



‘Finding Low Carbon Solutions’ Construction Conference

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Rockingham Speedway



Carbon Footprint Analysis - the Practicalities

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Sustainable Construction
Conference

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Responsible Solutions Ltd

- Specialist environmental and social responsibility consultancy
- Specific focus on the construction sector,
- Delivering pragmatic solutions from boardroom to site.
 - EMS
 - Training
 - Part of CEEQUAL Technical Management

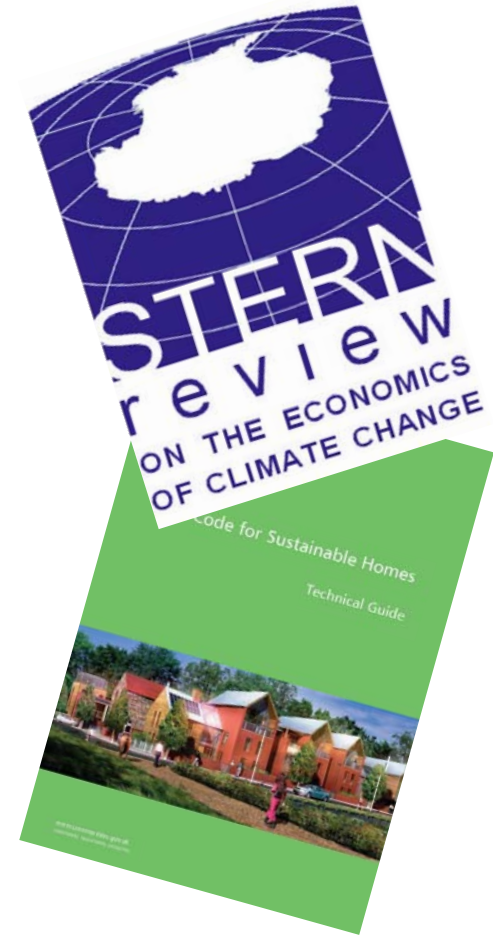
Outline

- The context – why carbon footprinting
- What's involved
- The challenges
- Conclusion



The Context

- Life cycle analyses
 - Carbon just one element of what LCA covers
- Stern Report
 - Focus on climate change as a political imperative - carbon
- Zero carbon homes
 - Continued focus



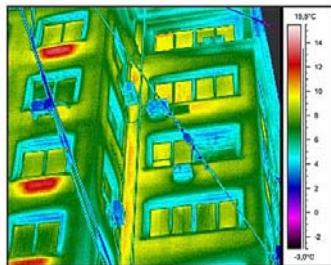
What is a carbon footprint?



“Commonly used to describe the total amount of CO₂ and other greenhouse gas (GHG) emissions for which an individual or organisation is responsible.”

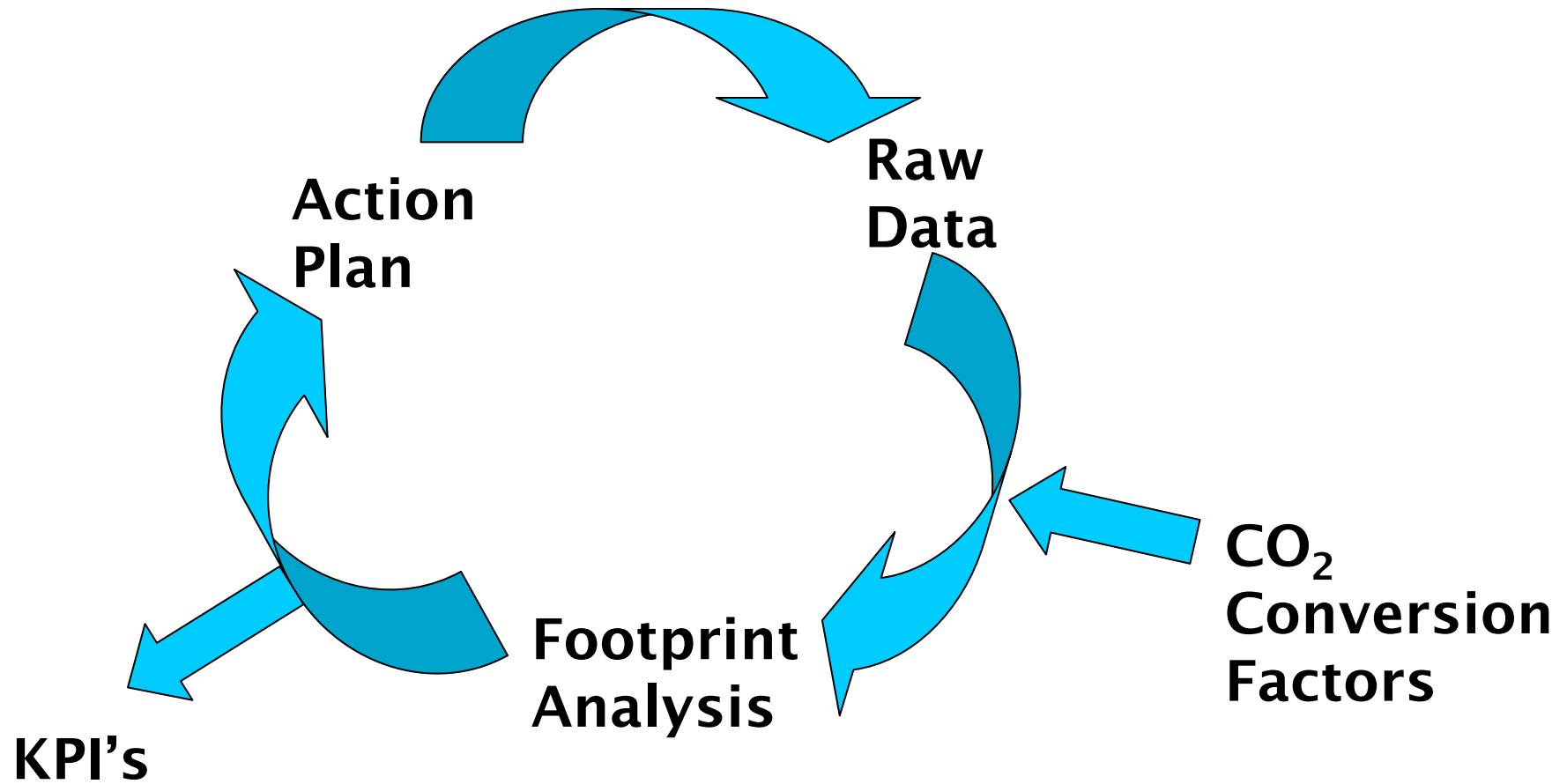


- Expressed as tonnes CO₂ equivalent tCO₂e



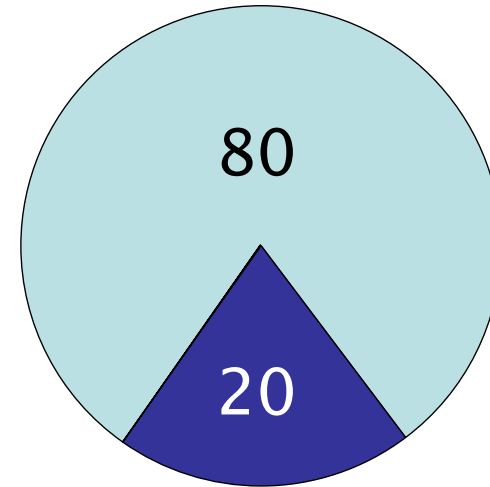
- Footprints can also be calculated for events or products.

What is involved?



Raw Data

- 2 primary categories
 - Embodied Carbon
 - Construction process
 - materials
 - Operational Carbon
 - Use of the building/asset



Before you start...

Set the boundaries

Raw Data

- Construction process
 - Extraction and processing of raw materials
 - Material deliveries
 - On-site energy
 - Construction plant
 - Office electricity
 - Staff/workforce travel
- Operational Carbon
 - Energy consumption

Conversion Factors

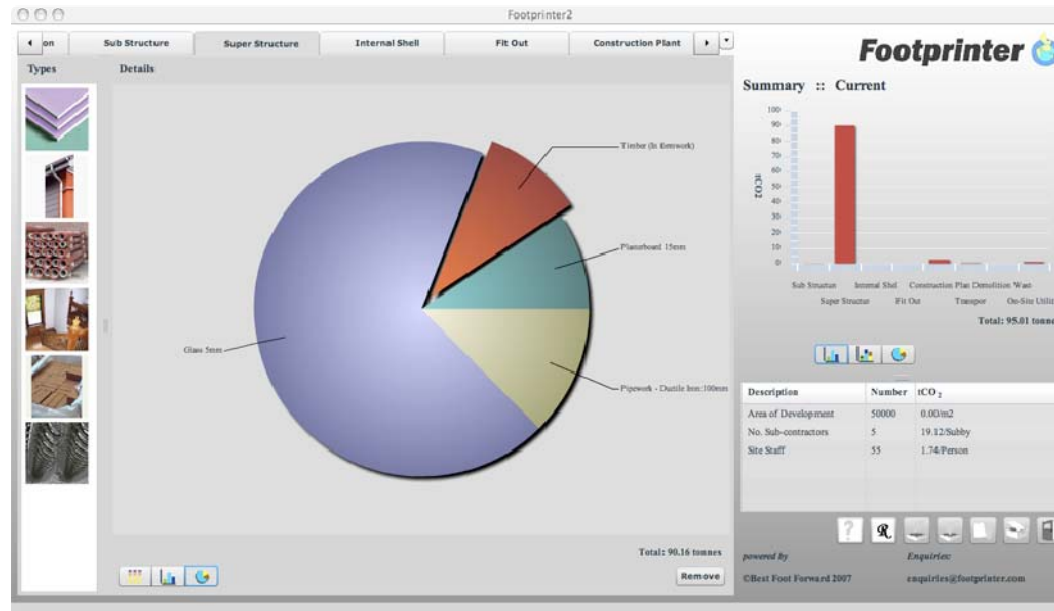
- Publicly available
 - Individual company research
 - “trade body”/sector research.
- Some still commercially sensitive.
- Key things to understand before using:
 - Are all conversion factors comparable
 - What does it include/exclude?
 - Is it up to date?

Analysis & Outputs

- A number crunching exercise
- How do you want to use it?
 - Identify improvements
 - Annual reporting
 - Designers brief
 - Client report
- Spreadsheet
- Database
 - Enables more robust interrogation and scenario comparison

...and if this is all too difficult

- There are alternatives to the DIY approach.
 - Bespoke consultancy
 - Software package.

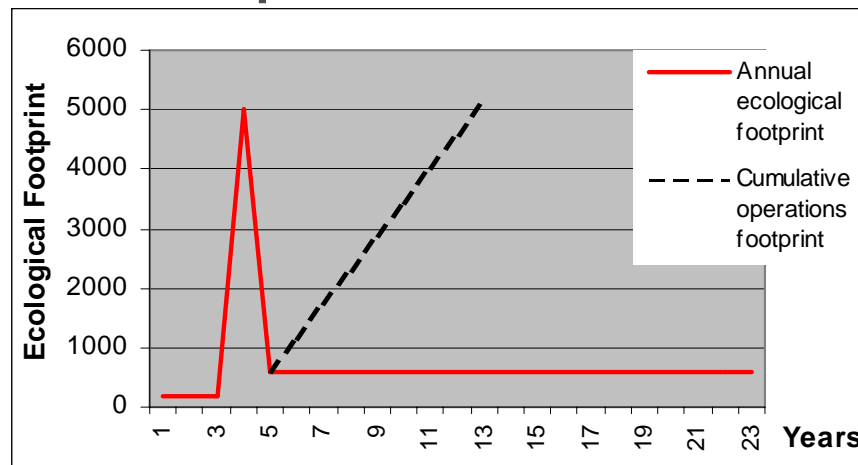


Challenges/Issues

- Collecting the data
 - Raw data
 - Finding proxy data
 - Time constraints
- Setting the boundaries
 - Control and influence
 - What do you have time to collect

Challenges/Issues

- Identifying the “right” solutions, e.g.
 - steel vs. concrete vs. timber
 - Traditional vs. offsite
 - Data transparency
- Keeping the data up to date
- Construction vs. Operation.
 - Design life



Final thought



- Remember...

...Carbon reduction is only one part of delivering sustainable development.