

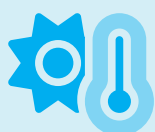
# FACT SHEET

## ENVIRONMENTAL IMPACT CATEGORIES



Understanding and minimising the environmental impacts of building materials and construction processes is essential for sustainable development. [The Building Research Establishment \(BRE\)](#) has developed a comprehensive framework of 13 impact categories to assess and compare the environmental performance of products and projects throughout their life cycles.

These categories encompass a broad range of ecological and human health concerns, from climate change and resource depletion to pollution and waste generation. Each category is measured using standardized units, enabling objective evaluation and informed decision-making. Below are the definitions and units of measure for each of the BRE's 13 impact categories.



**Total global warming potential (GWP):** Contribution to global temperature rise through greenhouse gas emissions (e.g., CO<sub>2</sub>, methane), leading to climatic disruptions such as sea-level rise and ecosystem shifts.

**Unit:** kg CO<sub>2</sub>-equivalent



**Ozone depletion:** This category looks at emissions to air that cause the gradual thinning of the ozone layer in the stratosphere.

**Unit:** kg CFC-11-equivalent



**Acidification:** The potential acidification of soils and water due to the release of gases.

**Unit:** mol H<sup>+</sup> eq.



**Eutrophication – aquatic freshwater:** The process that occurs in freshwater ecosystems when there is an excess of nutritional elements, causing an overgrowth of algae and other aquatic plants.

**Unit:** kg PO<sub>4</sub>-equivalent



**Eutrophication – aquatic marine:** The process that occurs in marine ecosystems when there is an excess of nutritional elements, causing an overgrowth of algae and other plants.

**Unit:** kg N equivalent

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**Eutrophication – terrestrial:** The process that occurs in terrestrial ecosystems when there is an excess of nutritional elements.

**Unit:** mol N equivalent



**Photochemical ozone formation:** The potential of emissions like volatile organic compounds (VOCs) to form ground-level ozone and other reactive chemical compounds, impacting human health and vegetation.

**Unit:** kg NMVOC equivalents



**Abiotic depletion (metals and minerals):** The depletion of natural non-fossil resources, such as clay.

**Unit:** kg Sb equivalents



**Abiotic depletion (fossil resources):** The depletion of natural fossil fuel resources, such as oil, coal, and natural gas.

**Unit:** MJ net calorific



**Use of net freshwater (FW):** Freshwater consumption and its impact on regions with limited water resources, highlighting the effect of water use on freshwater availability.

**Unit:** m<sup>3</sup>



**Hazardous waste:** How much landfill use is required due to hazardous waste.

**Unit:** kg



**Non-hazardous waste:** How much landfill use is required due to non-hazardous waste.

**Unit:** kg



**Radioactive waste:** How much landfill use is required due to radioactive waste.

**Unit:** kg