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What it is

A carbon footprint is a measure of the different environmental impacts of human activities, in terms of CO₂ produced. A carbon footprint measurement of this type is known as a Carbon Impact Assessment. To evaluate carbon footprint correctly, it is important to assess all impacts together. For an office-based company, all office and transport activities must be considered. An office may have an 'excellent' BREEAM rating but its impacts from 'transport' are likely to be far more significant than those from running the 'office'. These inputs are more widely explained in the next paragraphs.

Activities that create a carbon footprint include:

- Transport
- Heating and Air-conditioning
- Small power (plug loads)
- Lighting
- Production and consumption of products and the energy involved in their manufacture (use) and disposal.

Measurement of carbon footprint

When making a Carbon Impact Assessment, these are some of the items to be included:

- Bills for heating, gas and electricity (heat, A/C, lights, computers, printing, etc.)
- Quantities of water, paper, printing, stationary,
- Transport (distances travelled)

Information can be gathered from company bills and company records. To calculate the carbon footprint of a company, much of the work can be done by one or two people but the involvement of every individual is important to raise awareness and encourage people to consider their own contribution.

What is measurable is manageable

Once the carbon footprint is known, it is then possible to identify ways to reduce the carbon footprint. Every contribution to a carbon footprint is a result of spending money, or has the consequence of costing money. An important benefit of analysing carbon footprint is that data can be used as a way of identifying unnecessary expenditure.

Calculating carbon footprint

There are many online calculators (see below) for help in determining carbon footprint. Most of them, however, are aimed at an individuals' carbon footprint (housing, travelling).

Carbon footprint assessment data according to Reference 1 should be divided into three groups:

1. Direct emissions (use of fuel, electricity, steam, heat in the appliances directly owned by reporting organisation, business travel and employee commuting in company owned vehicles).

2. Indirect emissions from generation of purchased electricity, heat, steam.
3. Indirect emissions not directly controlled from business travel in non-company owned vehicles, employee commuting in vehicles not owned by company (e.g. light rail, train, buses, employee cars).

<http://www.defra.gov.uk/environment/business/envrp/pdf/conversion-factors.pdf> Guidelines to DEFRA's GHG (greenhouse gas) conversion factors.

<http://actonco2.direct.gov.uk/index.html>

DEFRA's calculator website. Compares users' footprint to the UK statistical average. It provides an Action Plan with a list of personalised recommendations about how to reduce carbon emissions.

Online calculators

<http://www.carbonfootprint.com/calculator.aspx>

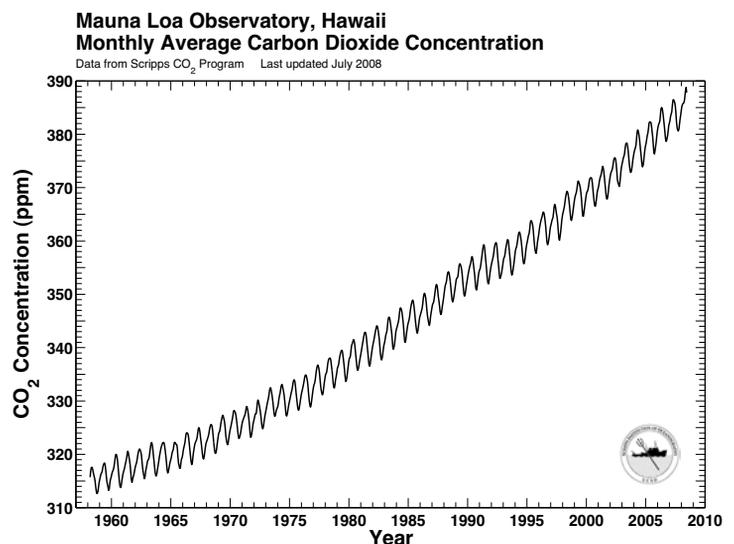
This requires a free registration for small businesses less than 20 staff. For larger companies you will be contacted. Data used includes emissions from; housing, travel and secondary consumptions (food, shopping, recycling, etc.).

<http://www.carbontrust.co.uk/default.ct>

Carbon footprint calculator also for companies after registration. Required data are; fuel usage (gas bill), vehicle usage, electricity bills and employee travel details.

<http://www.carboncalculator.co.uk/>

Requires registration. Data from travel, heating, electricity and shopping are required.



carbon impact assessment consultancy office

The graph shows increased carbon dioxide concentration from 1960 already measured at Manua Loa Observatory, Hawaii.

(*Scripps Institution of Oceanography*).

Manua Loa Observatory is the premier long-term atmospheric monitoring facility on earth and is the site where the ever-increasing concentrations of global atmospheric carbon dioxide have been determined. Due to its mid-Pacific location it is not close to significant sources of carbon production. This means that the readings are an acceptable average for the rest of the planet. For more information see website: (<http://scrippsco2.ucsd.edu/>).

Reducing carbon footprint in the office

The necessary steps for reducing carbon footprint are as follows:

1. Nominate a person, with senior management support, responsible for CO₂ reduction plan.
2. Learn what data are required and how to collect them.

3. Calculate office's carbon footprint by using one of the carbon footprint calculators.

4. Find out how to reduce carbon footprint and action.

5. To secure consistency, check carbon emissions regularly, by using exactly the same carbon footprinting methods.

Further information

This briefing is prepared by the IStructE Sustainable Construction Panel. Contact: Berenice Chan (email: Berenice.chan@istructe.org)

Issue No: 4

References

1. Putt del Pino, S., Bhatia, P.: *Working 9 to 5 on Climate Change: An Office Guide*, World Resources Institute, December 2002