

Definitions List



The Circulytics definitions listed below are only relevant to the Circulytics Indicator List. Definitions from this list should not be taken out of context of the Circulytics Indicator List and Circulytics as a whole.

For a list of case examples for each indicator, see the [Examples list](#).

Jump to [Appendix 1: Water in Circulytics - Guidelines](#)

Active engagement:

At least one interaction per week with a convening organisation and/or other members in an initiative related to accelerating the transition to a circular economy.

Anaerobic digestion:

Microbial (mainly bacterial) breakdown of organic matter in the absence of oxygen, under managed conditions at a temperature suitable for naturally occurring microbial species to produce biogas (mainly methane) and digestates (also known as 'biosolids'). Anaerobic digestion must meet the qualifying conditions for nutrient recirculation.

Buildings:

Any permanent sheltered structures such as offices, factories (excluding equipment inside), warehouses, etc.

By-products:

An inevitable result of certain types of material processing and agriculture. In a circular economy all by-products can be feedstock for another production process.

Cascading use of water:

Cascading is the reuse of water in a different process without intermediate treatment. This could be done internally from one process to another, or in symbiosis with third-party organisations.

Circular business models:

Business models designed in ways that are aligned with one or more of the circular economy principles. For example, product-as-a-service is a business model where the ownership of the product remains with the manufacturer, incentivising, for example, longer product life, easier refurbishment, and better recycling, meaning it is more likely to lend itself to the principles of a circular economy. Also included here are models that increase the intensity of use of a product (e.g. car-sharing platforms). Another example is a regenerative farming model that improves local biodiversity and soil health.

Circular economy implementation:

All efforts towards putting the circular economy strategy into practice.

Circular economy principles:



Design out waste and pollution



Keep products and materials in use



Regenerate natural systems

Circular economy related initiatives:

Apart from the examples given in the Indicator list, this extends to local community engagement initiatives with programme-level impact monitoring, which raise awareness of and educate on circular economy topics.

Community:

Local residents that are not suppliers or customers, also including organisations such as schools or charities.

Composting:

Composting is the process by which materials biodegrade through the action of naturally occurring microorganisms and do so to a large extent within a specified timeframe. The associated biological processes will yield CO₂, water, inorganic compounds, and biomass, which leaves no visible contaminants or toxic residues. Composting must meet the *qualifying conditions for nutrient recirculation*.

Customers:

Any organisation or individual you sell, lease, or rent to (can be more than one step downstream).

Design:

In the context of a circular economy, the design of materials, products, or business models should be aligned with at least one of the circular economy principles and remain neutral towards the other two. Examples of this are:

- **Material examples:** Any materials that are not harmful to people or the environment in how they are used and enable longevity and reparability of products (e.g. reversible adhesives).

- **Product examples:** A product that is designed to be refurbished (e.g. outer shell of the product is easy to change), repaired (e.g. modular product where single parts are easy to remove and repair), or eventually dismantled for recycling etc.
- **Business model examples:** See *Circular business models*.

Evaporation:

Intentional or unintentional evaporation of water from company infrastructure, e.g. evaporation from artificial water storages that do not fulfil an ecosystem function, or evaporation in cooling processes.

Fixed Income:

Publicly traded debt securities issued by corporates, governments or financial services companies (e.g. government and corporate bonds).

Furniture:

Any furnishings, including shelving units in retail outlets.

Internally recirculated water:

Water that is kept in the company's infrastructure and reused for the same process(es) to cover part of the water demand of the company. This may involve internal treatment.

Implementation plan:

For each strategic priority, a plan that breaks it down all the way to individual action items that are SMART (see definition), and have individuals responsible for carrying them out.

Innovation functions:

R&D, R&I, or any functions that develop new products and services.

IT Equipment:

Includes computers, telecommunications equipment, monitors, keyboards, printers, servers, drives, network hubs.

Lending:

Provision of loans by banks and other financial services companies (e.g. corporate loans).

Listed Equity:

Equity stakes in publicly traded companies.

Machinery:

Any operational equipment

- **Heavy machinery:** weighing >50 tonnes (e.g. manufacturing production line)
- **Mid-weight machinery:** weighing 1 to 50 tonnes (e.g. one packaging machine)
- **Light machinery:** weighing ≤1 tonne (e.g. handheld tools)

Materials sourced from regeneratively managed resources:

Materials grown in ways that improve whole ecosystems, including by increasing soil health and carbon content, water quality, and biodiversity. The concept goes beyond retaining the status quo of natural systems (unless those systems are not degraded in any way) and extends to improving their health and capacity to regenerate themselves.

Material sourced from sustainably managed resources:

The material was grown in a way that preserves the ecosystem without degrading it further, but falls short of being *sourced from regeneratively managed resources*. Sustainable sourcing is considered a transition stage towards a regenerative way of managing materials sourcing. Most well-known sustainability certification schemes fall under this category (e.g. FSC 100% would fall under this category, however FSC controlled wood and FSC mix would not).

Measurable circular economy targets:

Targets that are quantifiable (i.e. target is expressed with a number) and have clear deadlines.

Membership:

Formal but light-touch involvement (less than one interaction per week) in an initiative related to accelerating the transition to a circular economy.

Non-potable water:

Water not safe for drinking. This includes sourcing of seawater.

Non-virgin:

Products and materials that have been previously used, including those that are reused, repaired, refurbished, remanufactured, and recycled.

Ongoing programme:

Regular engagement with relevant stakeholders oriented around a formal agreement between parties to realise pre-defined objectives.



Physical Product:

Any type of good that can be physically touched.

Plant, Property and Equipment Assets:

Tangible, long-term (use period of one year or more), fixed assets of a company. These include, but are not limited to: buildings, machinery, vehicles, furniture, and office equipment. Includes assets used by the company in their own business processes, but excludes plant, property, and equipment assets owned by the business but used by customers (e.g. reusable pallets in a Product-as-a-Service business model).

Policymakers:

Those working in sub-national or national government or in international institutions to inform, develop and set policies.

Pollution:

the addition of any substance (solid, liquid, or gas) or any form of energy (such as heat, sound, or radioactivity) to the environment at a rate faster than it can be dispersed, diluted, decomposed, recycled, or stored in some harmless form. The major kinds of pollution, usually classified by environment, are air pollution, water pollution, and land pollution. Modern society is also concerned about specific types of pollutants, such as noise pollution, light pollution, and plastic pollution. Pollution of all kinds can have negative effects on the environment and wildlife and often impacts human health and well-being. (source: *Britannica*)

Positive Screening:

Actively seeking out companies for their circular economy alignment (rather than negatively screening out companies that may do harm).

Precipitation harvesting:

Harvesting of precipitation from sources such as rainwater, fog, and air moisture.

Private Equity:

Equity stakes in privately held companies.

Processes:

Series of actions or steps taken in order to achieve a particular end. They can be manufacturing processes (e.g. to allow for using recycled material inputs), procurement processes (e.g. circular economy supplier requirement sheets), and any others that are relevant to running your company. Note: the processes do not necessarily need to be purpose built. Existing processes are acceptable if they are capable of supporting a circular way of doing business.

Products and materials suitable for the biological cycle

are consumed or otherwise degraded during use and do not cause harm to human health or the environment during or after their use. This category mainly pertains to food and feed, but also includes ornamental plants, medicines from living sources, and inorganic matter that is cycled through natural systems (e.g. salts).

Products and materials suitable for the technical cycle

can be used, reused/redistributed, maintained/prolonged, refurbished/remanufactured, or recycled. They include all inorganic materials such as metals, plastics, and synthetic chemicals, as well as materials from a biological origin, such as wood, cotton, and bioplastics found in products designed to be part of the technical cycle. *Note that this category also includes materials of biological origin that are used as reactants in chemical processes (e.g. vegetable oil for plastics) and those that form the basis of other materials or products that behave as technical materials (e.g. pulp for paper).*

Qualifying conditions for nutrient recirculation methods:

- Other end of use options for the material, besides landfill and incineration, have been demonstrably exhausted;
- The material is from a biological source;
- The biological material is demonstrably traceable to a source of sustainable or regenerative production;
- *The material is suitable for the biological cycle and is completely uncontaminated by materials **not suitable** for the biological cycle, (including coatings, preservatives, and fillers except when these are demonstrably inert and non-toxic), and other materials of biological origin which do not adhere to these qualifying conditions;*
- During the process the material is not mixed with other materials that may be contaminants;
- If energy generation is involved in this process, it must be usefully employed to displace non-renewable alternatives;
- The products of the process are themselves 100% biologically beneficial (e.g. as a soil conditioner), and are not detrimental to the ecosystems to which they are introduced.

Recirculating products or materials suitable for the biological cycle:

Recirculation is the action of keeping products and materials in the economy after their initial use. Processes such as composting, anaerobic digestion, or others that meet the qualifying conditions of nutrient recirculation, can be used to recirculate materials within the biological cycle. Recirculation excludes discharges to land, water, or air that threaten the environment or human health.¹

Examples of recirculation are:

- **New food products:** Use *by-products* as ingredients for food products for human consumption (e.g. beer made out of surplus bread).
- **Inputs for agriculture:** examples include organic fertilisers, animal feed, and fish feed.
- **New materials:** Non-food materials that have value (e.g. orange peel used to make dresses).
- **Bioenergy:** for example biogas and other nutrient recirculation processes that meet all of the Qualifying conditions for nutrient recirculation methods (see Definitions doc).

Recirculating products or materials suitable for the technical cycle:

Recirculation is the action of keeping products and materials in the economy after their initial use. All loops on the right hand side of the 'circular economy system diagram': maintain/prolong, reuse/redistribute, refurbish/remanufacture, recycle are included. Recirculation excludes incineration or discharges to land, water or air that threaten the environment or human health². Recirculation 'in practice' means the recirculation is truly occurring, as opposed to a product or material simply being designed for recirculation in theory. This may require tracking, particularly if the products or materials are no longer in company ownership.

1 Zero Waste International Alliance Last updated December 20th, 2018 <http://zwia.org/zero-waste-definition/>

2 Zero Waste International Alliance Last updated December 20th, 2018 <http://zwia.org/zero-waste-definition/>

Recycling:

The process of reducing a product all the way back to its basic materials, reprocessing those materials, and using them to make new products, components or materials. Recycling refers to materials that are processed in practice (as opposed to materials for which recycling is technically feasible). It is okay to use publicly available recycling rates where you can demonstrate that they are for materials that you produce and in regions where you are active.

Refurbish/remanufacture:

When a product is refurbished, its condition is improved – potentially to as-new. The process can include disassembly and rebuild, replacing components where necessary, updating specifications, and improving cosmetic appearance. When a component is remanufactured it is re-engineered to as-new condition with the same warranty as a new component.

Renewable energy sources:

Energy (electricity, heat, and fuel) is renewable if it is:

- Non-biomass based renewable sources:
 - Solar
 - Wind
 - Hydro (land-based, tidal, and wave)
 - Geothermal
- Biomass based energy must be a by-product of a process that primarily aims to recirculate nutrients (see qualifying conditions for nutrient recirculation). The biomass used must be: 1) *sourced from regeneratively managed resources* and derived from residues and/or *by-products* when using virgin material, or 2) processed from by-products/waste streams.

Renewable materials:

Materials that are replenished at a rate equal to or greater than the rate of depletion. Renewable materials include, for example, cotton, hemp, maize, wood, wool, leather, agricultural by-products, nitrogen, carbon dioxide, and sea salt. To be renewable such materials (where relevant) must be produced using regenerative practices or, in a transition phase, using sustainable practices. Reuse/redistribute: Products in the technical cycle can be reused multiple times and redistributed to new users in their original form with little enhancement or change.

Second-hand assets:

Plant, property and equipment assets purchased second hand, whether or not they have been designed along circular economy principles.

Service:

A service is something a company provides, and the customer pays for, but there is no transfer of material ownership. A service cannot be transported or stored and only exists while the provider is supplying it and the customer is using it. For example, refurbishing is a service. There are three types, dependent on whether there are material flows, and who owns them:

- *Services with material flows, where your business owns the materials (e.g. a company that owns and leases furniture)*
- *Services with material flows, where your business doesn't own the materials (e.g. a company that services IT hardware owned by others)*
- *Services without material flows (e.g. consultancy)*

SMART targets:

Targets that are Specific, Measurable (expressed with a number), Achievable (ambitious but not unrealistic), Relevant (to circular economy concepts), and Time-bound.

Spillage:

Unintentional water loss from company infrastructure.

Strategy:

The current strategy of your company for a five year (or similar) period.

Strategic priorities:

The next level of detail within the overall strategy, usually three to five priorities in total. Please mention in your response if your strategy is formulated differently.

Suppliers:

Any organisation or individual you procure from (can be more than one step upstream).

Systems:

Software that is needed to support a circular way of doing business (e.g. ability to track materials, components, and products; ability to simulate alternative designs and materials for existing products). Note: the software does not necessarily need to be purpose built. Existing software is acceptable if it is capable of supporting a circular way of doing business.

Tailored courses:

Circular economy courses tailored to the context of the company and the roles of employees.

Textiles:

Any worker uniforms or personal protective equipment.

Transport:

Any vehicles used for transportation

- **Heavy transport:** weighing >1000 tonnes (e.g. cargo ships)
- **Mid-weight transport:** weighing 10-1000 tonnes (e.g. aeroplanes and trains)
- **Light transport:** weighing ≤10 tonnes (e.g. lorries, passenger cars, bikes, scooters)

Warehousing Equipment:

Any equipment used to transport and store goods (e.g. crates, pallets, trolleys)

Waste:

Unwanted materials or substances. In a circular economy, waste is designed out.

Water demand:

Water used in manufacturing processes, for products and operations. The water demand of a company is the sum of inflows to these processes and operations. Ways to cover the company's water demand are water withdrawals as well as other options, e.g. *cascading use of water*, *precipitation harvesting*, and *internally recirculated water*. It excludes natural rainfall e.g. on a field or forest, where no active collection is undertaken. See Exhibit 1.

Water inflow:

Water that enters your company's infrastructure.

Water outflow:

Water that leaves your company's infrastructure.

Water quality:

The discharge water should be of a quality with which ecosystem health can be maintained (if ecosystem is healthy) or improved (if ecosystem health is degraded). If the ecosystem is not in a healthy condition, the water quality of the discharge should be higher than the surrounding water quality, thereby contributing to the improvement of ecosystem health.

Water quality monitoring:

Monitoring the quality of water, covering all relevant effluent parameters relating to substances that may have been introduced in the process of using the water since the original withdrawal. If a company completing Circulytics is monitoring quantity but not quality of the water, or not monitoring all relevant substances that may have been introduced, the respective quantity of water should be counted under "*None of the above/Other discharge*".

None of the above/Other discharge:

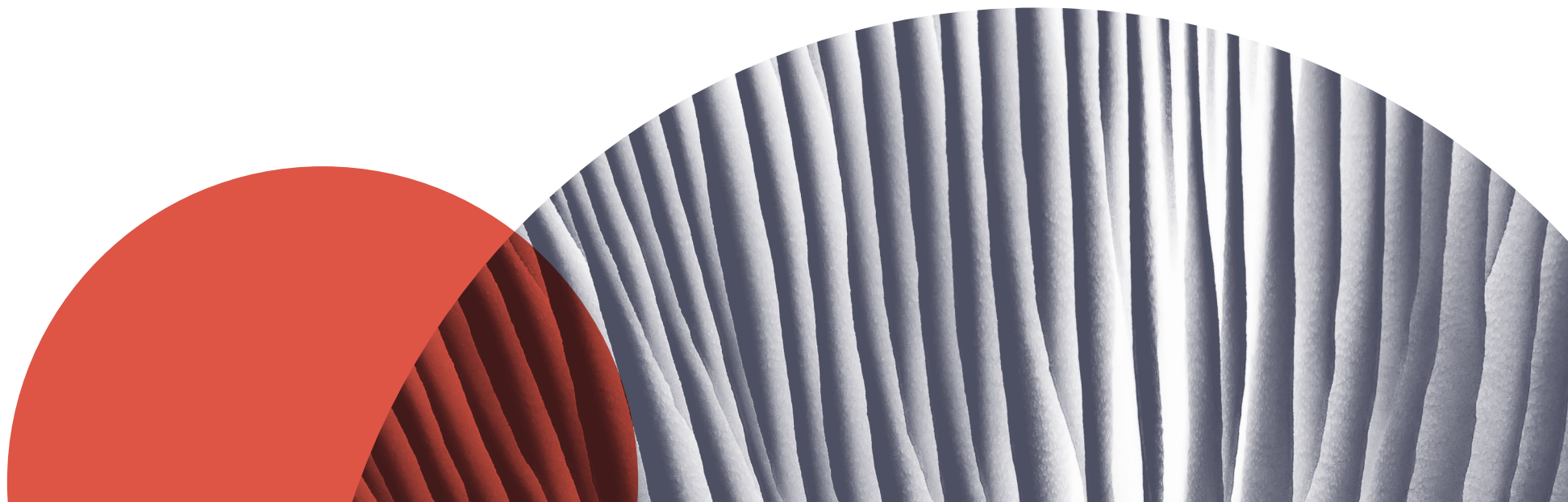
This response option includes any water discharge without *water quality monitoring* and any water discharge without quantity monitoring. Water discharge of original freshwater to a saltwater body also counts towards this response option. This includes *evaporation* or *spillage*.

Water stress:

The ratio of total withdrawals to total renewable supply in a given area. Aligned with the World Resource Institute's definition of baseline water stress, and SDG 6 Indicator 6.4.2, Level of water stress: Freshwater withdrawal as a proportion of available freshwater resources.

Water-stressed areas:

Areas with *water stress* of "Medium-high" or "Higher" (water stress >20%) in the [Aqueduct Water Stress map](#).



Appendix 1

Water in Circulytics – Guidelines

A short introduction: Water and the circular economy

Water could be the perfect example of a circular material, as it has circulated in nature since the onset of life. Yet the ways in which we use the water resources of our surrounding ecosystems are often not compatible with natural cycles.

When applying the circular economy lens to company water usage, the emerging topics are familiar from current issues around water distribution and pollution. Examples of these water topics can be grouped under the three circular economy principles:



Design out waste and pollution – water pollution prevention, nutrient valorisation, etc.



Keep products and materials in use – water reuse, internal recycling, water cascading, leakage reduction, etc.



Regenerate natural systems – allowing natural systems to regenerate themselves through balanced water withdrawal and discharge, recharging of local aquifers, water use reduction targets, etc.

Water in Circulytics

Circulytics indicators on water will be asked to a set of industries that are typically associated with high water usage (see *Industry Classification Mapping*).

In line with the circular economy principles, the water indicators in Circulytics cover the key water topics from a company-level perspective. Against the background of many existing and often mandatory company water reporting tools, Circulytics keeps the scope strictly related to circular economy topics. Where existing indicators are used in other methods related to circular economy, an effort has been made to align definitions (e.g. reduction targets, avoiding withdrawal from water-stressed areas, discharge to replenish local aquifers). New metrics have been introduced where we believe these aspects are core to using water in a way that is aligned with circular economy, and would not be captured otherwise (e.g. internal recirculation, nutrient valorisation).

How it works in practice in Circulytics: In the survey, there is an up front section with general indicators. If your company is active in a water-intensive industry, you will be asked to fill in “water inflow mass” **1** and “water outflow mass.” **2** If you deal with material flows, you will be asked about “material inflow mass” **3** and “material outflow mass” **4** for the biological and technical cycle (see [circular economy system diagram](#)). Likewise, in the following survey, the Outcomes category will cover material in/outflows and water in/outflows in separate indicators, which pertain to and will be weighted with the material and water masses allocated in the up front general section.

1 Water inflow mass corresponds to a subset of **Theme 9. Water**

2 Water outflow mass corresponds to a subset of **Theme 9. Water**

3 Material inflow mass corresponds to a subset of **Theme 6. Products and Materials**

4 Material outflow mass corresponds to a subset of **Theme 6. Products and Materials**

Water flows may become part of, or become separate from, material streams during manufacturing processes, as described in the following examples:

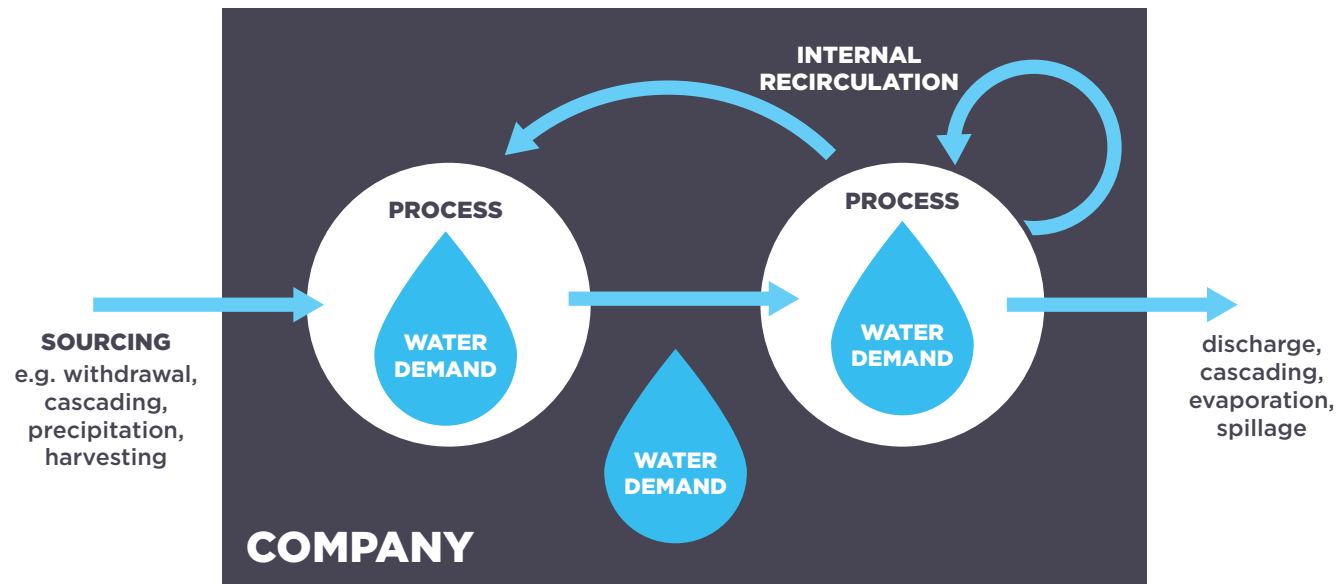


Exhibit 1: Types of water flows into, within, and out of a company.

Water flows:

Water inflow and outflow for manufacturing and other business processes should be accounted for under water inflow mass and water outflow mass. Water sourcing and discharge indicators apply, since the company has influence over sourcing and discharge alike.

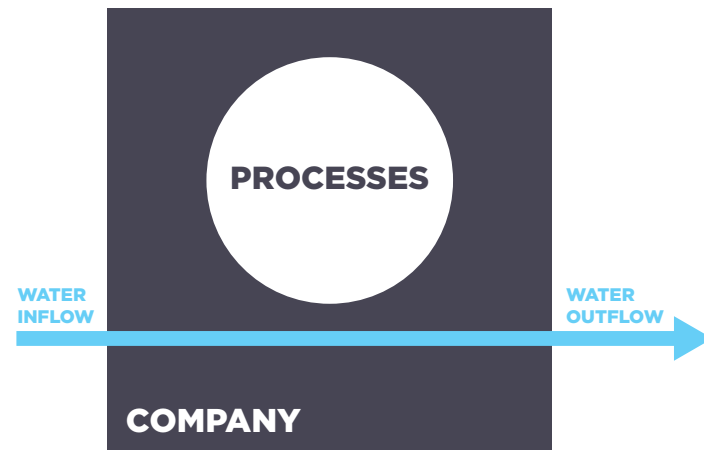


Exhibit 2. An example of water inflow and outflow for business processes is cooling water, where the water is sourced and (after optional internal recirculation) eventually leaves the company infrastructure, not as part of a product

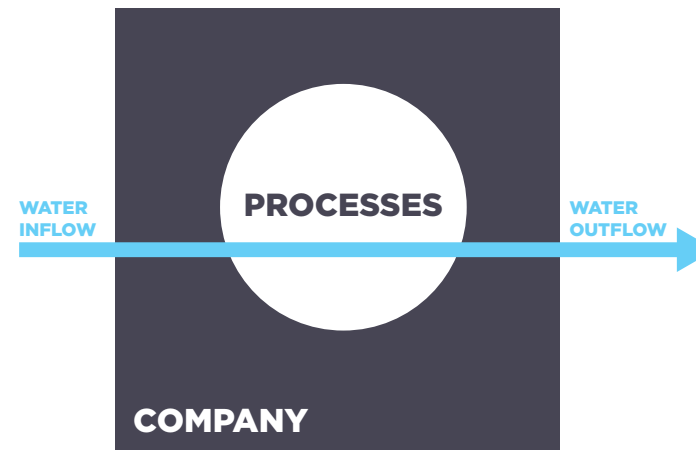
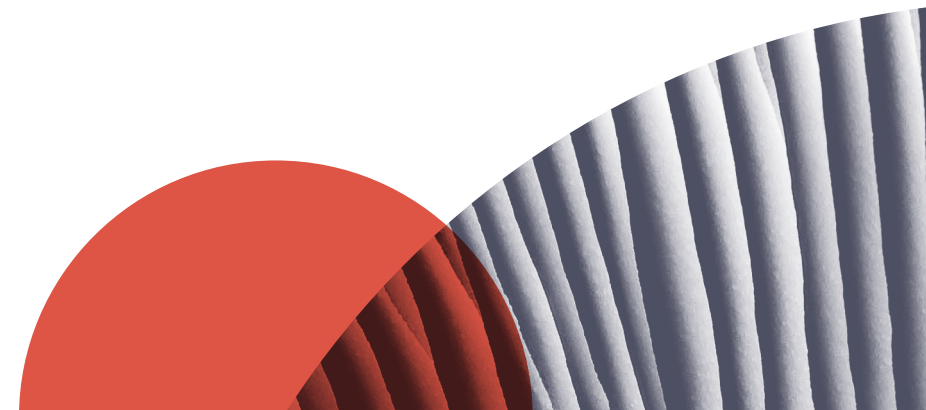


Exhibit 3: An example of water inflow and outflow for manufacturing is water that comes in touch with a product but is not incorporated in the finished product, e.g. water in pulp in paper manufacture or water in dyeing processes.

Water inflow to the company, which subsequently becomes part of a physical product during the manufacturing processes of the company, and leaves the company as part of a material outflow, should be accounted for under water inflow mass and material outflow mass. The water outflow indicators explicitly do not apply to water incorporated in *physical products*.



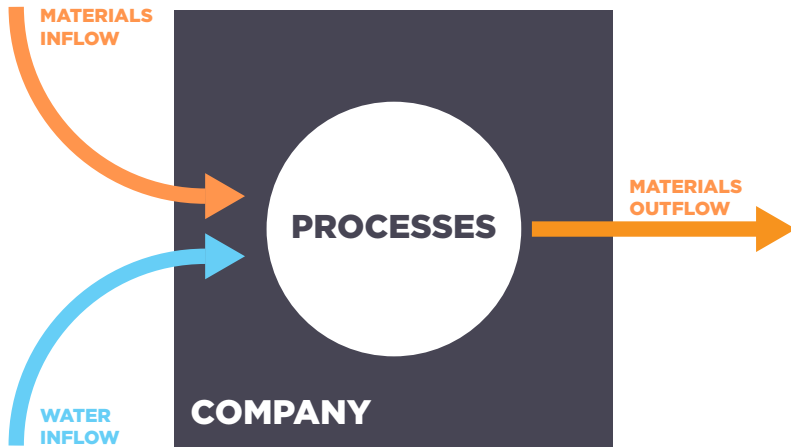


Exhibit 4. An example of water inflow that becomes incorporated into the product is water inflow for manufacturing of beverages, which counts towards the water inflow mass, and the water inflow indicators apply. However this water leaves the company as part of the product and should be accounted for under material outflow mass, and therefore the material outflow indicators apply.

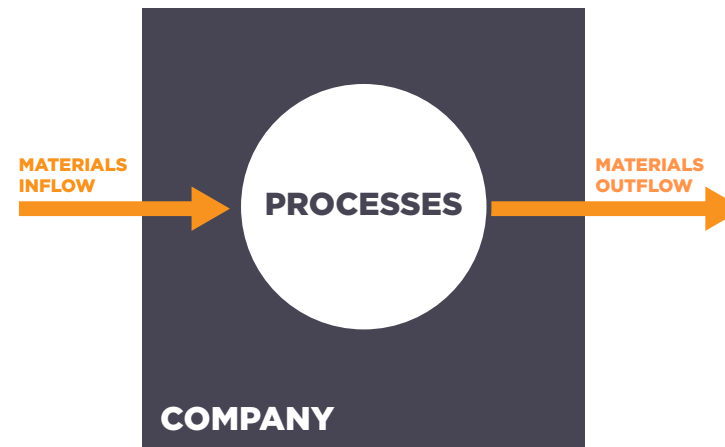


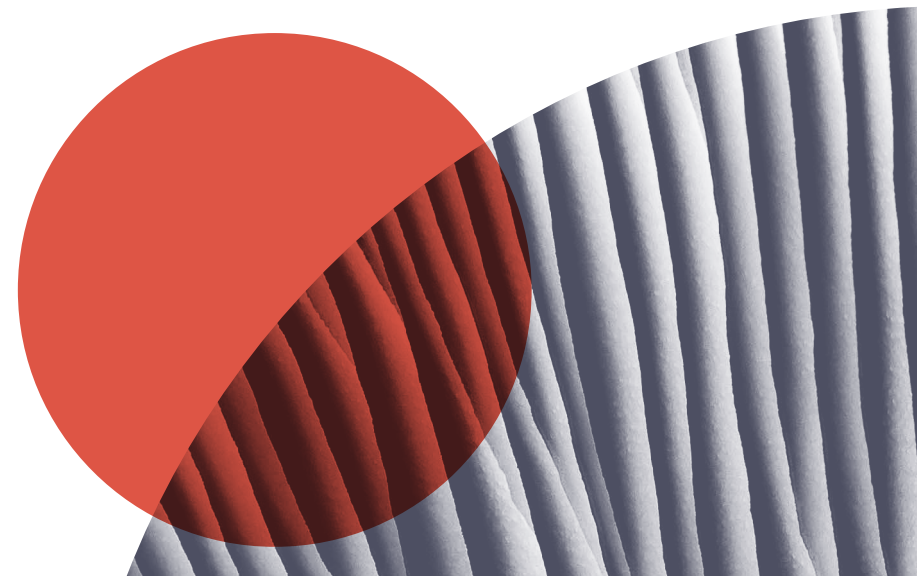
Exhibit 5. An example of water integrated in material flow is the water content mass in wood for wood-based furniture products, which counts towards total mass of material suitable for the technical cycle. Water content in agricultural produce like tomatoes procured by the company to manufacture food products counts towards the total mass of material suitable for the biological cycle.

Material flows:

The water is integrated in another material inflow or outflow, so the material inflow/outflow indicators apply. The mass of the material flow includes the water content. Please count the water content within a material stream towards the mass of the “materials suitable for technical/biological cycle” as applicable for the material stream in question.

Out of scope:

Natural precipitation is excluded from the scope of Circulytics as long as it is not actively harvested, e.g. rainfall on forests or land.





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