



# Definitions



**Circulytics is closed for submissions.**

Against the backdrop of a fast evolving non-financial reporting landscape, the Ellen MacArthur Foundation is evolving and strengthening its approach to circular economy measurement – now is the time for harmonisation and standardisation, and we have stepped away from collecting data and individual performance assessments through Circulytics. The following resources remain available for organisations interested in the methodology or using the indicators to support circular economy data collection and streamlining or harmonising measurement efforts. More information can be found on the [Circulytics website](#).

*Please note these definitions were originally created for Ellen MacArthur Foundation's Circulytics Method and should be interpreted accordingly.*

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

**Active engagement:**

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

**Anaerobic digestion:**

Microbial breakdown of organic matter in the absence of oxygen, under managed conditions to release biogas (methane) and digestates (or biosolids that can be used as fertilisers). 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 economy implementation:**

All efforts towards putting the circular economy strategy into practice.

**Circular economy principles:**

The circular economy has three principles, driven by design:



Eliminate waste  
and pollution



Keep products and  
materials in use



Regenerate natural  
systems



**Circular economy related initiatives:**

Any initiative that convenes stakeholders with the ultimate aim of accelerating the transition to a circular economy. This extends to local community engagement initiatives with programme-level impact monitoring, which raise awareness of and educate on circular economy topics.

**Circular products:**

Physical products (any type of goods that can be physically touched) designed in ways that are aligned with one or more of the circular economy principles, and remain neutral towards the other(s) not in alignment. The design must be implementable in practice and at scale (e.g. a bottle designed to be recyclable is only circular if it is used in a system where it actually gets recycled in practice and at scale).

Criteria for circular design are listed in the Indicator list under 6d. Category 1 and 6d. Category 2.

**Circular services:**

Services designed in ways that are aligned with one or more of the circular economy principles, and remain neutral towards the other(s) not in alignment. A list of example circular services is available in 7a. Part 1. To qualify, the service(s) must result in one or more of the positive outcomes as listed in 7a. Part 2.

**Community:**

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

**Composting:**

Microbial breakdown of organic matter in the presence of oxygen. In a circular economy, composting can be used to convert food by-products and other biodegradable materials into compost, which can be used as a soil enhancer, and potentially biogas. 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 repairability 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.
- **Services examples:** A service that is designed to enable increased utilisation of a product (e.g. sharing platform, product as a service offering), increased longevity of a product (e.g. predictive maintenance software), dematerialisation of a process (e.g. virtualisation), valorisation of by-products and waste (e.g. composting food waste), elimination of waste (e.g. design tool software).



**Digital systems:**

Software that is needed to support the delivery of products or services, and software used to manage plant, property and equipment assets.

**End-of-functional life:**

When products or assets come to their end-of-use, but would require remanufacturing or refurbishment in order to remain in use; or recycling in order to recirculate materials.

**End-of-use:**

When products or assets that are no longer of use to the first user, but are still in good working order and must change hands (un-refurbished and un-remanufactured) to a new user in order to remain in use.

**Equity share approach [adapted from GHG Protocol]:**

Under the equity share approach, a company accounts for all Circulytics data from operations according to its share of equity in the operation. The equity share reflects economic interest, which is the extent of rights a company has to the risks and rewards flowing from an operation. Typically, the share of economic risks and rewards in an operation is aligned with the company's percentage ownership of that operation, and equity share will normally be the same as the ownership percentage. Where this is not the case, the economic substance of the relationship the company has with the operation always overrides the legal ownership form to ensure that equity share reflects the percentage of economic interest. The principle of economic substance taking precedence over legal form is consistent with international financial reporting standards. The staff preparing the inventory may therefore need to consult with the company's accounting or legal staff to ensure that the appropriate equity share percentage is applied for each joint operation.

**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.

**Financial control [adapted from GHG Protocol]:**

The company has financial control over the operation if the former has the ability to direct the financial and operating policies of the latter with a view to gaining economic benefits from its activities. For example, financial control usually exists if the company has the right to the majority of benefits of the operation, however these rights are conveyed. Similarly, a company is considered to financially control an operation if it retains the majority risks and rewards of ownership of the operation's assets. Under this criterion, the economic substance of the relationship between the company and the operation takes precedence over the legal ownership status, so that the company may have financial control over the operation even if it has less than a 50 percent interest in that operation. In assessing the economic substance of the relationship, the impact of potential voting rights, including both those held by the company and those held by other parties, is also taken into account. This criterion is consistent with international financial accounting standards; therefore, a company has financial control over an operation if the operation is considered as a group company or subsidiary for the purpose of financial consolidation, i.e., if the operation is fully consolidated in financial accounts. If this criterion is chosen to determine control, Circulytics data from joint ventures where partners have joint financial control are accounted for based on the equity share approach.

**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/development projects:**

Projects to develop products and services. This includes the plant, property and equipment assets and digital systems that support the delivery of those circular products and services. This can be a novel product or service or a change to an existing product or service. Innovation/development projects may involve R&D, R&I, engineering, design teams, and other functions, as well as external stakeholders. Some examples of circular innovation/development projects are: development of a new circular product or service; development of a new reusable packaging solution for an existing product; development of an existing product using an alternative circular material choice; development of a significant upgrade to an existing distribution system/retail model; development of a new take back scheme service; development of new plant, property and equipment assets that improve the delivery of a circular service; development of software that supports remanufacturing processes.

**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)

**Regenerative production:**

Regenerative production refers to a range of approaches used to manage agroecosystems that provide food and materials – be it through agriculture, aquaculture or forestry etc. – in ways that create positive outcomes for nature. These outcomes include, but are not limited to, healthy soils, improved air and water quality, and higher levels of carbon sequestration. They can be achieved through a variety of context-dependent practices and can together help regenerate degraded ecosystems and build resilience on farms and in surrounding landscapes. Farmers may draw on several different schools of thought, such as regenerative agriculture, restorative aquaculture, agroecology, organic, permaculture, agroforestry, and conservation agriculture, to help them apply the most appropriate set of practices to drive regenerative outcomes in their managed agroecosystems.

To claim regenerative production in Circulytics, supporting evidence is required. Examples are:



- Contribution to and use of common on-farm metrics and definitions, tracking progress against the baseline of a healthy ecosystem, while considering local contexts (e.g. alignment with Global Farm Metric, currently under development). Formal certification is not required to claim regenerative production in Circulytics, but supporting evidence needs to be provided of how metrics are used to track regenerative outcomes.
- Certification scheme that includes measurement of regenerative outcomes such as healthy and stable soils, improved local biodiversity, improved air and water quality (e.g. Regeneratively Organic Certified, Demeter).

**Sustainable production:**

The material was grown in a way that preserves the ecosystem without degrading it further, but falls short of being regeneratively produced. Sustainable production is considered a transition stage towards a regenerative way of producing materials. Most well-known sustainability certification schemes fall under this category (e.g. FSC 100%, Rainforest Alliance)

**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 when averaged over a year) in an initiative related to accelerating the transition to a circular economy.

**Non-potable water:**

Water that is not safe for drinking.

**Non-virgin:**

Materials that have been previously used, including in products that have been reused, refurbished or repaired, components that have been remanufactured, and materials that have been recycled. They are also known as secondary materials.

**Ongoing programme:**

Regular (at least once a year) engagement with relevant stakeholders oriented around a formal agreement between parties to realise pre-defined objectives.

**Operational control [adapted from GHG Protocol]:**

A company has operational control over an operation if the former or one of its subsidiaries has the full authority to introduce and implement its operating policies at the operation. This criterion is consistent with the current accounting and reporting practice of many companies that report on Circulytics related data from facilities that they operate (i.e., for which they hold the operating license). It is expected, except in very rare circumstances, that if the company or one of its subsidiaries is the operator of a facility, it will have the full authority to introduce and implement its operating policies and thus has operational control. Under the operational control approach, a company accounts for 100% of Circulytics related data from operations over which it or one of its subsidiaries has operational control. It should be emphasised that having operational control does not mean that a company



necessarily has authority to make all decisions concerning an operation. For example, big capital investments will likely require the approval of all the partners that have joint financial control.

**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:**

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.

**Procedural Policy:**

Officially defined approaches, guidelines, operating instructions, and organisational procedures that dictate how digital systems and plant, property and equipment assets are configured and used as standard within an organisation. These ultimately establish the processes necessary for a company to deliver goods and services in alignment with the organisational strategy. Procedural policies that support the delivery of circular products and/or services (e.g. circular procurement policy) do not have to be purpose built; existing policies are acceptable if they support the delivery of circular products and/or services. For example, policies for the use of: procurement software to track non-virgin or regenerative sourcing; product or material tracking software to aid collection and repair; transportation assets to enable reverse logistics; machinery or warehouse equipment that collect waste/by-products or enable re-manufacturing.

**Products and materials that are designed to be consumed:**

This category mainly pertains to food and feed, but also includes medicines from living sources, detergents, and inorganic matter that is cycled through natural systems (e.g. salts). The way in which these products and materials are eventually discharged to land, water, or air must not threaten the environment or human health; Otherwise they should be



counted under 'Products and materials designed to be used' (for example, shampoo that has components that are unsafe for the environment needs to be counted under 'Products and materials designed to be used' to clarify whether the company can show that these unsafe components are captured and recirculated after use [in 6f]).

#### **Products and materials designed to be used:**

This covers products and materials that should be used, reused/redistributed, maintained/prolonged, refurbished/remanufactured, or recycled (e.g. durable products or toxic detergents). It includes all inorganic materials such as metals, plastics, and synthetic chemicals, and may include materials from a biological origin, such as wood, cotton, and bioplastics. *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 are not consumed during use (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 investigated and found to be not feasible on technical or economic grounds;
- The material is from a biological source;
- The material does not cause harm to human health or the environment during or after use and is completely uncontaminated by materials that may cause harm to human health or the environment during or after use (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);

- If energy generation is involved in this process, it should be usefully employed;
- 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 and materials that are designed to be consumed:**

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 that are designed to be consumed. Recirculation excludes discharges to land, water, or air that threaten the environment or human health.<sup>1</sup>

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).

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





**Recirculating products and materials that are designed to be used:**

Recirculation is the action of keeping products and materials in the economy after their initial use. Products and materials that are designed to be used may, after their initial use, get recirculated through reuse/redistribution, maintenance/repair, refurbishment/remanufacturing, or recycling, and in some cases composting or anaerobic digestion after use. Recirculation excludes incineration or discharges to land, water or air that threaten the environment or human health. 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.

**Recycling:**

Reduce a product all the way back to its basic materials, reprocessing and using them to make new products, components or materials. Significant value and embedded energy is lost in the process. In a circular economy, recycling is the last resort action.

**Refurbish:**

Return a product to good working order. This can include repairing or replacing components, updating specifications, and improving cosmetic appearance. For example, a sofa can be refurbished by replacing a worn cover with a new one, perhaps with a more modern design.

**Regenerative production:**

Regenerative production refers to a range of approaches used to manage agroecosystems that provide food and materials – be it through agriculture, aquaculture or forestry etc. – in ways that create positive outcomes for nature. This approach goes beyond that of “sustainable” production (which intends to preserve the ecosystem without degrading it further). Positive outcomes include, but are not limited to, healthy soils, improved air and water quality, and higher levels of carbon sequestration. They can be achieved through a variety of context-dependent practices and can together help regenerate degraded ecosystems and build resilience on farms and in surrounding landscapes. Farmers may draw on several different schools of thought, such as regenerative agriculture, restorative aquaculture, agroecology, organic, permaculture, agroforestry, and conservation agriculture, to help them apply the most appropriate set of practices to drive regenerative outcomes in their managed agroecosystems.

Examples are:

- Contribution to and use of common on-farm metrics and definitions, tracking progress against the baseline of a healthy ecosystem, while considering local contexts (e.g. alignment with Global Farm Metric, currently under development). Formal certification is not required to claim regenerative production in Circulytics, but metrics should be applied to track regenerative outcomes.
- Certification scheme that includes measurement of regenerative outcomes such as healthy and stable soils, improved local biodiversity, improved air and water quality (e.g. Regeneratively Organic Certified, Demeter).



**Remanufacture:**

Re-engineer a component to an as-new condition with the same level of performance and warranty as a newly manufactured one.

**Renewable energy:**

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

- Non-biomass based renewable sources:
  - Solar (e.g. photovoltaic, CSP plants)
  - Wind
  - Hydro (land-based, tidal, and wave)
  - Hydrothermal
  - Geothermal
- Biomass based energy must meet the *qualifying conditions for nutrient recirculation*.
- Storage of one of the above, e.g. green hydrogen

**Renewable materials:**

Materials that are continually replenished at a rate equal to or greater than the rate of depletion (compare ISO 14021: Environmental labels and declarations — Self-declared environmental claims, Type II environmental labelling). Renewable materials include, for example, cotton, hemp, maize, wood, wool, leather, agricultural by-products, nitrogen, carbon dioxide, and sea salt. To fit in a circular economy, such materials (where relevant) must be produced using regenerative production practices. Note that bio-based materials are not necessarily renewable. Examples of bio-based materials not considered renewable are oil and peat.

**Reuse/redistribute:**

The repeated use of a product or component for its original intended purpose without significant modification, but potentially involving cleaning or small adjustments so it is ready for the next use.

**Service:**

A service is something a company provides, and the customer pays for, but there is **no transfer of material ownership**. A service only exists while the provider is supplying it.

See also definition for Circular Services and examples therein.

**Second-hand assets:**

Plant, property and equipment assets purchased after another owner has had them, potentially with refurbishment, but without remanufacture, whether or not they have been designed along circular economy principles.

**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 plan of your company for achieving long-term or overall aims, usually made for a specific time period, such as five years.



**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.

**Sub-units:**

Parts of your company that do not overlap and together cover the entire company. Sub-units must be revenue generating parts of your company, as opposed to supporting functions (such as Human Resources or IT), in order for Circulytics to assess them as intended.

**Suppliers:**

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

**Textiles:**

Any employee clothing, 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 in 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.

**Good water quality:**

The discharged water should be of a quality that is higher or at least equal to the water quality at withdrawal, and higher or at least equal to the water quality of the ecosystem, thereby contributing to restorative outcomes. Any pollutants that may have been introduced during production processes are monitored and removed before discharge.



**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”*.

**Water stress:**

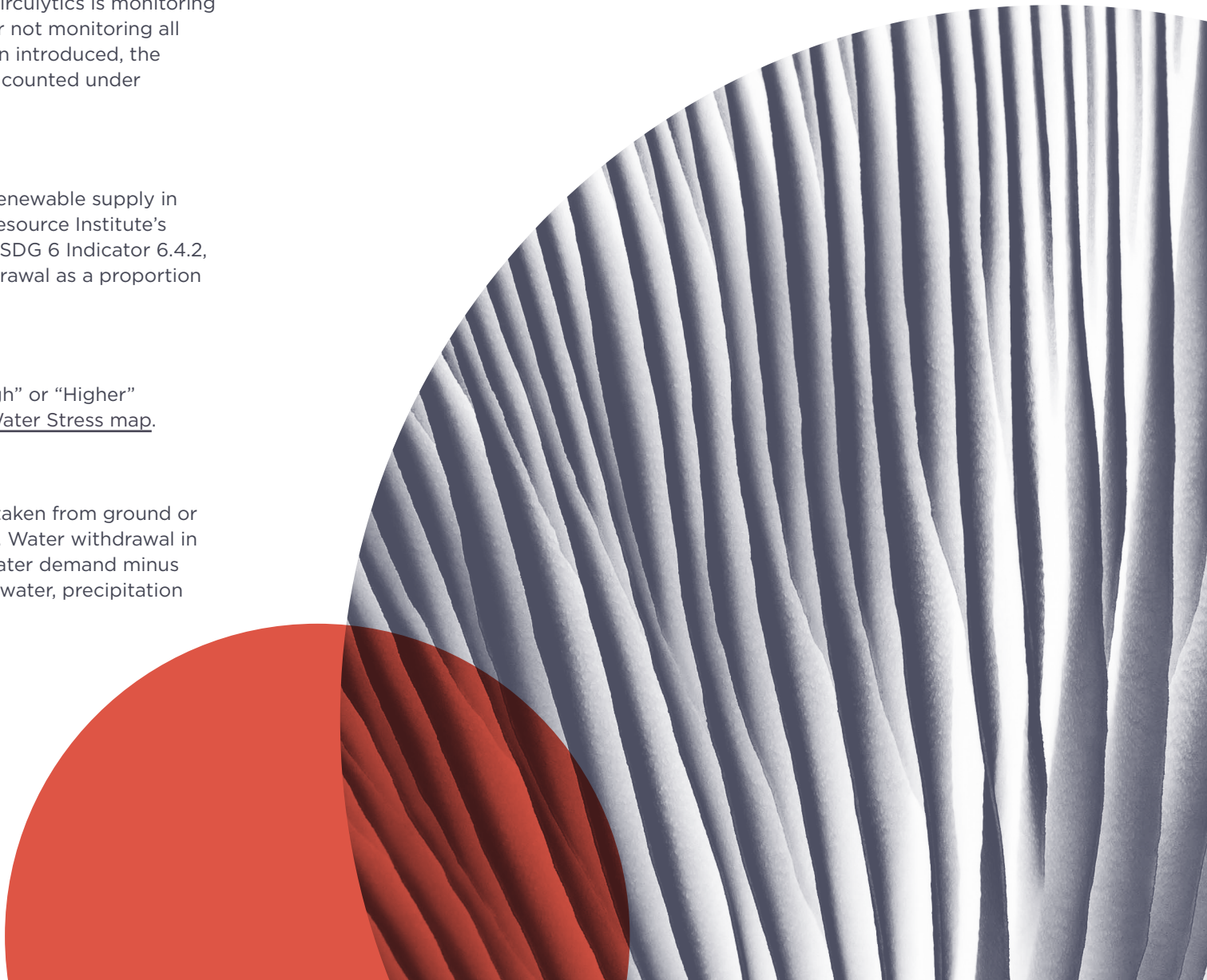
The ratio of total withdrawals to total renewable supply in a given area. Aligned with the World Resource Institute’s definition of baseline water stress, and SDG 6 Indicator 6.4.2, Level of water stress: Freshwater withdrawal as a proportion of available freshwater resources.

**Water-stressed areas:**

Areas with *water stress* of “Medium-high” or “Higher” (water stress >20%) in the Aqueduct Water Stress map.

**Water withdrawal:**

Water withdrawal refers to freshwater taken from ground or surface water sources. (Source: OECD). Water withdrawal in the context of Circulytics is the total water demand minus internal recirculation, cascading use of water, precipitation harvesting, and seawater.







Circulytics is no longer open for submissions.  
These resources are for reference only.



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