developed for calculation of impact as mentioned in part 2 of the commitment. The metrics will be used to calculate impact of action in facilities and supply chain as well as to monitor progress on Wastewater Zero.

Both the Protocol and WIAT are under development and the first version will be available by end of 2021.

Figure 7: Convergence between the Wastewater Zero Commitment, Wastewater Impact Assessment tool and Wastewater Impact Protocol

<table>
<thead>
<tr>
<th>Wastewater Zero Commitment</th>
<th>Wastewater Impact Protocol</th>
<th>Driving action</th>
<th>Measuring impact</th>
<th>Directing action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero pollution</td>
<td></td>
<td>Mobilizing a critical mass of business to take action on wastewater. The commitment is at the corporate level.</td>
<td>Determining a common approach to assessing impact. The Protocol is for all business.</td>
<td>Prioritizing where and how to take action that has the most impact. The tool is for the site level.</td>
</tr>
</tbody>
</table>
PROCEDURE FOR COMMITMENT

The procedure for commitment is demonstrated in the flowchart (figure 8) below.

**Figure 8: Procedure for Wastewater Zero Commitment**

- **Fill out the commitment form online & set targets for operations**
  - Within 7 working days

- **Receipt of Welcome Pack**
  - Within 30 days of signing the commitment

- **Set commitment targets & timeline for supply chain**
  - Within 30 days of signing the commitment

- **Review of targets for operations by WBCSD**
  - Within 10 days of review of targets

- **Review of targets for supply chain by WBCSD**
  - Within 10 days of review of targets

- **Set commitment targets & timeline for impact**
  - Within 30 days of setting the targets

- **Review of targets for impact by WBCSD**
  - Within 30 days of setting the targets

- **Announce the commitment/ details to reflect on WBCSD website**
  - Within 60 days of setting the targets

- **Report baseline data through website**

- **Report progress to CDP (annually)**

- **Feedback on progress by WBCSD**
  - Within 30 days of receiving feedback

- **Opportunity to revise targets**

- **Target achieved for operations**

- **Target achieved for supply chain**

- **Target achieved for Impact**

- **Develop case studies**

Refer to figure 6 for timeline.
Take the commitment

Companies that wish to commit to Wastewater Zero should submit an online application form available on the Wastewater Zero website. The commitment should be signed by a representative in a position to commit on behalf of the company to achieve Wastewater Zero by 2030 or sooner.

It should be noted that the commitment will be made at the business level and not at the group level. For example: A group may have various businesses represented like textiles, chemicals, food etc. Each of these businesses will make individual commitments since their wastewater footprint within operations and supply chain will vary, requiring different wastewater targets.

Companies are expected to set initial targets for own facilities/operations during submission of the application form. The commitments for supply chain and Impact evaluation phase should be made as per the description provided in the Scope & Phased approach section.

Each signatory will receive a ‘Welcome Pack’ consisting of the commitment Guidance document and Communication Guidelines within seven days of submitting their online application. The Welcome Pack will guide the signatory on next steps and elaborate on other requirements related to the commitment.

Review of targets

WBCSD will review the initial targets for own facilities/operations, for suppliers, for Impact phase within 30 days of signing the commitment/setting the targets. This vetting is to maintain the integrity of the commitment and to confirm that the signatory has ensured that the targets are:

- ambitious to drive meaningful action and impact;
- achievable to be inclusive for frontrunners and less advanced companies (particularly considering supply chain SMEs);
- robust - based on best available science.

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

Refer to the section on Ambitious and Realistic Targets for more information.
Announce the commitment

Once the targets and timeline are set, the signatory may announce the commitment to ‘Wastewater Zero’ through its various social media channels. Communication guidelines shared with the welcome pack will outline how to communicate the commitment and use the Wastewater Zero logo.

The commitment by the signatory will also be reflected on the Wastewater Zero website within 10 days of setting the targets.

Reporting

The signatory should report baseline data on operations/supply chain/impact within 60 days of setting the targets through the ‘Report baseline’ form on the Wastewater Zero website.

The reporting of progress against Wastewater Zero Commitments will be through 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: Signatories are encouraged to make their CDP response public by choosing ‘Make responses Public’ option while submitting data to CDP.

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 to signatories 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 signatories are encouraged to provide ‘public’ responses.

Setting new / different targets / not making the commitment anymore for achievement of net zero

Signatories will have the option to revise their targets within 30 days of feedback received from WBCSD. The signatory could set new targets/ different targets or altogether choose not to be a part of the commitment anymore. Companies who wish to opt out will be required to submit a courtesy notice with a brief statement of their reason for doing so through the Revision of Targets form available on the Wastewater Zero website.

Development of case study

After stated Wastewater Zero targets have been met, the signatory shall develop case studies to share best practices and experience of implementation of the commitment with other signatories and potential signatories.

COMMITMENT WEBSITE AND STATISTICS

The details of the commitment related to new signatories will be made available on the Wastewater Zero website. The logos of the signatories 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
SCOPE OF 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. 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 Protocol for potential further inclusion in the commitment at later stages.

Point/non-point sources of pollution and surface water/groundwater/stormwater

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) and non-point sources of wastewater (generated from operational areas of the industry such as drainage from mining, housed livestock farming, oil and gas etc.) and excludes non-point sources like precipitation runoff from non-operational areas etc. It considers reducing pollution to surface water, groundwater and stormwater by efficient collection and treatment of industrial wastewater (including drainage from mining, intensive livestock farming, oil and gas etc.) as well as reducing dependence on freshwater (withdrawal from groundwater, surface water and harvested rainwater) by optimum utilization of treated wastewater (reduce, reuse, recycle, recover, replenish). Hence groundwater and stormwater are closely related to the commitment although the indicators collect information related to wastewater only.

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. 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 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 asks 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. 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.

AMBITIOUS AND REALISTIC TARGETS

The commitment assumes that signatories would set ambitious and achievable targets for their operations as well as for their supply chains. WBCSD will engage in active dialogue with signatories 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. The commitment encourages reuse and recycling that leads to a reduction in withdrawals from freshwater sources, irrespective of the location of the industry in water stressed or water abundant watershed.
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 9).

**Low-carbon treatment:** The commitment intends to use corporate, science-based GHG reduction commitments as a proxy for ensuring that wastewater treatment processes are planned and operated in a way that supports the attainment of such commitments.

Companies signing up to the commitment actively collaborate with their supply chains to develop ambitious but realistic targets under the commitment.

**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. An appendix to share examples of technologies which are less energy intensive and have a low carbon footprint for commitments made by ZLD companies will be developed later in the year.

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**Figure 9: Circular water management**

- **REDUCE:** Reduce water losses by boosting water efficiency
- **RECOVER:** Recover resources from wastewater and put them to use
- **RESTORE:** Return water to source at the same or better quality
- **RECYCLE:** Recycle resources and wastewater
- **REUSE:** Reuse water that needs minimal or no treatment for the same or different processes
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 or national 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.
Endnotes


19 TNFD is currently under development, therefore its scope and content are not yet finalized.


24 Secondary Treatment: Treatment (following Primary Wastewater Treatment) involving the biological process of reducing suspended, colloidal, and dissolved organic matter in effluent from primary treatment systems and which generally removes 80 to 95 percent of the Biochemical Oxygen Demand (BOD) and suspended matter. Secondary wastewater treatment may be accomplished by aerobic, anaerobic, coupled anaerobic-aerobic or chemical-physical methods. Activated sludge and trickling filters are two of the most common means of secondary treatment. Disinfection is the final stage of secondary treatment (FAO, 1992), (AIChE, n.d.).


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DISCLAIMER

This report has been developed in the name of WBCSD. Like other WBCSD publications, it is the result of a collaborative effort by members of the secretariat and senior executives from member companies. A wide range of members reviewed drafts, thereby ensuring that the document broadly represents the perspective of the WBCSD membership. Input and feedback from stakeholders listed above was incorporated in a balanced way. This does not mean, however, that every member company or stakeholder agrees with every word.

ABOUT WBCSD

WBCSD is a global, CEO-led organization of over 200 leading businesses working together to accelerate the transition to a sustainable world. We help make our member companies more successful and sustainable by focusing on the maximum positive impact for shareholders, the environment and societies. 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. Together, we are the leading voice of business for sustainability: united by our vision of a world where more than 9 billion people are all living well and within the boundaries of our planet, by 2050.

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