



Source

# Business & Water Day Zero Toolkit



# An overview

**Aim:** This guide provides you with the essential business-water concepts & frameworks you need to start taking action today.

## **This toolkit will:**

- Outline key business water-related concepts
- Introduce water risks & impacts
- Provide examples of water impacts across a value chain
- Provide a high-level framework for locating & assessing water impacts across your value chain.

# Business & Water

**All businesses are dependent on water.** From the water needed to grow agricultural ingredients, to the processing of the minerals in all our electronic devices - **there is no business on the planet, that doesn't rely on water.**

However, **the relationship is often hidden within supply chains** and manufacturing processes that businesses do not see.

As our societies and businesses consume more and more products & services, the **pressure on global water resources is mounting.** Many water basins are now **deemed 'water-stressed'**.

Water stress puts the people and ecosystems within these areas at **serious risk of not having water** in the sufficient quality or quantities to survive.

Businesses have a **responsibility to address this tension.**

# Many supply chains are more water intensive than we might think...

Agriculture accounts for **70% of global water abstractions** (taking water from a natural source).



It takes **5 - 1500l** of water to produce **1kg of metal. Aluminium** has the highest water requirement.



**80% of municipal wastewater** is discharged into water bodies **untreated**.



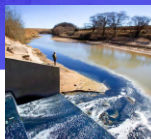
**A data centre** uses between **4.5 - 19 million litres** of water **per day**.



Agricultural pollution is **the largest cause of eutrophication & contamination of waters** (both inland and coastal).

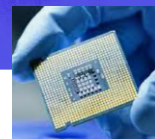


**20%** of all **global water pollution** comes from the **dyeing of textiles**.



1 semiconductor factory can consume approx. **45 million l of water a day**.

The equivalent daily household water use of an EU city with a 300,000 population.



**200% more water** is required **to produce a plastic water bottle** than the amount of water contained in the bottle.





# Why should you care?

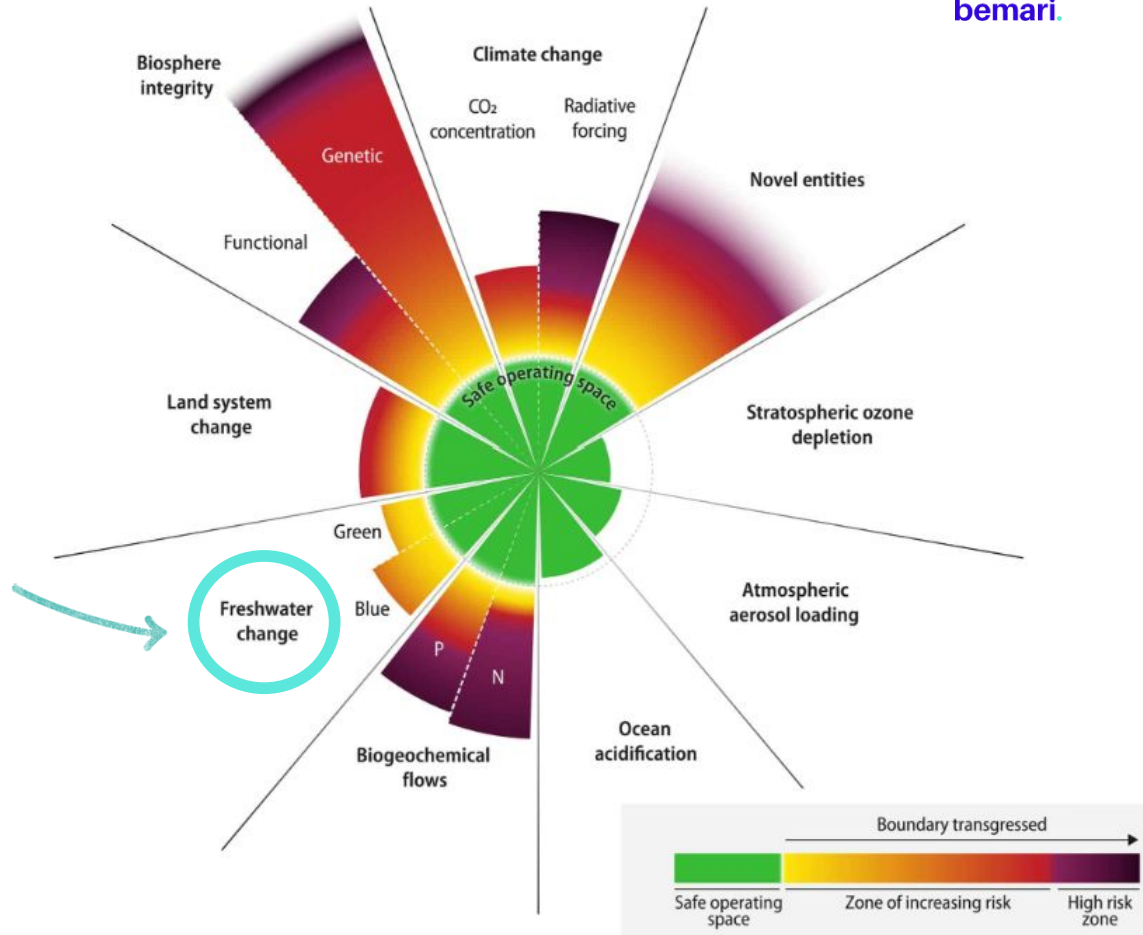
## 9 reasons:

We have **breached 7 out of the 9 planetary boundaries** considered necessary for our survival.

### Freshwater use is one of these.

Breaching this boundary matters to business, as all businesses heavily rely on freshwater in their value chains.

**What would happen to your business if it no longer had access to water?**



# How does your business interface with water?

Water is used both as a key **input and an output** for businesses across their value chains.



See the following slides for examples across the value chain.

# Product-based business: Examples of water use in value chains

## Primary Commodities



Irrigation



Mining input



Animal Feed

## Processing



Agricultural Processing



Mineral Processing



Metal Production



Plastic Production

## Product Manufacturing & Production



Cleaning Production



Beverage Production



Cosmetic Production



Packaging Production

## Consumer



Water for product usage



Microplastic Pollution



Solid water Pollution



Chemical Pollution

Inputs

Outputs



Fertiliser Run-off



Toxic Mining Wastewater



Toxic Industrial Wastewater



Toxic Industrial Wastewater



# Service-based business: Examples of water use across value chains





# Water risks for businesses

When a **business is dependent on a resource, it becomes vulnerable to any changes** in the quality and quantity of that resource needed for production or waste management.

**Water is no different.** Here are some examples of water risks for a business:

## Reputational

### Customer perceptions

- Perception that high water input is unsustainable and/or irresponsible might put customers off your offering e.g. bath products
- Perception that competitors have a lower water impact

## Regulatory

### Changes in laws and regulation on industrial water use

- Mandated water use limits may reduce access to water in required quality and quantity
- Compliance disclosures and management might incur extra costs and require process changes

## Operational

### Changes in quantity

- Drought might mean reduced water supply - impact on crops, product availability etc.

### Changes in quality

- Flooding or pollution might affect product taste or performance

### Changes in availability

- No rainfall may mean there is no water at all

## Financial

**Increased costs** due to any of the risks on the left

**Loss of revenue** due to supply chain disruption or loss of customers

**Fines for breaches**

# Water Impacts & Business

**The impact of a business on water is complex.**

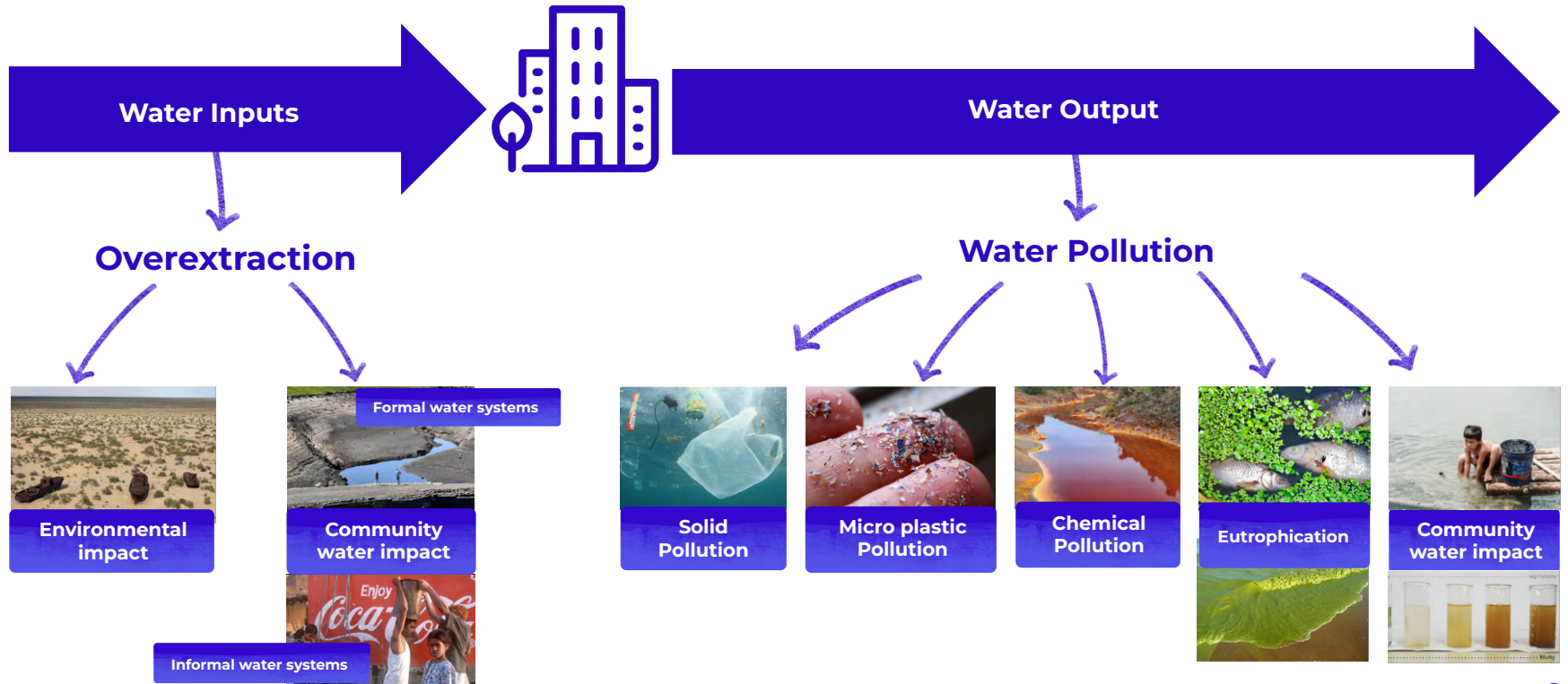
To help you start to understand your business' relationship with water, start by asking yourself the following questions:

**What are my water impacts?**

**How significant are my impacts?**



# What are my water impacts?



# How significant are my impacts?

To start understanding the extent of your impacts, you need to understand the **quantity, quality & context** of the water you are withdrawing. Below are some questions to get you started.

Once located, the best approach is to **quantify your impact**.



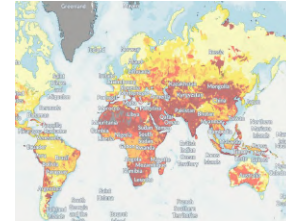
## Quantity

- **How much** water is the business withdrawing? This may be via your supply chain i.e. embedded in your products
- Is the **source sustainable**?
- Is the quantity of water required **causing harm** to **upstream** communities or ecosystems?
- What **quantity of pollutants** are being dumped downstream and at what regularity?



## Quality

- Am I using **someone else's drinking-quality water** in my operations? This includes other humans or ecosystems.
- **Is wastewater treated to a standard** that does not cause harm to downstream communities or ecosystems?



## Context

- Am I contributing to **water-stress** in the water catchment?
- Am I **compounding poor water governance** which contributes to negative impacts on humans and/or ecosystems?

Both may be via your supply chain due to the demand your business creates.



# How to reduce water risks & impacts

# Water Impact Approach.

We recommend the following 4 step approach when starting to engage with water impacts across your value chain.

# 1

**Locate** your interface with water

# 2

**Quantify** your risks & impacts

# 3

**Prioritise** water stressed locations & water intensive activities

# 4

**Take action** on your priority impacts



# Locate.

Firstly, you need to understand where in your value chain your business interfaces with water.

## 1

**Locate** your  
interface with  
nature

The following questions will help you to locate your water interface:

- **Where** in your value chain are you **dependant on water**?
- **What quality & quantity of water** is your businesses **dependant on**?
- **What quality & quantity of water** is **required** for activities across your value chain?
- Is your water usage located in **areas of high water-stress**?

### Example

Boreholes are a hotspot for unsustainable water usage. This is because boreholes draw on groundwater which can take thousands of years to replenish.

Using boreholes to access groundwater is the leading cause of aquifer depletion.

# Quantify.

Once you've located your interfaces, you need to quantify your impact. This step is critical for developing an objective understanding of your water impacts and priorities.

## 2

Quantify your  
risks & impacts

Below are some examples of **quantifiable metrics** which can be applied to a single process/activity, a product or service or an entire organisation.

### Water impacts:

- Total water consumption in m<sup>3</sup>
- Total water consumption in m<sup>3</sup> in areas at material water risk, including areas of high-water stress
- Total water recycled and reused in m<sup>3</sup>
- Total water stored in m<sup>3</sup>

### Scale of the impacts

- Wastewater discharge amount in m<sup>3</sup>
- Biological Oxygen Demand (BOD) analysis results for wastewater
- Chemical Oxygen Demand (COD) analysis results for wastewater



# Prioritise.

Once you have quantified your impact, you need to prioritise where you focus your resources & time.

## 3

**Prioritise** water stressed locations & water intensive activities

We recommend **asking yourself the following questions** and using the answers as your preliminary priority areas:

- Where in your supply chain do you have the **most control** over water as an input & output?
- Where in your supply chain is your **largest volumetric water usage and lowest water quality output**?
- Where are you contributing to the **most amount of water-basin stress**?

### Example

You may have the greatest control over the water usage in your office, however your greatest volumetric usage will be in the primary commodity and processing stages of your supply chain.

**Office water usage:** 50L water / per person / per day

**Irrigated crops:** 1,000L – 7,000L water / per hectare / per day

# Take Action.

Now you understand what your water impacts are and where to prioritise impact reduction, it's now time to develop a water impact strategy & action plan.

## 4

Take action on your priority impacts

### Reduce - Reuse - Recycle

**Reduce:** Employ new processes and change behaviours to reduce water consumption and improve wastewater quality.

**Reuse:** Collect wastewater streams within facilities and re-use appropriately.

**Recycle:** Investigate and employ new technologies to recycle water for appropriate use within the plant.

### Protect

Protect the quality, quantity and availability both upstream and downstream, for people and nature.

Focus on the areas within your value chain where:

1. **You have the most control and/or influence:** own operations, product design specifications and marketing messages.
2. **You have the greatest negative impacts.** This is likely located within your supply chain and will involve working closely with suppliers.

### Connect

**Work with other stakeholders** across your value chain to improve overall water stewardship and reduce water impacts.

This could include:

- Connecting with **other industrial & agricultural users** in a watershed to improve collective water stewardship
- Partnering with **others within your sector** to reduce sectoral water impacts
- Joining **a membership body** like [Alliance for Water Stewardship](#).

# What next?

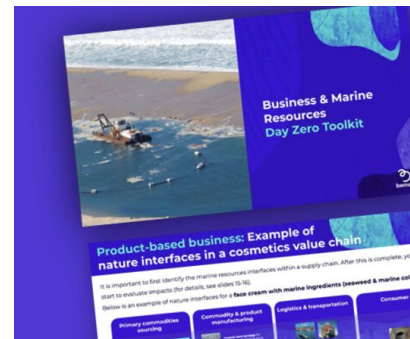


## Download our Day Zero Marine Resources Toolkit

In addition to freshwater, it's important to consider the interconnected impact of business activities on **marine resources**.

- Globally, only 1,000 rivers are responsible for nearly 80% of marine plastic pollution
- Agricultural run-off & wastewater is the primary factor in the creation of 500 marine dead-zones (collectively covering an area greater than the UK)
- The majority of this pollution enters oceans via rivers.

To better **understand your wider impacts**, [download](#) our Day Zero Marine Resources Toolkit.



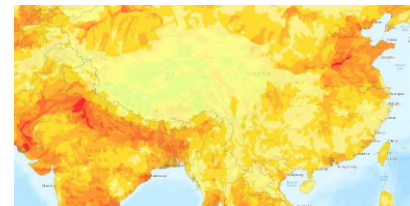
## Join us for a Biodiversity Collage

Want to better understand the drivers of biodiversity loss? Our **three hour Biodiversity Collage workshop** helps you understand how your business contributes to nature loss, and the steps you can take to reduce your impact. Join our **interactive regular sessions** or [request a workshop](#) especially for your team.



## Explore the WWF Water Risk Filter

The WWF [Water Risk Filter](#) includes a **water screening tool** which can help you assess your water risk. This is very helpful for understanding where your **freshwater impact hotspots** are likely to be.



# Thanks for reading.

**Want to know more**  
and discuss how we  
can help you?

Email us at  
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we'd love to chat.

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