Environment

Performance Indicators

Aspect: Materials

CORE **EN1** Materials used by weight or volume.

CORE **EN2** Percentage of materials used that are recycled input materials.

Aspect: Energy

CORE **EN3** Direct energy consumption by primary energy source.

CORE **EN4** Indirect energy consumption by primary source.

ADD **EN5** Energy saved due to conservation and efficiency improvements.

ADD **EN6** Initiatives to provide energy-efficient or renewable energy-based products and services, and reductions in energy requirements as a result of these initiatives.

ADD **EN7** Initiatives to reduce indirect energy consumption and reductions achieved.

Aspect: Water

CORE **EN8** Total water withdrawal by source.

ADD **EN9** Water sources significantly affected by withdrawal of water.

ADD **EN10** Percentage and total volume of water recycled and reused.

Aspect: Biodiversity

CORE **EN11** Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.

CORE **EN12** Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.

ADD **EN13** Habitats protected or restored.

ADD **EN14** Strategies, current actions, and future plans for managing impacts on biodiversity.

ADD **EN15** Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.

Aspect: Emissions, Effluents, and Waste

CORE **EN16** Total direct and indirect greenhouse gas emissions by weight.

CORE **EN17** Other relevant indirect greenhouse gas emissions by weight.

ADD **EN18** Initiatives to reduce greenhouse gas emissions and reductions achieved.

CORE **EN19** Emissions of ozone-depleting substances by weight.

CORE **EN20** NO_x, SO_x, and other significant air emissions by type and weight.

CORE **EN21** Total water discharge by quality and destination.

CORE **EN22** Total weight of waste by type and disposal method.

CORE **EN23** Total number and volume of significant spills.

ADD **EN24** Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally.

ADD **EN25** Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff.

Aspect: Products and Services

CORE **EN26** Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.

CORE **EN27** Percentage of products sold and their packaging materials that are reclaimed by category.

Aspect: Compliance

CORE **EN28** Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.

Aspect: Transport

ADD **EN29** Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.

Aspect: Overall

ADD **EN30** Total environmental protection expenditures and investments by type.

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Relevance

The Aspects in the Environment Indicator set are structured to reflect the inputs, outputs, and modes of impact an organization has on the environment. Energy, water, and materials represent three standard types of inputs used by most organizations. These inputs result in outputs of environmental significance, which are captured under the Aspects of Emissions, Effluents, and Waste. Biodiversity is also related to the concepts of inputs to the extent that it can be viewed as a natural resource. However, biodiversity is also directly impacted by outputs such as pollutants.

The Aspects of Transport and Products and Services represent areas in which an organization can further impact the environment, but often through other parties such as customers or suppliers of logistics services.

Compliance and Overall Aspects are specific measures the organization takes to manage environmental performance.

The Aspects of Energy, Water, Emissions, and Biodiversity each contain several Indicators whose relationships are explained in more detail below:

Energy Aspect

The Energy Indicators cover the five most important areas of organizational energy use, which include both direct and indirect energy. Direct energy use is energy consumed by the organization and its products and services. Indirect energy use, on the other hand, is energy that is consumed by others who are serving the organization. The five different areas of energy use are to be reported as follows:

- In EN3, the direct energy consumption of the reporting organization is reported, including energy produced on-site (e.g., through the burning of gas).
- EN4 provides information on energy consumption required to produce energy purchased externally, such as electricity.
- EN5 asks for energy saved due to conservation and efficiency improvements.
- EN6 addresses the development of energy-efficient products and services.
- Finally, EN7 covers the indirect energy consumption of the reporting organization's activities.

Measurement of energy consumption is relevant to greenhouse gas emissions and climate change. The burning of fossil fuels to generate energy creates emissions of carbon dioxide (a greenhouse gas). To meet the aims formulated in the Kyoto Protocol and to reduce the risk of severe climate change, energy demand needs to be lowered. This can be achieved through more efficient energy use (measured under EN5 and EN6) and replacing fossil fuel energy sources with renewable ones (measured under EN3 and EN4). In addition to lowering the direct consumption of energy, designing energy-efficient product and services (EN6) and reducing indirect energy consumption (EN7) (e.g., the selection of low energy-intensive raw materials or the use of services such as travel) are important strategies.

Emissions Aspect

The 'emissions, effluents, and waste' aspect includes Indicators that measure standard releases to the environment considered to be pollutants. These Indicators include different types of pollutants (e.g., air emissions, effluents, solid waste) that are typically recognized in regulatory frameworks (EN20-EN23, EN24). In addition, there are Indicators for two types of emissions that are the subject of international conventions- greenhouse gases (EN16 and EN17) and ozone depleting substances (EN19). EN16 can be calculated using the data reported under EN3 and EN4. EN18 addresses the emissions reductions achieved and initiatives to reduce emissions.

Definitions

Direct energy

Forms of energy that enter the reporting organization's operational boundaries. It can be consumed either by the organization within its boundaries, or it can be exported to another user. Direct energy can appear in either primary (e.g., natural gas for heating) or intermediate (e.g., electricity for lighting) forms. It can be purchased, extracted (e.g., coal, natural gas, oil), harvested (e.g., biomass energy), collected (e.g., solar, wind), or brought into the reporting organization's boundaries by other means.

Greenhouse gas emissions (GHG)

The six main greenhouse gas emissions are:

- Carbon dioxide (CO2);
- Methane (CH4);

- Nitrous oxide (N2O);
- Hydrofluorocarbons (HFCs- a group of several compounds);
- Perfluorocarbons (PFCs- a group of several compounds); and
- Sulphur hexafluoride (SF6).

Indirect energy

Energy produced outside the reporting organization's organizational boundary that is consumed to supply energy for the organization's intermediate energy needs (e.g., electricity or heating and cooling). The most common example is fuel consumed outside the reporting organization's boundary in order to generate electricity to be used inside the organization's boundary.

Intermediate energy

Forms of energy that are produced by converting primary energy into other forms. For most organizations, electricity will be the only significant form of intermediate energy. For a small percentage of organizations, other intermediate energy products might also be important, such as steam or water provided from a district heating plant or chilled water plant, or refined fuels such as synthetic fuels, biofuels, etc.

Primary source

The initial form of energy consumed to satisfy the reporting organization's energy demand. This energy is used either to provide final energy services (e.g., space heating, transport) or to produce intermediate forms of energy, such as electricity and heat. Examples of primary energy include non-renewable sources such as coal, natural gas, oil, and nuclear energy. It also includes renewable sources such as biomass, solar, wind, geothermal, and hydro energy. Primary energy might be consumed on-site (e.g., natural gas to heat the reporting organization's buildings) or off-site (e.g., natural gas consumed by the power plants that provide electricity to the reporting organization's facilities).

Renewable energy

Renewable energy is derived from natural processes that are replenished constantly. This includes electricity and heat generated from solar, wind, ocean, hydropower, biomass, geothermal resources, biofuels, and hydrogen derived from renewable resources.

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EN1 Materials used by weight or volume.

1. Relevance

This Indicator describes the reporting organization's contribution to the conservation of the global resource base and efforts to reduce the material intensity and increase the efficiency of the economy. These are expressed goals of the OECD Council and various national sustainability strategies. For internal managers and others interested in the financial state of the organization, material consumption relates directly to overall costs of operation. Tracking this consumption internally, either by product or product category, facilitates the monitoring of material efficiency and cost of material flows.

2. Compilation

2.1 Identify total materials used, including materials purchased from external suppliers and those obtained from internal sources (captive production and extraction activities). This can include:

- Raw materials (i.e., natural resources used for conversion to products or services such as ores, minerals, wood, etc.);
- Associated process materials (i.e., materials that are needed for the manufacturing process but are not part of the final product, such as lubricants for manufacturing machinery);
- Semi-manufactured goods or parts, including all forms of materials and components other than raw materials that are part of the final product; and
- Materials for packaging purposes.

2.2 Identify non-renewable and direct materials used. Convert any measurements into estimated weight or volume, calculated 'as is' rather than by 'dry substance/weight'.

2.3 Report the total weight or volume of :

- Non-renewable materials used; and
- Direct materials used.

3. Definitions

Direct materials

Materials that are present in a final product.

Non-renewable materials

Resources that do not renew in short time periods, such as minerals, metals, oil, gas, coal, etc.

4. Documentation

Potential information sources include billing and accounting systems, and the procurement or supply management department.

5. References

- OECD, Recommendation of the Council on Material Flows and Resource Productivity, 2004.

EN2 Percentage of materials used that are recycled input materials.

1. Relevance

This Indicator seeks to identify the reporting organization's ability to use recycled input materials. Using these materials helps to reduce the demand for virgin material and contribute to the conservation of the global resource base. For internal managers and others interested in the financial condition of the reporting organization, substituting recycled materials can contribute to lowering overall costs of operation.

2. Compilation

2.1 Identify the total weight or volume of materials used as reported under EN1.

2.2 Identify the total weight or volume of recycled input materials. If estimation is required, state the estimation methods.

2.3 Report the percentage of recycled input materials used by applying the following formula:

$$EN2 = \frac{\text{Total recycled input materials used}}{\text{Input matertials used}} \times 100$$

3. Definitions

Recycled input materials

Materials that replace virgin materials that are purchased or obtained from internal or external sources, and that are not by-products and non-product outputs (NPO) produced by the reporting organization.

4. Documentation

Potential information sources include billing and accounting systems, the procurement or supply management department, and internal production and waste disposal records.

5. References

- OECD Working Group on Waste Prevention and Recycling.

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EN3 Direct energy consumption by primary energy source.

1. Relevance

The ability of the reporting organization to use energy efficiently can be revealed by calculating the amount of energy it consumes. Energy consumption has a direct effect on operational costs and exposure to fluctuations in energy supply and prices. The environmental footprint of the organization is shaped in part by its choice of energy sources. Changes in the balance of these sources can indicate the organization's efforts to minimize its environmental impacts.

Information on the consumption of primary energy sources supports an assessment of how the organization might be affected by emerging environmental regulations such as the Kyoto Protocol. The consumption of fossil fuels is a major source of greenhouse gas emissions, and energy consumption is directly linked to the organization's greenhouse gas emissions.

Replacing fossil fuel energy sources with renewable ones is essential for combating climate change and other environmental impacts created by the extraction and processing of energy. Supporting renewable and efficient energy technology also reduces the reporting organization's current and future dependency on non-renewable energy sources, and its exposure to potential volatility in prices and supply.

This Indicator measures the reporting organization's consumption of direct primary energy sources. The Indicator covers scope 1 of the WRI/WBCSD GHG Protocol. Indicator EN4 measures the consumption of primary energy sources to supply the reporting organization with intermediate energy such as electricity, heating and cooling, etc.

2. Compilation

2.1 Direct energy sources purchased
Identify primary energy sources purchased by the reporting organization for its own consumption. This includes:

- Direct non-renewable energy sources including:
  - Coal;
  - Natural gas; and
  - Fuel distilled from crude oil, including gasoline, diesel, liquefied petroleum gas (LPG), compressed natural gas (CNG), liquefied natural gas (LNG), butane, propane, ethane, etc.
- Direct renewable energy sources including:
  - Biofuels;
  - Ethanol; and
  - Hydrogen.

  Note: Biomass is excluded from direct renewable energy sources for the purpose of reporting to the WRI/WBCSD GHG Protocol. For alignment with the WRI/WBCSD GHG Protocol, direct CO_2 emissions from the combustion of biomass should be reported separately.

2.2 Direct energy sources produced
Identify the amount of primary energy the reporting organization acquires by producing, extracting, harvesting, collecting, or converting it from other forms of energy in joules or multiples. This can include the same energy sources listed under 2.1.

2.3 Direct energy sources sold
Identify the amount of primary energy exported outside the reporting boundary in joules or multiples.

2.4 Calculate total energy consumption in joules or multiples such as gigajoules (one billion joules or 109 joules) using the following equation:

Total direct energy consumption = direct primary energy purchased + direct primary energy produced- direct primary energy sold

Refer to the following table to convert volumes of primary sources to gigajoules:

Coal	GJ	**Crude Oil**	GJ	**Gasoline**	GJ	**Natural Gas**	GJ	**Electricity**	GJ
tonne (metric)	26,00	barrel	6,22	gallon	0,125	therm	0,1055	kilowatt-hour	0,0036
ton (short)	23,59	tonne (metric)	44,80	tonne (metric)	44,80	1000 cubic feet	1,1046	megawatt-hour	3,6000
ton (long)	26,42	ton (short)	40,64	**Diesel**		1000 cubic meters	39,01	gigawatt-hour	3600,0
		ton (long)	45,52	gallon	0,138	MMBtu	1,055		
				tonne (metric)	43,33				
				Fuel Oil					
				gallon	0,144				
				tonne (metric)	40,19				

2.5 Report total direct energy consumption in joules or multiples by renewable primary source.

2.6 Report total direct energy consumption in joules or multiples by non-renewable primary source.

3. Definitions

Renewable resources

Resources capable of being replenished within a short time through ecological cycles (as opposed to resources such as minerals, metals, oil, gas, coal that do not renew in short time periods).

4. Documentation

Information can be obtained from invoices, measured (or calculated) heat/fuel accounting, estimations, defaults, etc. Amounts of joules can be taken directly or converted from invoices or delivery notes. Information about the combination of primary sources used to generate intermediate energy can be obtained from suppliers.

5. References

- The Greenhouse Gas Protocol (GHG) Initiative - A corporate accounting and reporting standard (Revised Edition, 2004) of the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD).

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EN4 Indirect energy consumption by primary source.

1. Relevance

The amount and primary source of energy the reporting organization uses indirectly through the purchase of electricity, heat, or steam, can indicate efforts by the organization to manage environmental impacts and reduce its contribution to climate change. The particular effect indirect energy usage has on climate change depends on the type of primary energy used to generate intermediate energy.

Intermediate energy refers to forms of energy that are produced by converting primary energy into other forms. For most organizations, electricity will be the only significant form of intermediate energy. For a small percentage of organizations, other intermediate energy products might also be important, such as steam or water provided from a district heating plant or chilled water plant, or refined fuels such as synthetic fuels, biofuels, etc.

This Indicator measures the energy required to produce and deliver purchased electricity and any other intermediate energy products (such as district heat) that involve significant energy consumption upstream from the organization's reporting boundary. This information also enables calculations of indirect greenhouse gas emissions. It covers Scope 2 of the WRI/WBCSD GHG Protocol.

2. Compilation

2.1 Identify the amount of intermediate energy purchased and consumed from sources external to the reporting organization in joules or multiples, such as gigajoules (one billion joules, or 10^9 joules). This includes:

Intermediate energy purchased and consumed from non-renewable energy sources as listed under EN3, including:

- Electricity;
- Heating and Cooling;
- Steam;
- Nuclear energy; and
- Other forms of imported energy.

Intermediate energy purchased and consumed from renewable energy sources including:

- Solar;
- Wind;
- Geothermal;
- Hydro energy;
- Biomass based intermediate energy; and
- Hydrogen based intermediate energy.

2.2 Identify the amount of primary fuels consumed to produce intermediate energy based on the total amount of energy purchased from external suppliers (EN3- Energy Purchased). To estimate the fuels consumed to produce purchased energy, use either:

- Fuel consumption data acquired from the electricity provider if these data are available;
- Default data for electricity and heat; or
- Estimations where default figures are not available.

2.3 Using data from 2.1, report:

- The total amount of indirect energy used by indirect non-renewable sources and indirect renewable sources in terms of intermediate energy; and
- The corresponding primary energy consumed in its production.

Note: The sum of primary energy sources (expressed in joules) used to generate intermediate energy will, depending on the primary source used, significantly exceed the amount of intermediate energy purchased (in joules) due to grid and efficiency losses when converting and transporting energy.

3. Definitions

None.

4. Documentation

Suppliers of energy and related services are the most important informational source for this Indicator. Other information can be obtained from invoices, measured (or calculated) heat/fuel accounting, estimations, defaults, etc. Besides default data drawn from the International Energy Agency (IEA), information can be obtained from the annual reports submitted by governments to the United Nations Framework Convention on Climate Change (UNFCC). These reports will detail country energy use and associated emissions for country specific defaults, etc.

5. References

- International Energy Agency's (IAE) annual publication of Energy Balances for OECD and non-OECD countries.

- The Greenhouse Gas Protocol (GHG) Initiative - A corporate accounting and reporting standard (Revised Edition, 2004) of the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD).

- Kyoto Protocol, 1997.

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EN5 Energy saved due to conservation and efficiency improvements.

1. Relevance

This Indicator demonstrates the results of proactive efforts to improve energy-efficiency through technological improvements of processes and other energy conservation initiatives. Improved energy efficiency can result in cost savings and can lead to competitive advantages and market differentiation. Supporting efficient energy technology has a direct impact on operational costs, and reduces the reporting organization's future dependency on non-renewable energy sources. Efficient energy use is one key strategy in combating climate change and other environmental impacts created by the extraction and processing of energy.

2. Compilation

2.1 Identify total energy saved by efforts to reduce energy use and increase energy efficiency. Reduced energy consumption from reduced production capacity or outsourcing should not be included in this Indicator.

2.2 Report the total amount of energy saved in joules or multiples, such as gigajoules (one billion joules or 10^9 joules). Take into consideration energy saved due to:

- Process redesign;
- Conversion and retrofitting of equipment; and
- Changes in personnel behavior.

3. Definitions

Energy saved

The reduced amount of energy needed to carry out the same processes or tasks. The term does not include overall reduction in energy consumption from reduced organizational activities (e.g., partial outsourcing of production).

Conservation and efficiency improvements

Organizational or technological innovations that allow a defined process or task to be carried out at a reduced level of energy consumption. This includes process redesign, the conversion and retrofitting of equipment (e.g., energy-efficient lighting), or the elimination of unnecessary energy use due to changes in behavior.

4. Documentation

Information can be obtained from internal energy measurements and supplier information (e.g., energy related specification of new machinery, light bulbs, etc.).

5. References

None.

EN6 Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives.

1. Relevance

Energy consumption is a major contributor to climate change since the burning of fossil fuel energy sources ultimately generates carbon dioxide (a greenhouse gas). Using energy more efficiently is essential to combating climate change, which is the aim of the Kyoto Protocol. Providing energy efficient products and services is an important part of product stewardship initiatives. These products and services can be a source of competitive advantage by enhancing product differentiation and reputation. Energy-efficient technologies can also reduce the cost of consumer goods. When initiatives of different organizations in the same sector are compared, it can give an indication of likely trends in the market for a product or service.

2. Compilation

2.1 Report existing initiatives to reduce the energy requirements of major products/product groups or services.

2.2 Report quantified reductions in the energy requirements of products and services achieved during the reporting period.

2.3 If use-oriented figures are employed (e.g., energy requirements of a computer), clearly report any assumptions about underlying consumption patterns or normalization factors (e.g., 10% less energy use per average working day, assuming operation for 8 hours with changing processor load). Refer to available industry standards (e.g., fuel consumption of cars for 100 km at 90 km/h).

3. Definitions

None.

4. Documentation

Information can be obtained from internal product testing/measurements, research concerning usage patterns, industry standards, etc.

5. References

- Energy efficiency standards and relevant testing procedures are available from the International Organization for Standardization (ISO).
- Energy efficiency standards and relevant testing procedures are available from the International Electrotechnical Commission (IEC).

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EN7 Initiatives to reduce indirect energy consumption and reductions achieved.

1. Relevance

Indirect energy use occurs through purchasing materials and components or services such as travel, commuting, and subcontracted production. When monitored comprehensively, indirect energy use can be reduced effectively (e.g., by carefully selecting energy-efficient materials, services, or production capacities, or substituting phone or video conferences for travel).

Quantifying indirect energy use provides a basis for calculating 'other relevant indirect greenhouse gas emissions' as requested in EN19. Tracking and reducing indirect energy use can improve the overall life-cycle performance of products and services, and serve as part of a comprehensive design-for-environment program.

Finally, this Indicator covers energy savings achieved in the indirect energy consumption of the reporting organization's activities.

2. Compilation

2.1 For this Indicator, exclude indirect energy use associated with the purchase of intermediate energy sources as reported in EN4.

2.2 Identify relevant upstream/downstream indirect energy use in the following four areas:

- Use of energy-intensive materials;
- Subcontracted production;
- Business-related travel; and
- Employee commuting.

2.3 Report initiatives to reduce indirect energy use.

2.4 Report quantitatively the extent to which indirect energy use has been reduced during the reporting period for the four areas listed in 2.2.

2.5 Indicate underlying assumptions and methodologies used to calculate other indirect energy use and indicate the source of information.

3. Definitions

None.

4. Documentation

Relevant data can be drawn from supplier information, life-cycle calculations/estimations (carried out internally or by research organizations), etc.

5. References

- International Energy Agency's (IAE) annual publication of Energy Balances for OECD and non-OECD countries.

EN8 Total water withdrawal by source.

1. Relevance

Reporting the total volume of water withdrawn by source contributes to an understanding of the overall scale of potential impacts and risks associated with the reporting organization's water use. The total volume withdrawn provides an indication of the organization's relative size and importance as a user of water, and provides a baseline figure for other calculations relating to efficiency and use.

The systematic effort to monitor and improve the efficient use of water in the reporting organization is directly linked to water consumption costs. Total water use can also indicate the level of risk posed by disruptions to water supplies or increases in the cost of water. Clean freshwater is becoming increasingly scarce, and can impact production processes that rely on large volumes of water. In regions where water sources are highly restricted, the organization's water consumption patterns can also influence relations with other stakeholders.

2. Compilation

2.1 Identify the total volume of water withdrawn from any water source that was either withdrawn directly by the reporting organization or through intermediaries such as water utilities. This includes the abstraction of cooling water.

2.2 Report the total volume of water withdrawn in cubic meters per year (m^3/year) by the following sources:

- Surface water, including water from wetlands, rivers, lakes, and oceans;
- Ground water;
- Rainwater collected directly and stored by the reporting organization;
- Waste water from another organization; and
- Municipal water supplies or other water utilities.

3. Definitions

Total water withdrawal

The sum of all water drawn into the boundaries of the reporting organization from all sources (including surface water, ground water, rainwater, and municipal water supply) for any use over the course of the reporting period.

4. Documentation

Information on organizational water withdrawal can be drawn from water meters, water bills, calculations derived from other available water data or (if neither water meters nor bills or reference data exist) the organization's own estimates.

5. References

None.

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EN9 Water sources significantly affected by withdrawal of water.

1. Relevance

Withdrawals from a water system can affect the environment by lowering the water table, reducing volume of water available for use, or otherwise altering the ability of an ecosystem to perform its functions. Such changes have wider impacts on the quality of life in the area, including economic consequences.

This Indicator measures the scale of impacts associated with the organization's water use. In terms of relations with other users of the same water sources, this Indicator also enables an assessment of specific areas of risk or improvement, as well as the stability of the organization's own water sources.

2. Compilation

2.1 Identify water sources significantly affected by water withdrawal by the reporting organization. Significant withdrawals meet one or more of the following criteria:

- Withdrawals that account for an average of 5 percent or more of the annual average volume of a given water body;
- Withdrawals from water bodies that are recognized by professionals to be particularly sensitive due to their relative size, function, or status as a rare, threatened, or endangered system (or to their support of a particular endangered species of plant or animal); or
- Any withdrawal from a Ramsar-listed wetland or any other nationally or internationally proclaimed conservation area regardless of the rate of withdrawal.

Note: If the water is provided by a public or private water supplier, the original water body/ source should be identified and reported.

2.2 Report the total number of significantly affected water sources by type according to the criteria above, indicating the following:

- Size of water source in cubic meters (m^3);
- Whether or not the source is designated as a protected area (nationally and/or internationally); and
- Biodiversity value (e.g., species diversity and endemism, number of protected species).

3. Definitions

None.

4. Documentation

Information on the characteristics of a water source or protected area can be obtained from local or national water-related ministries or government departments, or research such as environmental impact assessments.

5. References

- IUCN Red List of Threatened Species.
- Ramsar Convention on Wetlands, 1971.

EN10 Percentage and total volume of water recycled and reused.

1. Relevance

The rate of water reuse and recycling can be a measure of efficiency and can demonstrate the success of the organization in reducing total water withdrawals and discharges. Increased reuse and recycling can result in a reduction of water consumption, treatment, and disposal costs. The reduction of water consumption through reuse and recycling can also contribute to local, national, or regional goals for managing water supplies.

2. Compilation

2.1 This Indicator measures both water that was treated prior to reuse and water that was not treated prior to reuse. Grey water (i.e., collected rainwater and wastewater generated by household processes such as washing dishes, laundry, and bathing) is included.

2.2 Calculate the volume of recycled/reused water based on the volume of water demand satisfied by recycled/reused water rather than further withdrawals. For example, if the organization has a production cycle that requires 20 cubic meters of water per cycle, the organization withdraws 20 cubic meters of water for one production process cycle and then reuses it for an additional three cycles. The total volume of water recycled/reused for that process is 60 cubic meters.

2.3 Report the total volume of water recycled/reused by the organization in cubic meters per year (m^3/year) and also as a percentage of the total water withdrawal reported under Indicator EN8.

3. Definitions

Recycling/Reuse

The act of processing used water/wastewater through another cycle before discharge to final treatment and/or discharge to the environment. In general, there are three types of water recycling/re-use:

- Wastewater recycled back in the same process or higher use of recycled water in the process cycle;
- Wastewater recycled/re-used in a different process, but within the same facility; and
- Wastewater re-used at another of the reporting organization's facilities.

4. Documentation

Information can be obtained from water meters, water bills, or (if neither water meters nor bills exist) calculations based on a water audit or inventory, or from water retailer.

5. References

None.

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EN11 Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.

1. Relevance

By reporting on the potential impact on land that lies within, contains, or is adjacent to legally protected areas, as well as areas of high biodiversity value outside protected areas, an organization can identify and understand certain risks associated with biodiversity. Monitoring which activities are taking place in both protected areas and areas of high biodiversity value outside protected areas makes it possible for the reporting organization to reduce the risks of impacts. It also makes it possible for the organization to manage impacts on biodiversity or avoid mismanagement. Failure to adequately manage such impacts may result in reputational damage, delays in obtaining planning permission, and the loss of a social license to operate.

2. Compilation

2.1 Identify operational sites owned, leased, managed in, located in, adjacent to, or that contain protected areas and areas of high biodiversity value outside protected areas. Include sites for which future operations have been formally announced.

2.2 Report the following information for each operational site identified above:

- Geographic location;
- Subsurface and/or underground land that may be owned, leased, or managed by the organization;
- Position in relation to protected area (in the area, adjacent to, or containing portions of the protected area) and high biodiversity value area outside protected area;
- Type of operation (office, manufacturing/ production, or extractive);
- Size of operational site in km^2;
- Biodiversity value characterized by:
  - The attribute of the protected area and high biodiversity value area outside protected area (terrestrial, freshwater, or maritime ecosystem); and
  - Listing of protected status (e.g., IUCN Protected Area Management Category, Ramsar Convention, national legislation, Natura 2000 site, etc.).

3. Definitions

Protected area

A geographically defined area that is designated, regulated, or managed to achieve specific conservation objectives.

Areas of high biodiversity value

Areas not subject to legal protection but recognized for important biodiversity features by a number of governmental and non-governmental organizations. These include habitats that are a priority for conservation (often defined in National Biodiversity Strategies and Action Plans prepared under the Convention on Biological Diversity). In addition, several international conservation organizations have identified particular areas of high biodiversity value.

4. Documentation

Sources of information for the required data could include purchase contracts, lease contracts, or the national/regional land registry.

On the national level, public agencies responsible for environmental protection and conservation might keep information on internationally and nationally protected areas and areas of high biodiversity value. In addition, National Biodiversity Strategies and Action Plans often include information and registers of protected areas and areas of high biodiversity value.

5. References

- Ramsar Convention on Wetlands, 1971.
- UNESCO World Heritage Sites.
- United Nations Biosphere Reserves.
- National Biodiversity Strategies and Action Plans prepared under the Convention on Biological Diversity.
- Conservation International's Biodiversity Hotspots and Wilderness Areas.
- WWF's Global 200 Ecoregion.
- Bird Life International's Important Bird Areas.
- IUCN's Centres of Plant Diversity.

EN12 Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.

1. Relevance

This Indicator provides information on the significant direct and indirect impacts of the reporting organization on biodiversity in protected areas and areas of high biodiversity value outside protected areas. It also provides the background for understanding (and developing) an organizational strategy to mitigate these impacts. By asking for structured, qualitative information, the Indicator enables comparison across organizations and over time of the relative size, scale, and nature of impacts.

2. Compilation

2.1 Identify significant impacts on biodiversity associated with activities, products, and services of the reporting organization, including both direct impacts as well as indirect impacts (e.g., in the supply chain).

2.2 Report the nature of significant direct and indirect impacts on biodiversity with reference to one or more of the following:

- Construction or use of manufacturing plants, mines, and transport infrastructure;
- Pollution (introduction of substances that do not naturally occur in the habitat from point and non-point sources);
- Introduction of invasive species, pests, and pathogens;
- Reduction of species;
- Habitat conversion; and
- Changes in ecological processes outside the natural range of variation (e.g., salinity or changes in groundwater level).

2.3 Report significant direct and indirect positive and negative impacts with reference to the following:

- Species affected;
- Extent of areas impacted (this may not be limited to areas that are formally protected and should include consideration of impacts on buffer zones as well as formally designated areas of special importance or sensitivity);
- Duration of impacts; and
- Reversibility or irreversibility of the impacts.

3. Definitions

Significant impact

Impacts that may adversely affect the integrity of a geographical area/region, either directly or indirectly. This occurs by substantially changing its ecological features, structures, and functions across its whole area and over the long term. This means that the habitat, its population level, and/or the particular species that make that habitat important cannot be sustained.

On a species level, a significant impact causes a population decline and/or change in distribution so that natural recruitment (reproduction or immigration from unaffected areas) cannot return to former levels within a limited number of generations. A significant impact can also affect subsistence or commercial resource use to the degree that the well-being of users is affected over the long term.

4. Documentation

Information for this Indicator can be found in the reporting organization's environmental management system or other internal documentation. If available, information can also be obtained from environmental and social impact assessments and/or lifecycle assessments, and from other organizations upstream/downstream in the supply chain.

5. References

- **GRI Cross-Reference:** GRI Biodiversity Resource Document.

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EN13 Habitats protected or restored.

1. Relevance

A biodiversity strategy contains a combination of elements related to the prevention, management, and remediation of damage to natural habitats resulting from the organization's activities. This Indicator measures the implementation of a specific strategy for preventing or redressing negative impacts associated with activities. Ensuring the integrity of natural habitats can enhance the reputation of the organization, the stability of its surrounding natural environment and resources, and its acceptance by surrounding communities.

2. Compilation

2.1 This Indicator refers to areas in which remediation has been completed or the area is actively protected (see Definitions). Areas in which operations are still active can be counted if they conform to the definitions of 'restored' or 'protected'.

2.2 Assess the status of the area based on its condition at the close of the reporting period.

2.3 Report the size and location of all habitat protected areas and/or restored areas (in hectares), and whether the success of the restoration measure was/is approved by independent external professionals. If the area is larger than one km^2, report in km^2.

2.4 Report whether partnerships exist with third parties to protect or restore habitat areas distinct from where the organization has overseen and implemented restoration or protection measures.

3. Definitions

Area restored

Areas that were used during or affected by operational activities, and where remediation measures have either restored the environment to its original state or to a state where it is a healthy and functioning ecosystem.

Area protected

Areas that are protected from any harm during operational activities, and the environment remains in its original state with a healthy functioning ecosystem.

4. Documentation

Information on protected areas can be found in the documentation of the organization's environmental management system, site plans, environmental and social impact assessments, or organizational policies.

Information on land restoration (i.e., requirements for land restoration) can be found in lease, rent, or purchase contracts of the land, or in environmental and social impact assessments or risk registers.

5. References

None.

EN14 Strategies, current actions, and future plans for managing impacts on biodiversity.

1. Relevance

Performance against biodiversity policies, objectives, and commitments depends on having structured programs in place for managing impacts. The presence and structure of programs is particularly important when national regulations do not provide clear reference points for an organization planning its biodiversity management.

This Indicator enables both internal and external stakeholders to analyze how well the reporting organization's strategies, current actions, and future plans address potential impacts on biodiversity. The quality of the organization's approach to managing impacts on biodiversity (as identified in EN11 and EN12) will affect its exposure to risks such as reputational damage, fines, or rejection of planning or operating permissions. Actions to protect or restore habitats and species are of particular relevance.

2. Compilation

2.1 If national regulations have influenced the specific strategies, actions, or plans reported under this Indicator, this should be noted.

2.2 Report the organization's strategy for achieving its policy on biodiversity management including:

- Integration of biodiversity considerations in analytical tools such as environmental site impact assessments;
- Methodology for establishing risk exposure to biodiversity;
- Setting specific targets and objectives;
- Monitoring processes; and
- Public reporting.

2.3 Report actions underway to manage biodiversity risks identified in EN11 and EN12, or plans to undertake such activities in the future.

3. Definitions

None.

4. Documentation

Information on programs and targets can be found in management guidelines or obtained from the organization's Environmental Management System, Environmental and Social Impact Assessments, Corporate Social Responsibility policies, or Risk Registers.

5. References

None.

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EN15 Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.

1. Relevance

This Indicator helps the reporting organization to identify where its activities can pose a threat to endangered plant and animal species. By identifying these threats, the organization can initiate appropriate steps to avoid harm and to prevent the extinction of species. The IUCN Red List and national conservation list species can serve as authorities on the sensitivity of habitat in areas affected by operations, and on the relative importance of these habitats from a management perspective.

2. Compilation

2.1 Identify the location of habitats affected by the operations of the reporting organization that include species on the IUCN Red List and on national conservation lists.

2.2 Report the number of species in habitats identified as affected by the reporting organization, indicating one of the following levels of extinction risk:

- Critically endangered;
- Endangered;
- Vulnerable;
- Near threatened; and
- Least concern.

3. Definitions

IUCN Red List species

An inventory of the global conservation status of plant and animal species developed by the International Union for the Conservation of Nature and Natural Resources (IUCN).

4. Documentation

Information on the presence of species on the IUCN Red List and national conservation lists can be obtained from national/regional conservation agencies, local authorities, or environmental NGOs. For organizations operating in or adjacent to protected areas or areas of high-biodiversity value, planning studies or other permit materials may also contain information about the biodiversity within the protected areas.

5. References

- IUCN Red List of Threatened Species.

EN16 Total direct and indirect greenhouse gas emissions by weight.

1. Relevance

Greenhouse gas emissions are the main cause of climate change and are governed by the United Nations Framework Convention on Climate Change (UNFCC) and the subsequent Kyoto Protocol. As a result, different national and international regulations and incentive systems (such as trading climate certificates) aim to control the volume and reward the reduction of greenhouse gas emissions.

This Indicator can be used in combination with EN17 to explain targets for regulations or trading systems at international or national levels. The combination of direct and indirect emissions also provides insights into the potential cost implications of taxation or trading systems for reporting organizations.

2. Compilation

2.1 Different conversion methodologies are available to calculate the amount of greenhouse gas emissions per source. Indicate the standard used, and indicate the methodology associated with the data with reference to the following categories:

- Direct measurement (e.g., continuous online analyzers, etc.);
- Calculation based on site specific data (e.g., for fuel composition analysis, etc.);
- Calculation based on default data; and
- Estimations. If estimations are used due to a lack of default figures, indicate which basis figures were obtained.

Further details on the compilation of this Indicator are available in the WRI /WBCSD GHG Protocol and in the IPCC document as listed under references.

2.2 Identify direct emissions of greenhouse gases from all sources owned or controlled by the reporting organization, including:

- Generation of electricity, heat, or steam (as reported in EN3);
- Other combustion processes such as flaring;
- Physical or chemical processing;
- Transportation of materials, products, and waste;
- Venting; and
- Fugitive emissions.

Emissions from combustion processes and sources will correspond to the direct primary energy from non-renewable and renewable sources as reported in EN3. Note that the direct CO_2 emissions from the combustion of biomass shall not be included but reported separately under GHG Protocol Corporate Standard (revised edition).

2.3 Identify indirect emissions of greenhouse gases resulting from the generation of purchased electricity, heat, or steam (this corresponds with energy consumption reported under EN4).

Other indirect emissions (e.g., from organizational travel) are not included since they are accounted for in EN17.

2.4 Report total greenhouse gas emissions as the sum of direct and indirect emissions (as identified in 2.2 and 2.3) in tonnes of CO_2 equivalent.

3. Definitions

Direct emissions

Emissions from sources that are owned or controlled by the reporting organization. For example, direct emissions related to combustion would arise from burning fuel for energy within the reporting organization's operational boundaries.

Indirect emissions

Emissions that result from the activities of the reporting organization but are generated at sources owned or controlled by another organization. In the context of this Indicator, indirect emissions refer to greenhouse gas emissions from the generation of electricity, heat, or steam that is imported and consumed by the reporting organization.

Carbon dioxide equivalent

CO_2 (Carbon Dioxide) equivalent is the measure used to compare the emissions from various greenhouse gases based on their global warming potential (GWP). The CO_2 equivalent for a gas is derived by multiplying the tonnes of the gas by the associated GWP.

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4. Documentation

Emissions resulting from direct and indirect energy use can be calculated from the data reported in EN3 and EN4.

5. References

- The Greenhouse Gas Protocol (GHG) Initiative - A corporate accounting and reporting standard (Revised Edition, 2004) of the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD).
- Kyoto Protocol, 1997.
- Intergovernmental Panel on Climate Change (IPCC), Climate Change 2001, Working Group I: The Scientific Basis.

EN17 Other relevant indirect greenhouse gas emissions by weight.

1. Relevance

Greenhouse gas emissions are the main cause of climate change and are governed by the United Nations Framework Convention on Climate Change (UNFCC) and the subsequent Kyoto Protocol. For some organizations, indirect greenhouse gas emissions are significantly greater than their direct emissions. They are also sufficiently under the influence of the organization that changes in its practices can lead to significant reductions. Measuring and demonstrating efforts to reduce indirect emissions can demonstrate leadership in combating climate change and can enhance the organization's reputation.

2. Compilation

2.1 Identify the greenhouse gas emissions resulting from indirect energy use. Exclude indirect emissions from imported electricity, heat, or steam, as these are covered by EN16.

2.2 Additionally, identify which of the reporting organization's activities cause indirect emissions and assess their amounts (e.g., employee commuting, business travel, etc).

When deciding on the relevance of these activities, consider whether emissions of the activity:

- Are large compared to other activities generating direct emissions or energy related indirect emissions (as reported in EN16);
- Are judged to be critical by stakeholders;
- Could be substantially reduced through actions taken by the reporting organization.

2.3 Report the sum of indirect GHG emissions identified in tonnes of CO_2 equivalent.

3. Definitions

Indirect emissions

Emissions that are consequences of the activities of the reporting organization but are generated at sources owned or controlled by another organization. In the context of this Indicator, indirect emissions do not include those generated from imported electricity, heat, or steam consumed by the reporting organization (e.g., transport, packaging).

Carbon dioxide equivalent

CO_2 (Carbon Dioxide) equivalent is the measure used to compare emissions from various greenhouse gases based on their global warming potential (GWP). The CO_2 equivalent for a gas is derived by multiplying the tonnes of the gas by the associated GWP.

4. Documentation

Information can be obtained from external suppliers of products and services. For certain types of indirect emissions such as business travel, the organization may need to combine its own records with data from external sources to arrive at an estimate.

5. References

- The Greenhouse Gas Protocol (GHG) Initiative - A corporate accounting and reporting standard (Revised Edition, 2004) of the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD).
- Intergovernmental Panel on Climate Change (IPCC), Climate Change 2001, Working Group I: The Scientific Basis.
- Kyoto Protocol, 1997.

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EN18 Initiatives to reduce greenhouse gas emissions and reductions achieved.

1. Relevance

Greenhouse gas emissions are the main cause of climate change and are governed by the United Nations agreed on the Framework Convention on Climate Change (UNFCC) and the subsequent Kyoto Protocol. As a result, different national and international regulations and incentive systems (such as trading climate certificates) aim to control the volume and reward the reduction of greenhouse gas emissions. When monitored comprehensively, emissions can be reduced effectively (e.g., by carefully selecting energy-efficient materials, services, or production capacities).

This Indicator can be used in combination with EN16 and EN17 to set and monitor reduction targets with reference to regulations or trading systems at international or national levels.

Tracking and reducing greenhouse gas emissions can improve the overall life cycle performance of products and services, and serve as part of a comprehensive design-for-environment program.

2. Compilation

2.1 Identify emissions reductions from all sources owned or controlled by the reporting organization as reported under EN16 and resulting from indirect energy use and activities of the reporting organization as reported under EN17. Distinguish between mandatory and voluntary emissions reductions.

2.2 Report initiatives to reduce greenhouse gas emissions, include the areas where the initiatives were implemented.

2.3 Report quantitatively the extent greenhouse gas emissions reductions achieved during the reporting period as a direct result of the initiative(s) in tonnes of CO_2 equivalent.

3. Definitions

None.

4. Documentation

Information can be drawn from data reported under EN16 and EN17, from emissions measurements, calculated from accounting data and defaults, or from estimates. Information on initiatives can likely be found in records maintained by departments responsible for environmental management.

5. References

- The Greenhouse Gas Protocol (GHG) Initiative- A corporate accounting and reporting standard (Revised Edition, 2004) of the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD).
- Kyoto Protocol, 1997.
- Intergovernmental Panel on Climate Change (IPCC), Climate Change 2001, Working Group I: The Scientific Basis.

EN19 Emissions of ozone-depleting substances by weight.

1. Relevance

The ozone layer (O_3) filters out most of the sun's biologically harmful ultraviolet (UV-B) radiation. The Montreal Protocol regulates the phase-out of ozone-depleting substances (ODS) internationally. Measuring ODS emissions enables an assessment of how well the reporting organization complies with current and future legislation, and its likely risks in this area. This is particularly relevant for organizations whose processes, products, and services have used ODS and must transition to new technologies in order to comply with phase-out commitments. The reporting organization's results on ODS phase-out can help indicate its level of technology leadership and competitive position in markets for products and services affected by ODS rules.

2. Compilation

2.1 Ozone-depleting substances contained or emitted from products during their usage and disposal are not covered by this Indicator.

2.2 Emissions of substances covered in Annexes A, B, C, and E of the Montreal Protocol on Substances that Deplete the Ozone Layer are included.

2.3 Identify emissions of ozone-depleting substances using the following formulas:

Emissions = Production + Imports- Exports of Substances

Production = Substances Produced- Substances Destroyed by Technology- Substances used entirely as feedstock in the manufacture of other chemicals

Note: ODS that is recycled and reused is not considered production.

2.4 Report the emissions of specific ozone-depleting substances in tonnes and tonnes of CFC-11 equivalent.

3. Definitions

Ozone-depleting substance (ODS)

Any substance with an ozone depletion potential (ODP) greater than 0 that can deplete the stratospheric ozone layer. Most ozone-depleting substances are controlled under the Montreal Protocol and its amendments, and include CFCs, HCFCs, halons, and methyl bromide.

CFC-11 equivalent

CFC-11 is a measure used to compare various substances based on their relative ozone depletion potential. The reference level of 1 is the potential of CFC-11 and CFC-12 to cause ozone depletion.

4. Documentation

Information can be derived from internal measurements and accounting.

5. References

- The Montreal Protocol on substances that deplete the ozone layer.
- United Nations Environment Programme (UNEP) Halon Handbook.

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EN20 NO_x, SO_x, and other significant air emissions by type and weight.

1. Relevance

This Indicator measures the scale of the organization's air emissions and can demonstrate the relative size and importance of these emissions compared to other organizations.

Air pollutants have adverse effects on habitats and human and animal health. Deterioration of air quality, acidification, forest degradation, as well as public health concerns has led to local and international regulations to control air emissions. Reductions in regulated pollutants lead to improved health conditions for workers and neighboring communities. Reductions or demonstrated performance beyond compliance can enhance relations with affected communities and workers, and the ability to maintain or expand operations. In regions with emission caps, the volume of emissions also has direct cost implications for the organization.

2. Compilation

2.1 Identify significant air emissions and calculate their weight.

2.2 Since calculating certain air emissions such as NOx requires complex quantification efforts, indicate the methodology used for calculations, selecting one of the following approaches:

- Direct measurement of emissions (e.g., online analyzers, etc.);
- Calculation based on site specific data;
- Calculation based on default data; or
- Estimation (if estimations are used due to a lack of default figures, indicate on what basis figures were obtained).

2.3 Report the weight of significant air emissions (in kilograms or multiples such as tonnes) for each of the following categories:

- NO_x;
- SO_x;
- Persistent organic pollutants (POP);
- Volatile organic compounds (VOC);
- Hazardous air pollutants (HAP);
- Stack and fugitive emissions;
- Particulate matter (PM); or
- Other standard categories of air emissions identified in regulations.

3. Definitions

Significant air emissions

Air emissions that are regulated under international conventions and/or national laws or regulations, including those listed on environmental permits for the reporting organization's operations.

4. Documentation

Information can be drawn from emissions measurements, calculated from accounting data and defaults, or estimated.

5. References

- Geneva Protocol to the Convention on Long-Range Transboundary Air Pollution, 1979.
- Helsinki Protocol to the Convention on Long-Range Transboundary Air Pollution, 1985.
- Rotterdam Convention on the Prior Informed Consent (PIC) Procedure, 1998.
- Stockholm Convention on Persistent Organic Pollutants (POPs) (Annex A, B, and C), 2001.
- Sofia Protocol to the Convention on Long-Range Transboundary Air Pollution, 1988.
- Gothenburg Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution to abate acidification, eutrophication, and ground-level ozone.

EN21 Total water discharge by quality and destination.

1. Relevance

The amount and quality of the water discharged by the reporting organization is directly linked to ecological impact and operational costs. By progressively improving the quality of discharged water and/or reducing volumes, the reporting organization has the potential to reduce its impact on the surrounding environment. Unmanaged discharge of effluents with a high chemical or nutrient load (principally nitrogen, phosphorous, or potassium) can have a significant impact on receiving waters. This, in turn, can affect the quality of the water supply available to the organization and its relationship with communities and other water users.

Discharging effluents or process water to a facility for treatment not only reduces pollution levels, but can also lower the organization's financial costs and the risk of regulatory action for non-compliance with environmental regulation. All of this enhances the reporting organization's social license to operate.

2. Compilation

2.1 Identify planned and unplanned water discharges (excluding collected rainwater and domestic sewage) by destination and indicate how it is treated. If the reporting organization does not have a meter to measure water discharges, this figure needs to be estimated by subtracting the approximate volume consumed on-site from the volume withdrawn as reported in EN8.

2.2 Report the total volume of planned and unplanned water discharges in cubic meters per year (m^3/year) by:

- Destination;
- Treatment method; and
- Whether it was reused by another organization.

2.3 Reporting organizations that discharge effluents or process water should report water quality in terms of total volumes of effluent using standard effluent parameters such as Biological Oxygen Demand (BOD), Total Suspended Solids (TSS), etc. The specific choice of quality parameters will vary depending on the organization's products/ services/operations. The selection of parameters should be consistent with those used in the organization's sector.

Clean water refers to water that meets national regulations for freshwater quality when leaving the boundaries of the reporting organization. This can be either freshwater whose quality has not been affected by the organization's use, or wastewater that is treated to meet freshwater standards prior to discharge.

3. Definitions

Total water discharge

The sum of water effluents discharged over the course of the reporting period to subsurface waters, surface waters, sewers that lead to rivers, oceans, lakes, wetlands, treatment facilities, and ground water either through:

- A defined discharge point (point source discharge);
- Over land in a dispersed or undefined manner (non-point source discharge); or
- Wastewater removed from the reporting organization via truck. Discharge of collected rainwater and domestic sewage is not regarded as water discharge.

4. Documentation

Information sources about the volume of water discharged by the reporting organization include flow meters (point-source discharges or when discharges are released through a pipe) and regulatory permits.

5. References

- MARPOL Convention (International Convention for the Prevention of Pollution of Ships), 1973.
- Stockholm Convention on Persistent Organic Pollutants (POPs), 2001.

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EN22 Total weight of waste by type and disposal method.

1. Relevance

Data on waste generation figures over several years can indicate the level of progress the organization has made toward waste reduction efforts. It can also indicate potential improvements in process efficiency and productivity. From a financial perspective, the reduction of waste contributes directly to lower costs for materials, processing, and disposal.

Information about the disposal destination reveals the extent to which a reporting organization has managed the balance between disposal options and uneven environmental impacts. For example, land filling and recycling create very different types of environmental impacts and residual effects. Most waste minimization strategies emphasize prioritizing options for recovery, reuse, or recycling over other disposal options, wherever possible.

2. Compilation

2.1 Identify the amount of waste created by the organization's operations, by:

- Hazardous waste (as defined by national legislation at the point of generation); and
- Non-hazardous waste (all other forms of solid or liquid waste excluding wastewater).

2.2 If no weight data are available, estimate the weight using available information on waste density and volume collected, mass balances, or similar information.

2.3 Report the total amount of waste in tonnes by type as identified in 2.1 for each of the following disposal methods:

- Composting;
- Reuse;
- Recycling;
- Recovery;
- Incineration (or use as fuel);
- Landfill;
- Deep well injection;
- On-site storage; and
- Other (to be specified by the reporting organization).

2.4 Report how the method of disposal has been determined:

- Disposed directly by the reporting organization or otherwise directly confirmed;
- Information provided by the waste disposal contractor; or
- Organizational defaults of the waste disposal contractor.

3. Definitions

Disposal method

The method by which waste is treated or disposed, including composting, reuse, recycling, recovery, incineration, landfill, deep well injection, and on-site storage.

4. Documentation

Potential information sources include external waste audits by providers of disposal services or waste balance sheets from these providers, as well as internal billing and accounting systems, and the procurement or supply management department.

5. References

- Ban Amendment to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, 1989.
- London Dumping Convention, 1972.
- MARPOL Convention (International Convention for the Prevention of Pollution of Ships), 1973.

EN23 Total number and volume of significant spills.

1. Relevance

Spills of chemicals, oils, and fuels can have significant negative impacts on the surrounding environment, potentially affecting soil, water, air, biodiversity, and human health. The systematic effort to avoid spills of hazardous materials is directly linked to the organization's compliance with regulations, its financial risk from the loss of raw materials, remediation costs, the risk of regulatory action, as well as damage to reputation. This Indicator also serves as an indirect measure for evaluating the monitoring skills of the organization.

2. Compilation

2.1 Identify all recorded significant spills and the volume of these spills.

2.2 Report the total number and total volume of recorded significant spills.

2.3 For spills that were reported in the organization's financial statement, report the additional following information for each such spill:

- Location of spill;
- Volume of spill; and
- Material of spill, categorized by:
  - Oil spills (soil or water surfaces);
  - Fuel spills (soil or water surfaces);
  - Spills of wastes (soil or water surfaces);
  - Spills of chemicals (mostly soil or water surfaces); and
  - Other.

2.4 Report the impacts of significant spills.

3. Definitions

Spill

Accidental release of a hazardous substance that can affect human health, land, vegetation, water bodies, and ground water.

Significant spill

All spills that are included in the reporting organization's financial statement (e.g., due to resulting liabilities) or recorded as a spill by the reporting organization.

4. Documentation

Potential information sources regarding spills of fuel, oils, and chemicals can be internal records within an existing environmental management system as well as official statements made to/by the relevant environmental regulatory agency.

5. References

None.

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EN24 Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally.

1. Relevance

Hazardous waste management is a key area of concern for many stakeholders. Improper transport of dangerous wastes, particularly to countries that lack the infrastructure and national regulations to handle such waste, can pose harm to both human health and the environment. In addition, poor management of hazardous waste creates liabilities associated with non-compliance with national and international regulations, as well as potential damage to reputation.

2. Compilation

2.1 Identify hazardous wastes transported by or on behalf of the reporting organization within the reporting period by destination.

2.2 Identify the total weight of transported hazardous waste using the following equation:

Total weight of hazardous waste transported by destination

=

Weight of hazardous waste transported to the reporting organization by destination from external sources/suppliers not owned by the reporting organization

+

Weight of hazardous waste transported from the reporting organization by destination to external sources/suppliers not owned by the reporting organization

+

Weight of hazardous waste transported nationally and/or internationally by destination between locations owned, leased, or managed by the reporting organization

2.3 Identify the total weight of hazardous waste transported across international borders and which enters the boundaries of the reporting organization, by destination. Waste transported between different locations of the organization is not counted as imported.

2.4 Identify the proportion of the total amount of transported hazardous waste by destination that is transported from the reporting organization to locations abroad. Include all wastes that leave the boundaries of the reporting organization to cross international borders, excluding transportation between different locations of the reporting organization.

2.5 Identify the portion of the total amount of transported and exported waste by destination that the organization has treated.

2.6 Identify the portion of the total amount of waste by destination that is treated by external sources/suppliers, that has been transported, exported, or imported by the organization.

2.7 Convert volumes to an estimate of weight with a brief explanation of the methodology used.

2.8 Report the following information in kilograms or tonnes:

- Total weight of hazardous waste transported;
- Total weight of imported hazardous waste;
- Total weight of exported hazardous waste; and
- Total weight of treated hazardous waste.

3. Definitions

None.

4. Documentation

Potential information sources include billing data from logistic or disposal contractors, accounting systems, as well as the procurement or supply management department. Some countries require documentation to accompany hazardous waste shipments that would supply all relevant data for this Indicator.

5. References

- Ban Amendment to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, 1989.

EN25 Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff.

1. Relevance

This Indicator is a qualitative counterpart to quantitative Indicators of water discharge that helps to describe the impact of these discharges. Discharges and runoff affecting aquatic habitats can have a significant impact on the availability of water resources. Identifying water bodies affected by discharges provides an opportunity to identify activities in regions of significant concern, or areas where the reporting organization may face specific risks due to community concerns, limited water resources, etc.

2. Compilation

2.1 Identify water bodies significantly affected by the reporting organization's water discharges that meet one of more of the following criteria:

- Discharges account for an average of 5% or more of the annual average volume of the water body;
- Discharges that, on the advice of appropriate professionals (e.g., municipal authorities), are known to have or are highly likely to have significant impacts on the water body and associated habitats;
- Discharges to water bodies that are recognized by professionals to be particularly sensitive due to their relative size, function, or status as a rare, threatened, or endangered system (or support a particular endangered species of plant or animal); or
- Any discharge to a Ramsar-listed wetland or any other nationally or internationally proclaimed conservation area regardless of the rate of discharge.

2.2 Report water bodies significantly affected by water discharges based on the criteria above, adding information on:

- Size of water body in cubic meters (m^3);
- Whether the source is designated as a protected area (nationally and/or internationally); and
- Biodiversity value (e.g., number of protected species).

3. Definitions

None.

4. Documentation

Information on the status of a water source or protected area can be obtained from local or national water-related ministries or government departments, or through research initiated by the organization or other institutions, such as environmental impact studies.

5. References

- IUCN Red List of Threatened Species.
- Ramsar Convention on Wetlands.

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EN26 Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.

1. Relevance

For some sectors, the impacts of products and services during their use phase (e.g., water consumption of a washing machine) and at the end of their useful life can be equal to or greater in significance than the production phase. The significance of such impacts is determined by both customer behavior and general product/service design. Organizations are expected to take more proactive approaches to assessing and improving the environmental impacts of their products and services.

This measure assesses the actions the reporting organization has taken to reduce the negative environmental impacts and enhance the positive impacts of its product and service design and delivery. Design for environment can help identify new business opportunities, differentiate products and services, and stimulate innovation in technology. Integrating environmental considerations into product and service design can also decrease the risk of incompatibility with future environmental legislation, as well as enhance reputation.

2. Compilation

2.1 In this Indicator, the following impacts are excluded since they are covered in other Environmental Indicators:

- Reclaiming of products (EN27); and
- Impacts on biodiversity (EN12).

2.2 Report initiatives in the reporting period to mitigate the most significant environmental impacts of products/service groups in relation to:

- Materials use (e.g., use of non-renewable, energy-intensive, toxic materials);
- Water use (e.g., volumes used during production and/or use);
- Emissions (e.g., GHG, toxic, ozone-depleting emissions);
- Effluents (e.g., quality of water used during production and/or use);
- Noise; and
- Waste (e.g., non-reclaimable, toxic materials/ compounds).

2.3 Report quantitatively the extent to which environmental impacts of products and services have been mitigated during the reporting period. If use-oriented figures are employed (e.g., water use of washing machine), clearly indicate the underlying assumptions regarding consumption patterns or normalization factors (e.g., 10% less water use per 5 kg of laundry).

3. Definitions

None.

4. Documentation

Information can be drawn from product Lifecycle Assessments (LCA) or documents related to product design, development, and testing.

5. References

None.

EN27 Percentage of products sold and their packaging materials that are reclaimed by category.

1. Relevance

The disposal of products and packaging materials at the end of a use phase is a steadily growing environmental challenge. Establishing effective recycling and reuse systems to close product cycles can contribute significantly to increased material and resource efficiency. It also mitigates problems and costs related to disposal.

This Indicator provides insight into the extent to which the reporting organization's products, components, or materials are collected and successfully converted into useful materials for new production processes. It also provides insight into the degree to which the organization has designed products and packages capable of being recycled or reused. This measure can be a particular source of competitive differentiation in sectors facing formal requirements to recycle products and their packaging materials.

2. Compilation

2.1 Identify the amount of products and their packaging materials reclaimed (i.e., recycled or reused) at the end of their useful life within the reporting period. Rejects and recalls of products should not be counted. Recycling or reuse of packaging should also be reported separately.

2.2 Report the percentage of reclaimed products and their packaging materials for each category of products (i.e., a group of related products sharing a common, managed set of features that satisfy the specific needs of a selected market) using the following formula:

$$\text{\% of reclaimed products} = \frac{\text{products and their packaging materials reclaimed within the reporting period}}{\text{products sold within the reporting period}} \times 100$$

2.3 Given potential variations in data sources, report how the data for this Indicator has been collected (e.g., data is gathered from an internal collection system or data is provided by external collection systems reclaiming products on behalf of the organization).

3. Definitions

Reclaimed

Refers to collecting, reusing, or recycling products and their packaging materials at the end of their useful life. Collection and treatment can be carried out by the manufacturer of the product or by a contractor. This refers to products and their packaging materials that are:

- Collected by or on behalf of the reporting organization;
- Separated into raw materials (e.g., steel, glass, paper, some kinds of plastic, etc.) or components; and
- Used by the reporting organization or other users.

4. Documentation

None.

5. References

None.

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EN28 Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.

1. Relevance

The level of non-compliance within the organization helps indicate the ability of management to ensure that operations conform to certain performance parameters. From an economic perspective, ensuring compliance helps to reduce financial risks that occur either directly through fines or indirectly through impacts on reputation. In some circumstances, non-compliance can lead to clean-up obligations or other costly environmental liabilities. The strength of the organization's compliance record can also affect its ability to expand operations or gain permits.

2. Compilation

2.1 Identify administrative or judicial sanctions for failure to comply with environmental laws and regulations, including:

- International declarations/conventions/ treaties, and national, sub-national, regional, and local regulations. Include non-compliances related to spills as disclosed under EN23 that meet the criteria for EN28;
- Voluntary environmental agreements with regulating authorities that are considered binding and developed as a substitute for implementing new regulations. In certain jurisdictions, such agreements are referred to as 'covenants'; and
- Cases brought against the organization through the use of international dispute mechanisms or national dispute mechanisms supervised by government authorities.

2.2 Report significant fines and non-monetary sanctions in terms of:

- Total monetary value of significant fines;
- Number of non-monetary sanctions; and
- Cases brought through dispute resolution mechanisms.

2.3 Where reporting organizations have not identified any non-compliance with laws or regulations, a brief statement to this fact is sufficient.

3. Definitions

Environmental laws and regulations

Refers to regulations related to all types of environmental issues (i.e., emissions, effluents, and waste, as well as material use, energy, water, and biodiversity) applicable to the reporting organization. This includes binding voluntary agreements that are made with regulatory authorities and developed as a substitute for implementing a new regulation. Voluntary agreements can be applicable if the reporting organization directly joins the agreement or if public agencies make the agreement applicable to organizations in their territory through legislation or regulation.

4. Documentation

Data sources include audit results or regulatory tracking systems operated by the legal department. Information regarding monetary fines can be found in accounting departments.

5. References

None.

EN29 Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.

1. Relevance

The environmental impacts of transportation systems have a wide reach, from global warming to local smog and noise. For some companies, particularly those with extensive supply and distribution networks, environmental impacts associated with logistics can represent a major part of their environmental footprint. Assessing the impacts of transporting products, goods, and materials for logistical purposes, and transporting members of the organization's workforce, is part of a comprehensive approach to planning environmental management strategies.

2. Compilation

2.1 Identify the significant environmental impacts of the modes of transportation used by the organization, including:

- Energy use (e.g., oil, kerosene, fuel, electricity);
- Emissions (e.g., greenhouse gas emissions, ozone-depleting substances, NO_x, SO_x, and other air emissions);
- Effluents (e.g., different kinds of chemicals);
- Waste (e.g., different types of packaging material);
- Noise; and
- Spills (e.g., spills of chemicals, oils, and fuels).

2.2 Report the significant environmental impacts of transportation used for logistical purposes and for transportation of members of the organization's workforce. Where quantitative data is not stated in the report, disclose the reason.

2.3 Indicate the criteria and methodology used to determine which environmental impacts are significant.

2.4 Report how the environmental impacts of transporting products, members of the organization's workforce, and other goods and materials are mitigated.

3. Definitions

Transportation

The act of transferring resources and goods from one location to another (between suppliers, production plants, warehouses, and the customer) using different modes of transport, including passenger transportation (e.g., employee commuting and business traveling).

Logistical purposes

The forward or reverse flow and storage of goods and services between the point of origin and the point of consumption.

Transportation of the members of the organization's workforce

Transportation used for commuting to work by members of the workforce or travel for business purposes including air, train, bus, and other forms of motorized and non-motorized travel.

4. Documentation

Potential sources of data include invoices from logistical service providers and suppliers, reports from the logistics department, records of vehicle usage and maintenance, and monitoring/measurement conducted by, for example, the environment department.

5. References

- United Nations Recommendations on the Transport of Dangerous Goods.

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EN30 Total environmental protection expenditures and investments by type.

1. Relevance

Measuring environmental mitigation and protection expenditures allows organizations to assess the efficiency of their environmental initiatives. It also provides valuable input for internal cost-benefit analyses. Data on environmental performance measured against environmental mitigation and protection expenditures offers insights into how effectively the organization uses resources to improve performance. When tracked and analyzed in a comprehensive fashion over time, this expenditures data allows the reporting organization to judge the value of complex organizational or technological investments for improving environmental performance.

It is possible to establish a full environmental management accounting system within an organization that tracks multiple categories of information. This Indicator focuses on waste disposal, emissions treatment, remediation costs, as well as prevention and environmental management costs.

2. Compilation

2.1 The compilation of the expenditures in this Indicator should exclude the following categories as defined in the IFAC 'International Guidance Document on Environmental Management Accounting' document:

- Costs of non-product output; and
- Fines for non-compliance with environmental regulation.

2.2 Identify waste disposal, emissions treatment, and remediation costs based on expenditures related to the following items:

- Treatment and disposal of waste;
- Treatment of emissions (e.g., expenditures for filters, agents);
- Expenditures for the purchase and use of emissions certificates;
- Depreciation of related equipment, maintenance, and operating material and services, and related personnel costs;
- Insurance for environmental liability; and
- Clean-up costs, including costs for remediation of spills as reported in EN23.

2.3 Identify prevention and environmental management costs based on expenditures related to the following items:

- Personnel employed for education and training;
- External services for environmental management;
- External certification of management systems;
- Personnel for general environmental management activities;
- Research and development;
- Extra expenditures to install cleaner technologies (e.g., additional cost beyond standard technologies);
- Extra expenditures on green purchases; and
- Other environmental management costs.

2.4 Report total environmental protection expenditures broken down by:

- Waste disposal, emissions treatment, and remediation costs; and
- Prevention and environmental management costs.

3. Definitions

Environmental protection expenditures

All expenditures on environmental protection by the reporting organization, or on its behalf, to prevent, reduce, control, and document environmental aspects, impacts, and hazards. It also includes disposal, treatment, sanitation, and clean-up expenditure.

4. Documentation

Potential information sources include billing and accounting systems (e.g., Environmental Management Accounting) as well as procurement, human resource, and legal departments.

5. References

- IFAC- The International Federation of Accountants (2005) 'International Guidance Document on Environmental Management Accounting'.

- UNDSD- United Nations Division for Sustainable Development (2003): Environmental Management Accounting Procedures and Principles (EMARIC Environmental Management Accounting Research and Information Center, 2003).

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