The road to Wastewater Zero is data driven

Issue brief

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It is generally assumed that up to [80% of wastewater globally is discharged directly](#) into the environment without treatment, leading to significant environmental, social and economic impacts. A 2019 report by the World Bank suggests that in regions downstream from heavily polluted rivers, [GDP growth is lower by a third](#).

Wastewater pollution is a material issue for industrial sectors that are highly dependent on good quality freshwater for operations (e.g. energy production) or where there is high potential for wastewater pollution from operations and in supply chains (e.g. textiles and apparel). It also has far reaching impacts on other material issues, such as [biodiversity, climate change and public health](#).

Investments to eliminate wastewater pollution are far cheaper than business as usual. It is estimated that the annual cost of reducing pollution caused by industrial wastewater is [USD $87 billion](#), about 0.1% of global GDP.

This insight paper emphasizes the urgency for business action on wastewater as well as the need for monitoring and reporting of global wastewater data. It highlights the role of the Wastewater Zero initiative that aims to change the ways in which companies collect, analyze and share data.

Significant data gaps hinder progress towards SDG 6.3

Eliminating wastewater pollution is dependent on the availability of robust, consistent and actionable data that can be used by policy makers, municipal wastewater facilities and industries. Data should be central to validating regulatory compliance, wastewater treatment performance and environmental impact assessments.

Indicator 6.3.1 of the Sustainable Development Goals (SDGs) tracks the percentage of wastewater flows from households, services and industrial premises that are treated in compliance with national or local standards. [The report on Progress on wastewater treatment-Global status and acceleration needs for SDG indicator 6.3.1](#) has highlighted that the monitoring of this indicator is severely undermined by major data gaps, including:

- **Most countries do not consistently report any wastewater data** - over the last 20 years, 89 countries (over 194 countries in total) reported some wastewater statistics, covering a population of 3.6 billion (over 7.4 billion in total).

- **Source data for wastewater is often lacking** - disaggregation of wastewater volumes and pollution loads by sources according to households, services and industries is often lacking.

- **Data on industrial water flows is lacking** - data on industrial wastewater that flows into public sewers, directly into the environment or is treated and discharged through private systems are not systematically reported at a national level.

- **Data on 'safely' treated wastewater is lacking** – data on treated wastewater often relies on compliance with jurisdictional effluent standards and/or a minimum treatment

threshold (e.g. secondary treatment) which may not always impart safety (to the environment or human health).

- **Data is often quantitative and not qualitative** – volumetric data does not provide the necessary information to understand the impact of wastewater pollution. Data on quality aspects of wastewater, such as Biological Oxygen Demand (BOD), can help understand the impact of pollution on receiving waters.

The policies, investments and practices that are required to eliminate wastewater pollution will only be effective if good data is available. The UN-Water report states that improving wastewater management is fundamental for better protecting drinking water resources and to contribute to sustainable development and climate mitigation/adaptation.

Status of corporate wastewater data and monitoring

The 2020 CDP Water Security report highlighted that 59% of responding companies monitor the quality of their wastewater with just 4.4% of responding companies setting and reporting progress against pollution targets. This could be due to a lack of regulatory requirements to monitor wastewater or water quality aspects being largely absent from corporate water goals and strategies.

Data on industrial wastewater that flows into sewers or directly into the environment are often poorly monitored and rarely aggregated at national level (see figure 1).

This status hinders the identification of heavy polluters, and the application of the polluter pays principle. The burden of responsibility to remediate pollution, and its associated costs, is often taken on by a public authority.

From a value-chain perspective, existing tools and frameworks to collect and analyse data, such as the Facility Environment Module (FEM) of the Higg Index, have succeeded in establishing a standardized approach to assess environmental capabilities, procedures and plans at a facility level for the apparel sector.

However, it has been found not to incentivize a change in factory practices or provide actionable information for business.

The UN-Water report notes that some water quality parameters are routinely monitored in municipal wastewater treatment plants, which could provide a partnership opportunity for industry. Having a common understanding of required data, how it informs decision making and shared data sets are three ways in which municipal wastewater treatment plants and industry could partner.

Figure 1: Total and industrial flows of wastewater generated and treated in 2015 (in blue, left Y axis), with the corresponding world population covered by reported data (in grey, right Y axis) (country data sources: Eurostat 2021; OECD 2021; UNSD 2021). (taken from UN Habitat and WHO, 2021).

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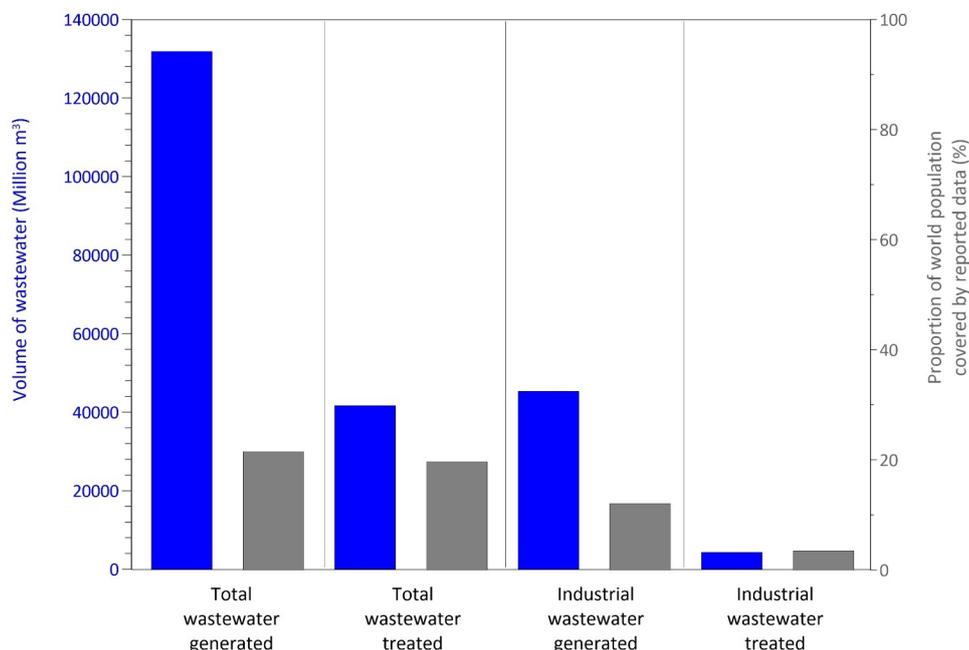
Wastewater Zero data drive

To address these data-related challenges, WBCSD is developing two new tools to support data collection, analysis and reporting by companies. The Wastewater Impact Protocol will provide a systematic and standardized approach for companies to understand their major wastewater-related impacts, measure, valuate and manage them, based on the collection and analysis of standardised data sets. The Geographic Information System (GIS) based Wastewater Impact Assessment Tool (WIAT) will help companies screen their own facilities and suppliers' facilities

to identify where the most significant wastewater pollution impacts are and provide scenarios to reduce those impacts. WIAT will use the Wastewater Impact Protocol as the basis for data collection and analysis. The first version of both tools will be available in early 2022.

Together, these tools aim to change the way that companies collect, analyse and share data that helps to identify interventions that will reduce wastewater pollution impacts. Robust data is a key requirement to implement the Wastewater Zero Action Framework (see figure 2).

Wastewater Zero Commitment

In June 2021, WBCSD launched the Wastewater Zero Commitment to drive business action in reducing impacts of wastewater on climate, biodiversity and water security. This work is a continuation of the report launched by WBCSD in 2020 on Wastewater Zero - A call to action for business to raise ambition for SDG 6.3 that provides a six -point action framework for businesses to address the problem of industrial wastewater pollution.

The commitment aims to support the elimination of industrial wastewater pollution by 2030, by committing business to set ambitious targets and take action in their operations and supply chains. The reporting process for the Wastewater Zero Commitment is fully aligned with the CDP Water Security Questionnaire.

Figure 2: The Wastewater Zero Action Framework and Commitment
(Taken from Wastewater Zero - A call to action for business to raise ambition for SDG 6.3)

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Additional resources

The Summary Progress Update 2021: SDG 6 — water and sanitation for all provides an executive summary of the 2021 status of SDG 6, assessed through official country data on the global indicators for SDG 6. The Progress on Wastewater - 2021 update covers status and progress on specific aspects of SDG 6.3.

The Water Circularity Metric and Tool allows users to measure, set targets and monitor progress in transition from linear to circular water management. It aims to help business adopt a common metric for water circularity which can aid in informed decision making as well for communicating with external stakeholders.

About the World Business Council for Sustainable Development (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 planetary boundaries, by 2050.

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