BRE

Ecopoints: a single score environmental assessment

The environmental impacts of construction encompass a wide range of issues, including climate change, mineral extraction, ozone depletion and waste generation. Assessing such different issues in combination requires subjective judgements about their relative importance. For example, is a product with a high global warming impact that does not pollute water resources giving less overall environmental impact than a product that has a low global warming impact but produces significant water pollution? To enable such assessments, BRE has developed Ecopoints.

Normalised Environmental Impacts

Each environmental issue is measured using its own unit, for example BRE measure mineral extraction using tonnes of mineral extracted and climate change in mass of Carbon Dioxide equivalent. Using these "characterised" impacts, it is hard to make any useful comparisons. However, by comparing each environmental impact to a "norm", each impact can be measured on the same scale. BRE have taken as their norm the impacts of a typical UK citizen, calculated by dividing the impacts of the UK by its population.

Making assessments based on "normalised" data means giving all the measured issues the same importance. BRE have therefore undertaken an extensive study to identify weightings for a range of sustainability issues.

Weightings

Expert panels from across the industry's stakeholder groups were used to judge the importance of many sustainability issues, covering environmental, social and economic issues. The results showed a surprising degree of consensus about the relative importance of different environmental issues across a broad range of interest groups. Currently, only data for environmental issues can be measured and gathered on a UK basis. The resulting weightings for the environmental issues measured by BRE have been used to weight the normalised environmental impacts to provide the Ecopoints score.

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001/11/99B

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UK Ecopoints
A UK Ecopoint score is a measure of the overall environmental impact of a particular product or process covering the following environmental impacts:

- Climate change
- Fossil fuel depletion
- Ozone depletion
- Freight transport
- Human toxicity to air
- Human toxicity to water
- Waste disposal
- Water extraction
- Acid deposition
- Ecotoxicity
- Eutrophication
- Summer smog
- Minerals extraction

UK Ecopoints are derived by adding together the score for each issue, calculated by multiplying the normalised impact with its percentage weighting. The annual environmental impact caused by a typical UK citizen therefore creates 100 Ecopoints. More Ecopoints indicate higher environmental impact.

The Centre for Sustainable Construction at BRE is currently utilising the environmental weightings and Ecopoints within its Life Cycle Assessment tools and consultancy including BREEAM, "Green Guide to Specification" and the software tool Envest.

BRE Digest 446, "Assessing environmental impacts of construction: Industry consensus, BREEAM and UK Ecopoints" provides a full description of Ecopoints and how they can be applied. This can be purchased from CRC Ltd.

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BRE acknowledges the support of DETR for the research described here.