IMPACT CATEGORIES EXPLAINED

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Environmental impact category		EPD-indicator	Unit*	Explanation	Relevant because
Climate change	Fossil	GWP-fossil	kg CO_2 eq	An indicator of potential global warming due to emissions of greenhouse gases to the air. Divided into three subcategories based on the emission source: (1) fossil resources, (2) bio-based resources, and (3) land use and land use change (LULUC). Expressed in the unit kg CO_2 equivalents.	Too high levels of greenhouse gasses in the atmosphere contribute to global warming, as the radiation from the sun cannot "escape" the Earth's atmosphere. This can cause higher mean temperatures globally, which impacts biodiversity, sea level rise, agriculture and security of food source, occurence of extreme weather events, which potentially affect the livelihood of people and ecosystems globally.
	Biogenic	GWP-biogenic			
	LULUC	GWP-luluc			
Ozone depletion		ODP	kg CFC-11 eq	Indicator of emissions to air that causes the destruction of the stratospheric ozone layer. Expressed in terms of chlorofluorocarbon (CFC) equivalents, which are ozone depleting substances.	Damage to the ozone layer can lead to a reduction of/reduces its ability to prevent ultraviolet (UV) light entering the Earth's atmosphere, which increases risk of skin cancer and negative effects on crops, other plants, marine life, and human built materials.
Acidification		AP	mol H+ eq	Indicator of the potential acidification of soil and water due to the release of gases such as nitrogen oxides and sulphur oxides which can cause acid rain. Measured through change of pH. Expressed in moles of H+ equivalents.	The addition of acids to the environment cause acidification, which can lead to acidified soils and freshwater bodies with consequences for ecosystems, as for instance the restriction of proper growth for plants and aquatic ecosystems (species and plants).
Eutrophication aquatic freshwater		EP-freshwater	kg P eq	Indicator of the overloading of the freshwater ecosystem with nutritional elements, due to the emission of nitrogen or phosphorus-containing compounds. Measured as the potential fraction of nutrients reaching freshwater end compartment. Expressed in phosphorus (P) equivalents.	Eutrophication is when excess amounts of nutrients are led into the environments. In water bodies this can lead to increased algae blooms, which - if reaching a severe level - will result in oxygen depletion affecting the condition and presence of other habitants of the ecosystem. In terrestrial ecosystems, sensitive species and organisms can be out-competed by invasive species that benefit from high nutrient levels with negative consequences for the biodiversity and ecosystem services to follow.
Eutrophication aquatic marine		EP-marine	kg N eq	Indicator of the overloading of the marine ecosystem with nutritional elements, due to the emission of nitrogen-containing compounds. Is measured as the potential fraction of nutrients reaching marine end compartment, expressed in nitrogen (N) equivalents.	
Eutrophication Terrestrial		EP-terrestrial	mol N eq	Indicator of the overloading of the terrestrial ecosystem with nutritional elements, due to the emission of nitrogen-containing compounds. Expressed in the equivalent of moles of nitrogen (N).	
Photochemical ozone formation		POCP	kg NMVOC eq	Indicators of emissions of gases that affect the creation of photochemical ozone in the lower atmosphere (smog) catalyzed by sunlight. Expressed in non-methane volatile organic compounds (NMVOC) equivalents, which are substances that can undergo photochemical oxidation.	An increased amount of photochemical ozone (also known as smog) can affect human health by causing various lung conditions such as asthma, bronchitis and emphysema.
Depletion of abiotic resources - minerals and metals		ADPm	kg Sb eq	Indicator of the depletion of natural non-fossil resources. Measured as mineral loss due to human activities. Expressed in antimony (Sb) equivalents, which is a rare earth element (metalic element belonging to the nitrogen group).	Non-biological resources (minerals and metals) and fossil resources are considered non-renewable (i.e., not able to be renewed within our lifetime) and potentially scarce, and hence the consumption of the non-renewable resources will reduce the amount of resource available for future generation's use.
Depletion of abiotic resources - fossil fuels		ADPf	MJ net calorific value	Indicator of the depletion of natural fossil fuel resources, usually relevant for energy generated from fossil fuel reserves. Expressed in megajoules (MJ) net calorific value.	
Water use		WDP	m^3 world eq. deprived	Indicator of the relative amount of water used, based on regionalized water scarcity factors. Measured based on the available water remaining per unit of surface in a given watershed relative to the world average, after human and aquatic ecosystem demands have been met. Expressed in m^3 water deprived world equivalents.	(Over) consumption of freshwater can result in a lack of available freshwater for human and animal consumption, crop irrigation and can thereby limit food supply chains. Lack of freshwater will negatively affect human health, ecosystems and ecosystem services. Depending on the local/geographical water availability, the impact of water use can be more or less severe.
Particulate matter emissions		PM	Disease incident	Indicator of the potential incidence of disease due to particulate matter emissions. Measured in disease incidences per kg of PM2.5 emitted. PM2.5 relates to the size of the particulate matter. Expressed in disease incident.	Air pollution in the form of particulate matter can have a negative impact on human health, when particles are inhaled by humans. Effects include reduced lung function, lung cancer, heart disease and reduced life expectancy on long term if exposure is continuous.
Ionizing radiation, human health		IRP	kBq U-235	Indicator of the damage to human health and ecosystems linked to the emissions of radionuclides. Measured in human exposure efficiency relative to Urianum-235 (U-235), which is naturally occurring uranium isotope. Expressed in kilobecquerel of U-235.	When humans are exposed to ionizing radiation, it can lead to negative effects on human health. Low doses of radiation can increase the risk of long-term effects, as e.g. cancer. Very high doses can lead to acute health effects such as skin burns or acute radiation syndrome.
Eco-toxicity (freshwater)		ETP-fw	CTUe	Indicator of the impact on freshwater organisms of toxic substances emitted to the environment. Measured as an estimate of the potentially affected fraction of species (PAF) integrated over time and volume, per unit mass of a chemical emitted, reflecting the potential harmful effects of chemicals in freshwater ecosystems. Expressed in comparative toxic units for ecosystems (CTUe).	When humans and ecosystems are exposed to toxic chemicals and substances emitted to air, water bodies and soils, it can lead to negative effects for human health (cancer- and non-cancerous diseases) and for organisms depending on the affected ecosystems.
Human toxicity	HTP-c	Cancer	CTUh	Indicator of the impact on humans of toxic substances emitted to the environment. Divided into non-cancer and cancer-related toxic substances. Measured as an estimate of the increases in morbidity in the total human population per unit mass of a chemical emitted. Expressed in comparative toxic units for humans (CTUh).	
	HTP-nc	Non-cancer	CTUh		
Land use related impacts/soil quality		SQP	Dimensionless	Indicator of the changes in soil quality. Measured based on a soil quality index, representing the aggregated impact of land use on: biotic production, erosion resistance, mechanical filtration, and groundwater replenishment.	Changes in the way land is used or exploited may affect the ability/potential of growth of plants and other living organisms, ability for groundwater to refill, resistance to erosion (where surface of the ground is scraped off), as well as the ability to filter out particles.

* eq = equivalent

Possibility to learn more: EPD International - environdec.com

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