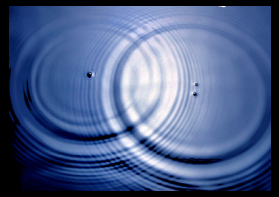
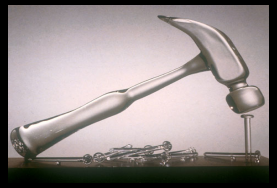




Lancashire Best Practice Club

Solaris Centre

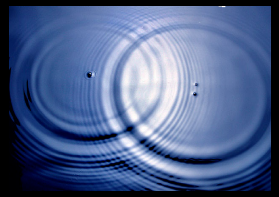
Blackpool

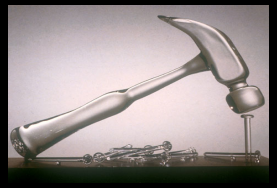
12 February 2008

martin brown

martin.brown@fairsnape.net

fairsnape



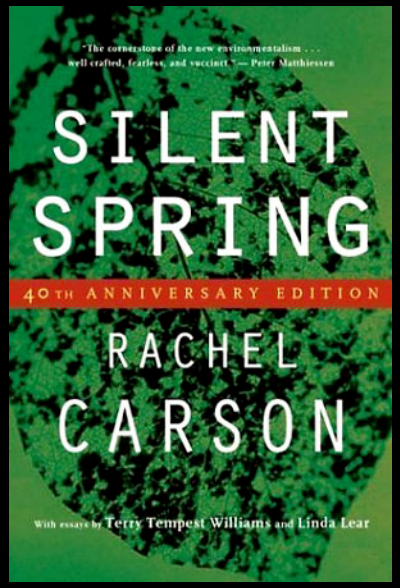


Sustainability

Changing Industry

Carbon

Waste



Rachel Carson sent tremors through American society with the publication of her 1962 book "Silent Spring."

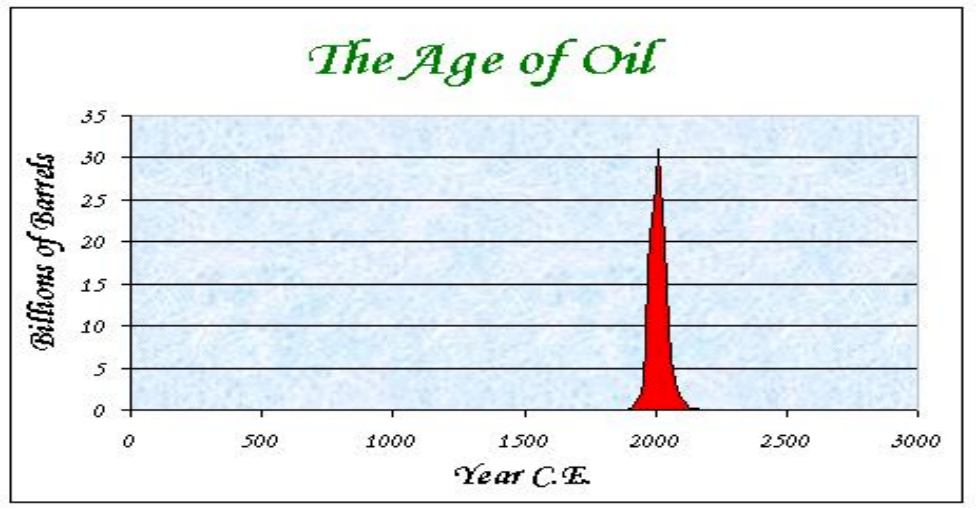
"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." 1987

What has changed – why the urgency now?

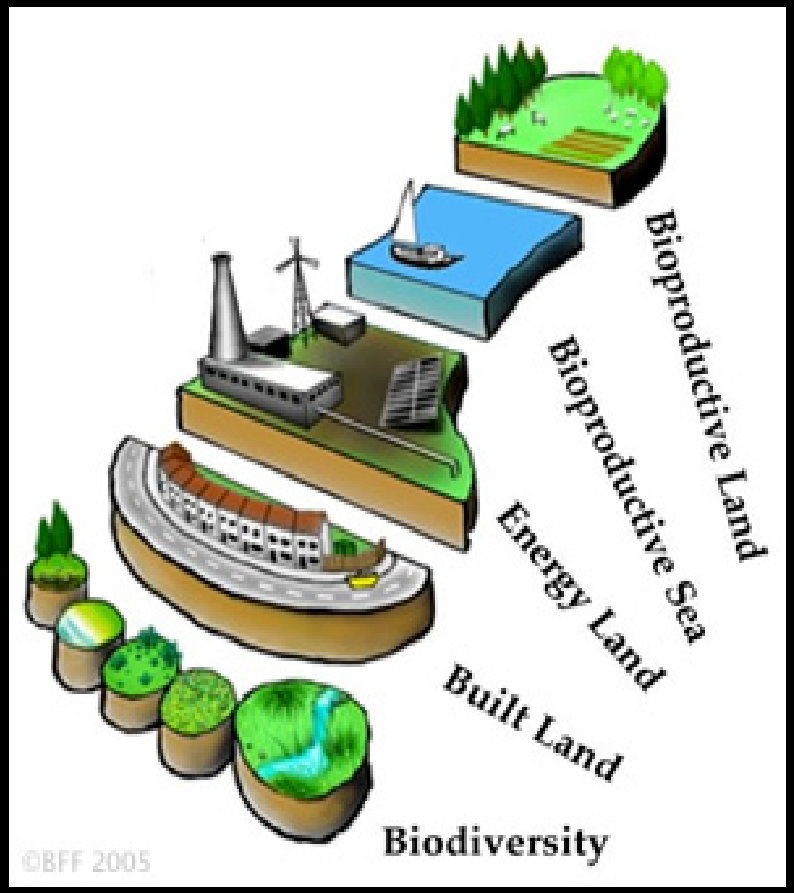
Challenges we face:

- Peak oil
- Exceeding our ecological footprint
- Global warming
- Global In-balance

Peak oil



ecological footprint



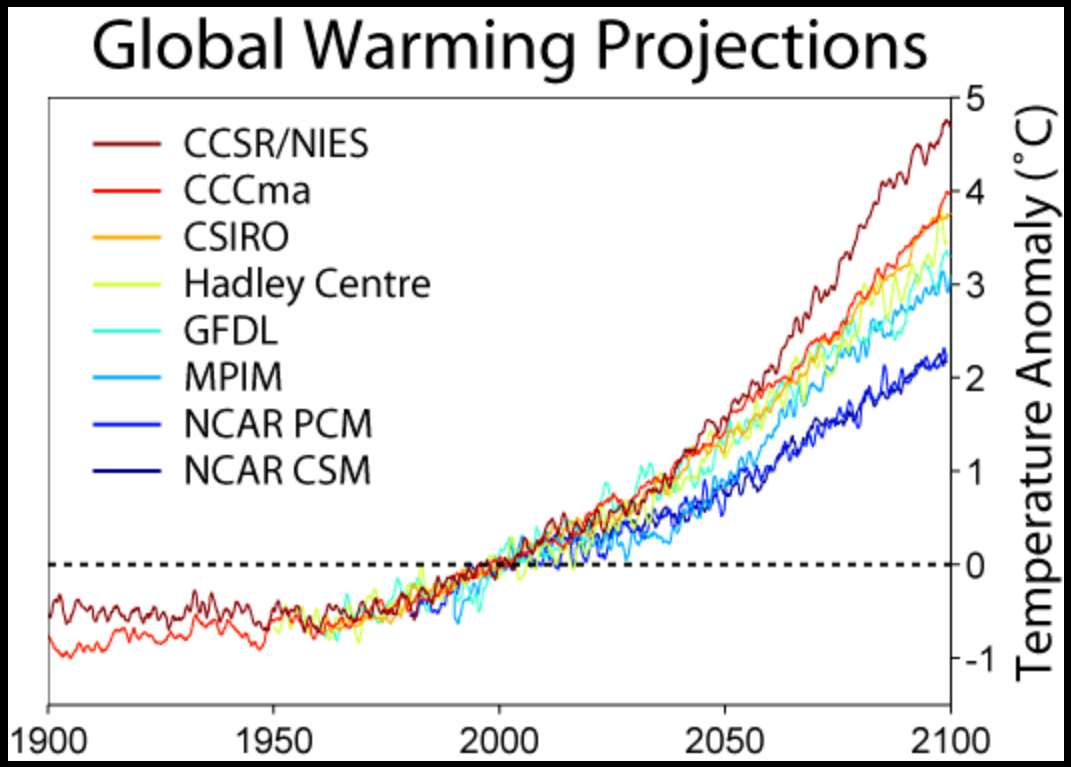
We **exceed** our ecological footprint:

In 2001, the South West residents' ecological footprint was 27.4 million gha (global hectares) or 5.56 gha per person.

The earth-share is 1.9 gha per person.

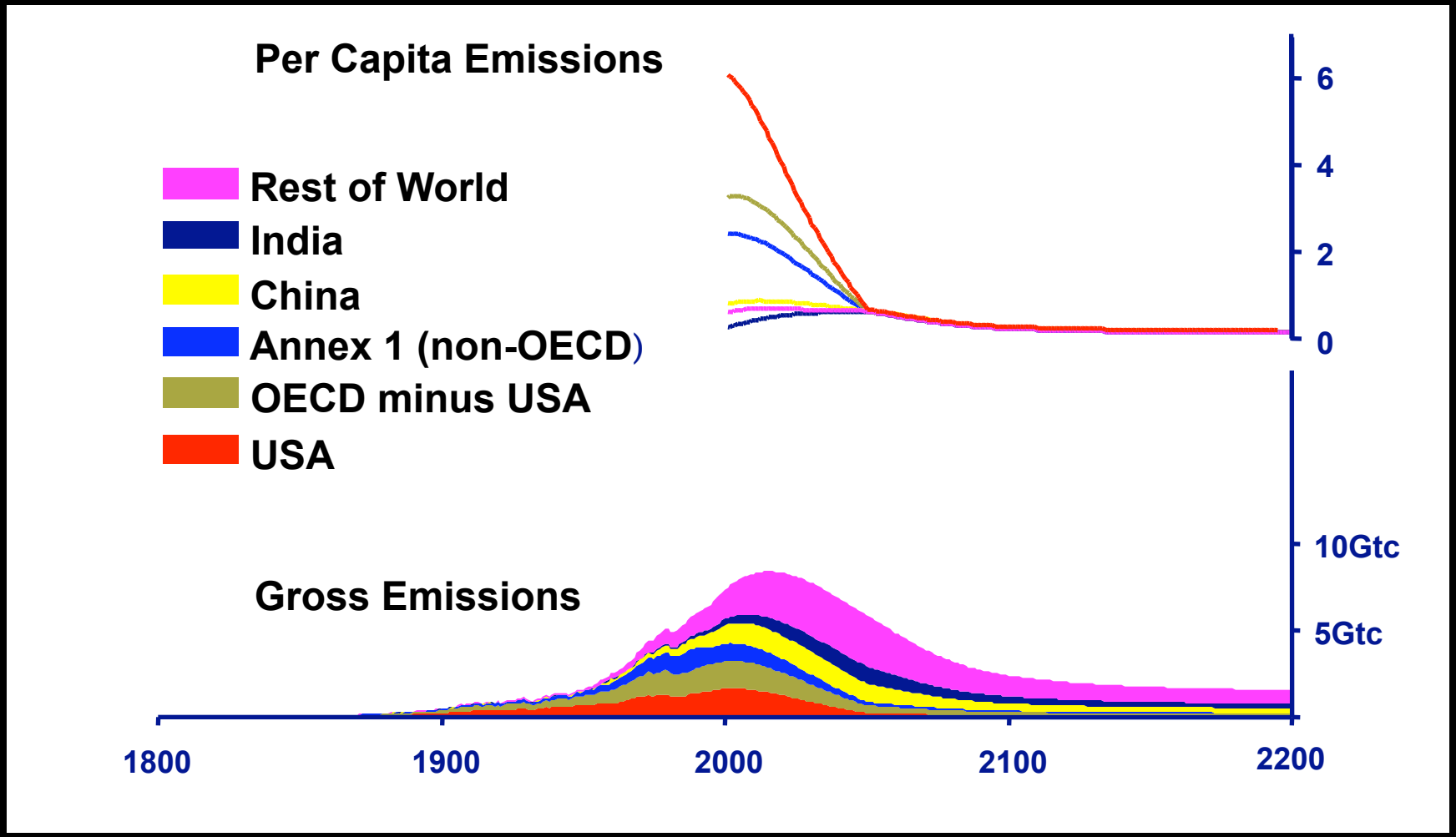
If everyone on the planet consumed as much as an average South West resident, we would need three Earths to support global resource consumption sustainably.

global warming



Enough said

contraction & convergence 2050



from grey to bright green

Reject as much as possible
Do as little as is necessary
Legislation led

Tree huggers
Earth is a balanced system
Humans are pests

Cornucopians

Accommodationists

Eco-Communialists

Gaianists

Do nothing now
Technology later will solve it
Always plenty of resources

Grass roots
Because it makes sense
Community based

built environment impact

70% world population live in cities

Cities require 70% global energy

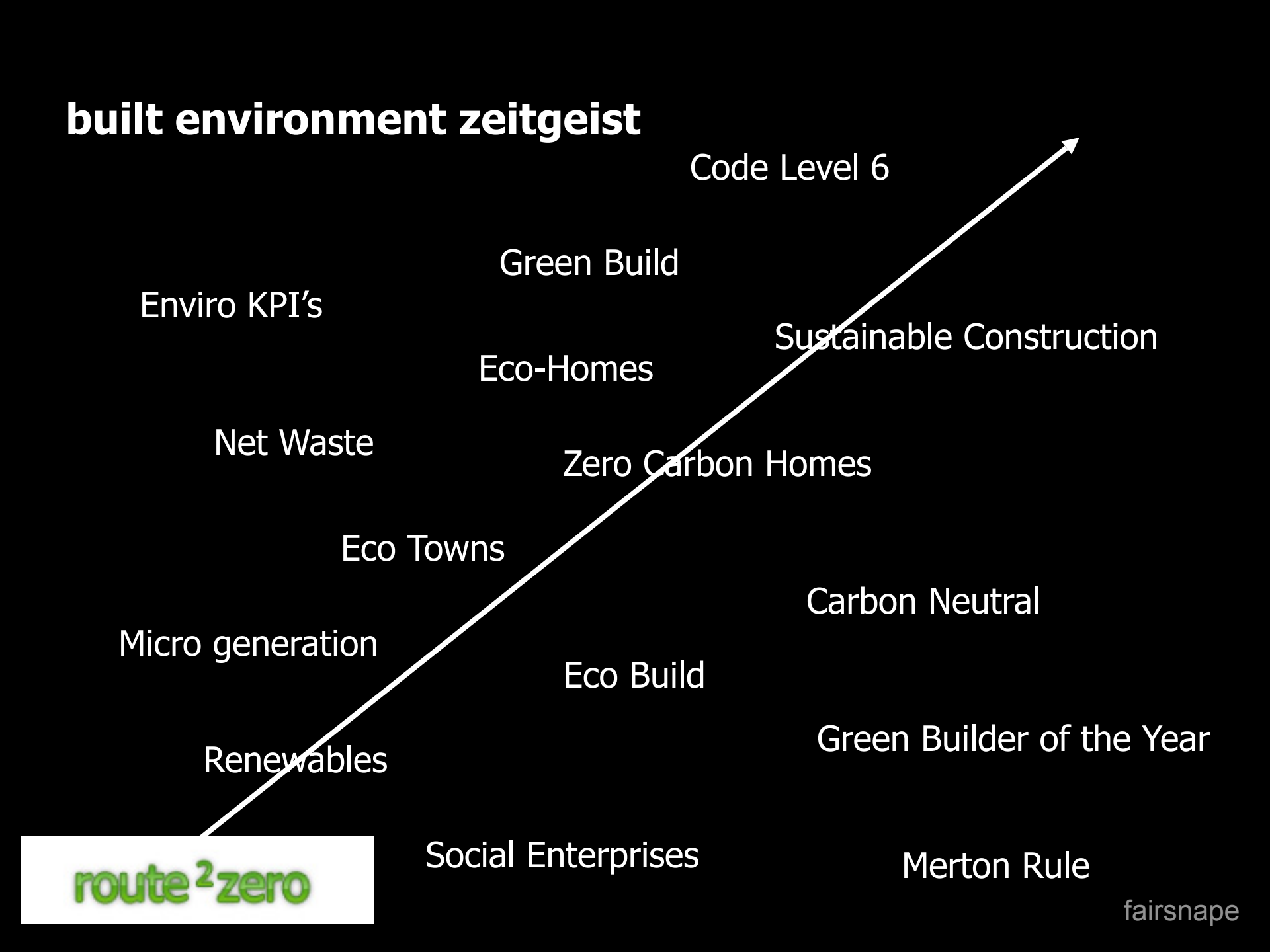
Cities responsible for 80% ecological footprint, and some 45% carbon footprint

70% buildings in 2050 are already built or in construction

Two thousand seven may go down as the year that green buildings became cornerstone of global strategies to address global warming

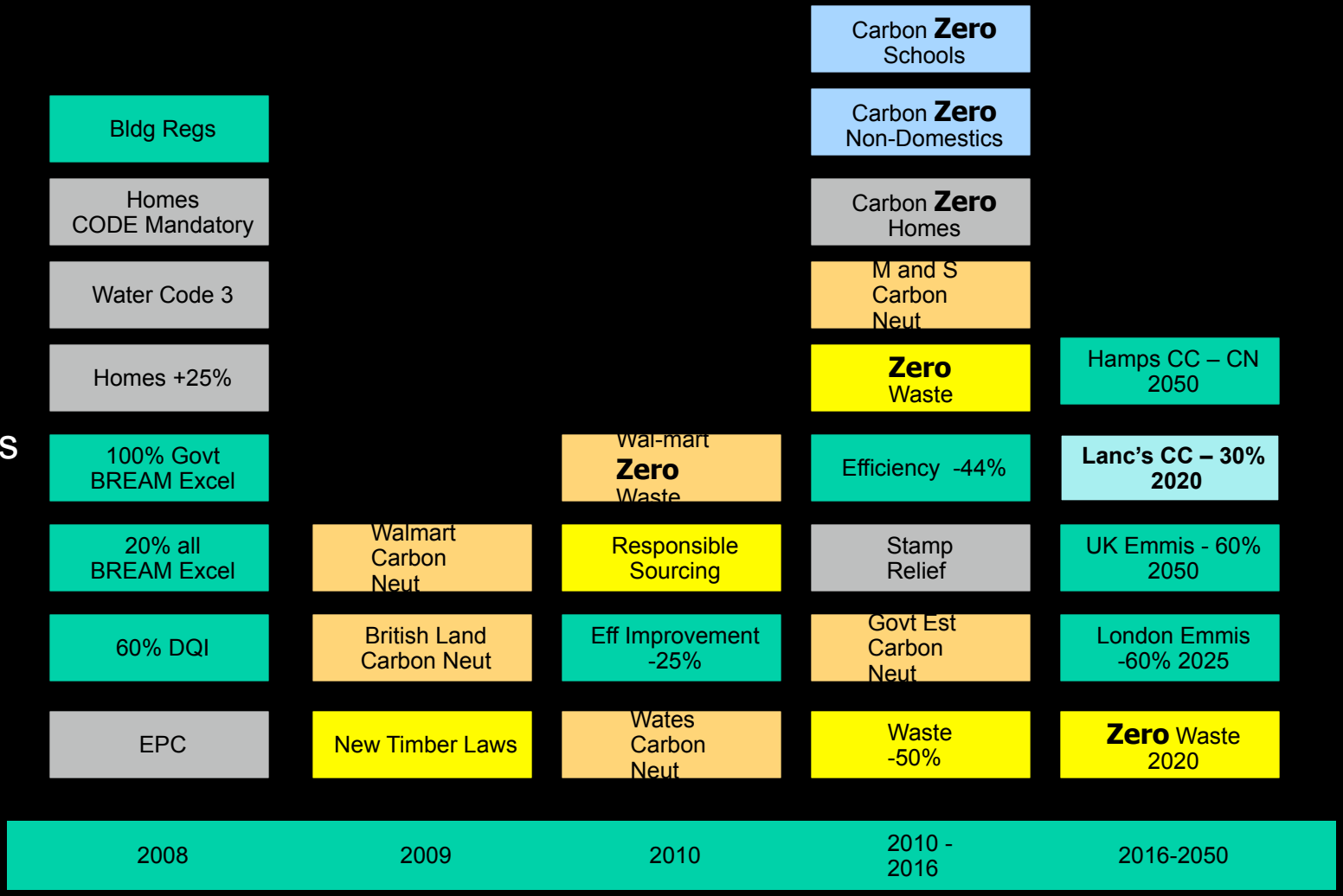
State of Green Business 2008

built environment zeitgeist



route 2 zero

Industry Targets Milestones Requirements 2008 - 2050

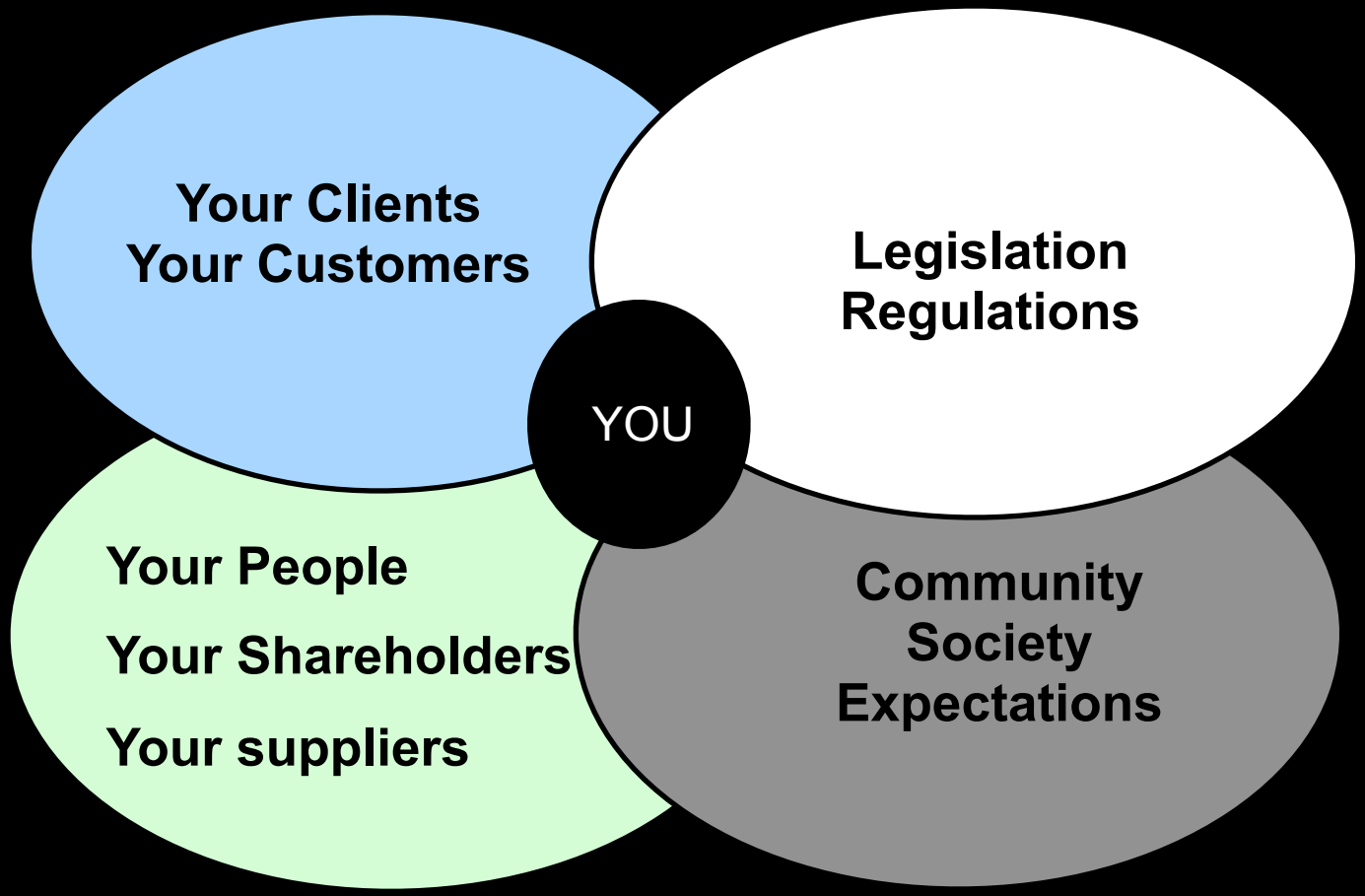


route 2 zero

Your Targets ? ⟶

fairsnape

route 2 zero



Two out of three employees see it important to work for an organisation that reduces emissions.

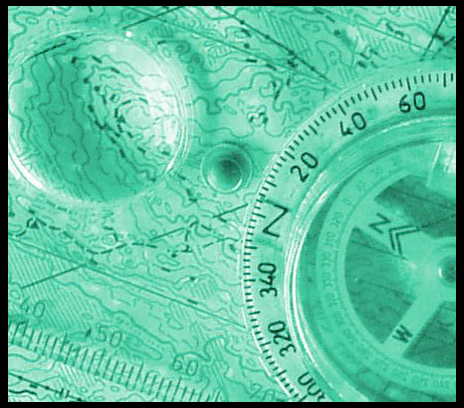
Carbon Trust survey 2007

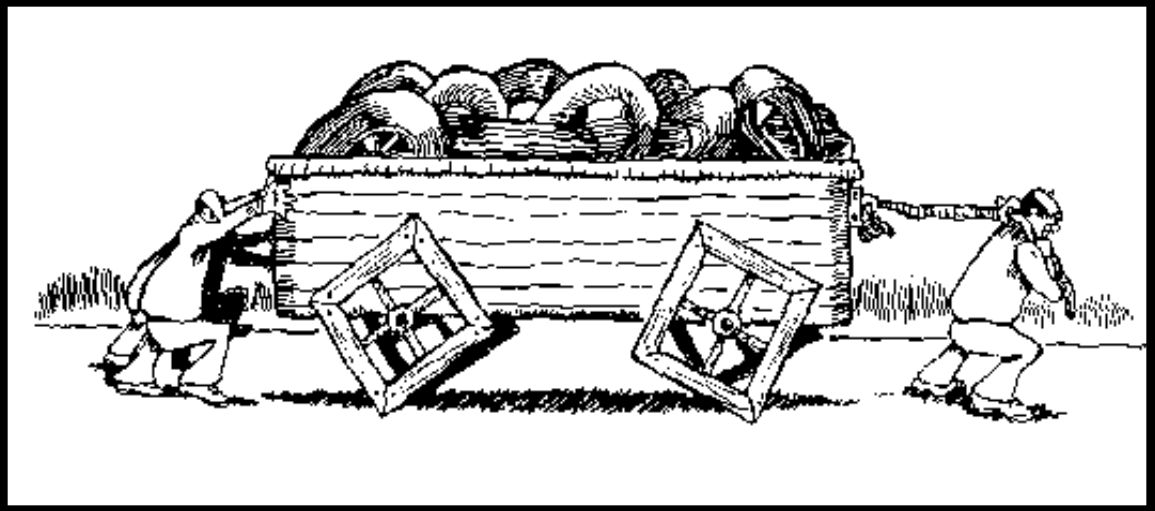
route 2 zero

route 2 zero

zero is the new black

Do you have a route you can follow with confidence?





Do you have the right tools – and if so, are you using them?

route 2 zero

focus on waste and carbon

why waste management?

1/3 materials not used for purpose

10% construction gdp

Road traffic - 1/3 heavy haulage carries 'waste'

420 million tonnes of material used in UK construction, 75million tonnes 'waste'

30% of UK waste related to construction and demolition

why carbon management?

Cement and raw material products high in emissions

50% emissions from buildings

50% energy in use – secondary

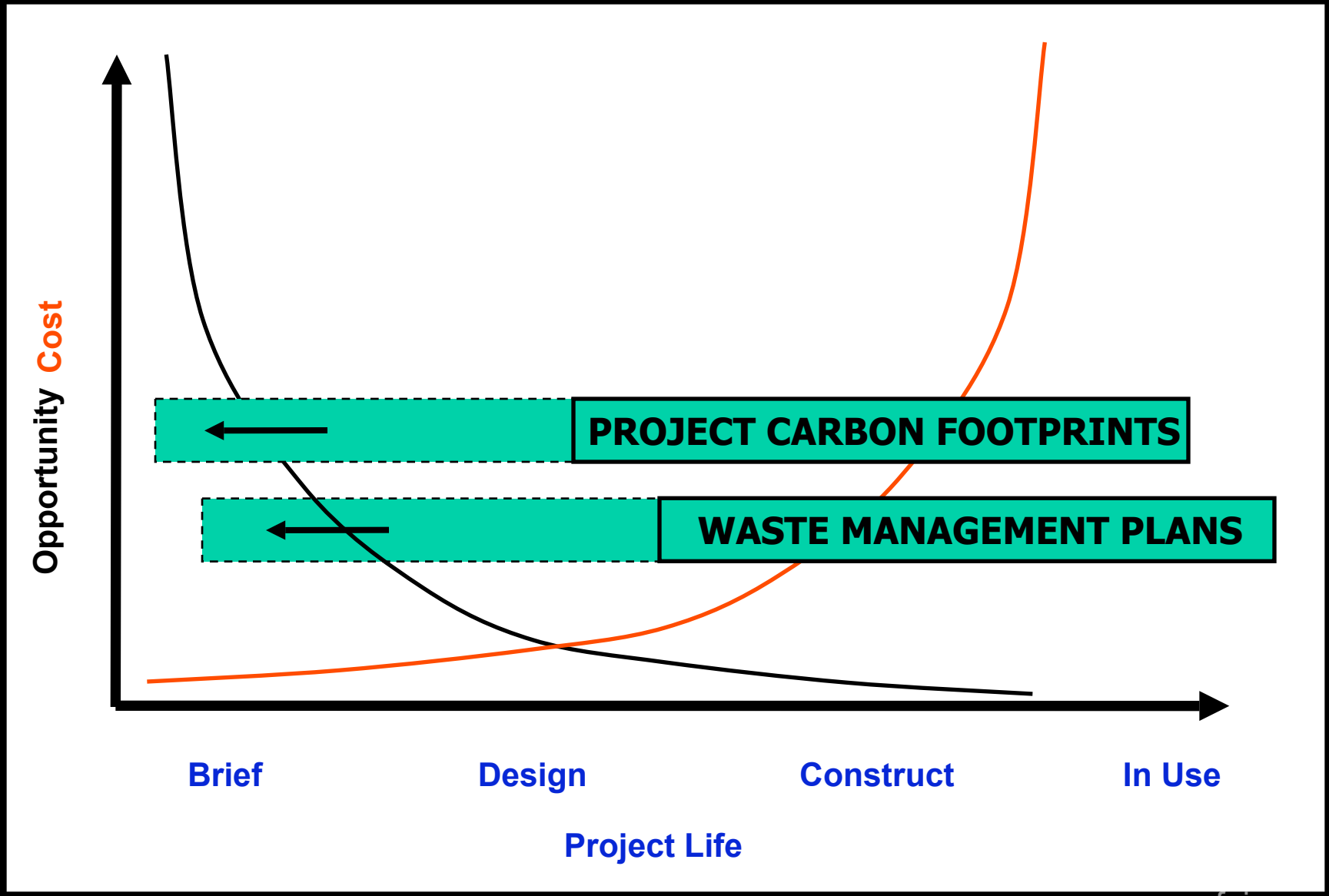
Biggest demand for fossil fuel energy – primary emissions

We waste so much

- material in construction

- heat and energy in 'poor' buildings

waste and carbon – an integrated approach



carbon definitions

Carbon Footprint – a measure of the exclusive total amount of carbon dioxide emissions that is **directly and indirectly** caused by an activity or is accumulated over the life stages of a product.

Carbon offset - the act of mitigating ("offsetting") emissions

Carbon zero - A zero carbon home is one with 'zero net emissions of CO2 from all energy use in the home'

Carbon neutral - individuals, businesses, or organizations whose practices contribute zero carbon dioxide emissions to the atmosphere

Carbon positive – addressing carbon emissions from construction / manufacture through life of a building

Green-wash – we harmed no giraffes this month…

carbon footprint

Why do we need to know and improve our footprint?

BREEAM Very Good or Excellent
Code level 6 (or should it be level 7)?

Clients (looking at both primary and secondary impact)

Construction emissions equates to 11% life of a buildings emissions or 2-3 years house in use

Travel and transport are of significant impact

JCT – commitment to carbon a contract clause?

Bidding - Winning Work

People will choose employers …
Society will allow you to trade …

Sustainability items that might be covered in contract documents

Carbon emissions associated with construction process
Carbon emissions associated with the end use of the 'project'
Commercial vehicle movements
Consumption of energy during construction process
Consumption of energy associated with the end use of the 'project'
Consumption of water during construction process
Consumption of water associated with the end use of the 'project'
Economic sustainability in construction supply chain
Maintenance or optimisation of biodiversity
Origin of construction materials
Waste management in construction process
Waste management associated with the end use of the 'project'

carbon footprint calculators

Cant move for them….

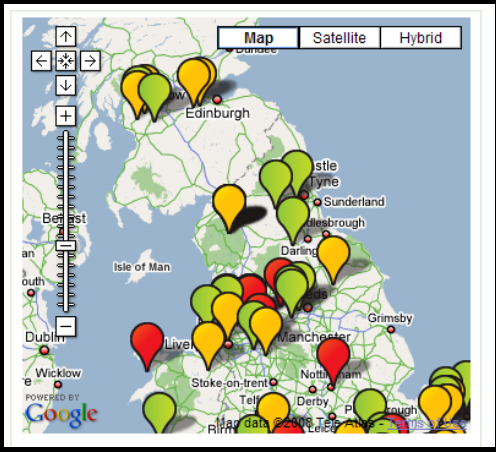
Most linked to carbon offsetting …

Avoid

However – take a look at Google …

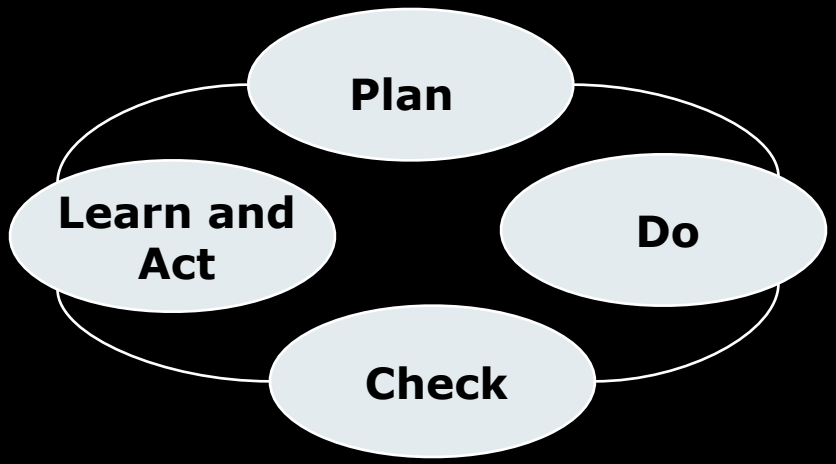
Google The UK Carbon Footprint Project

http://www.google.co.uk/carbonfootprint



carbon footprint - an improvement tool

Plan do check act



Plan and procure for reduced / low / zero carbon activity or project

Project Manage to reduce emissions

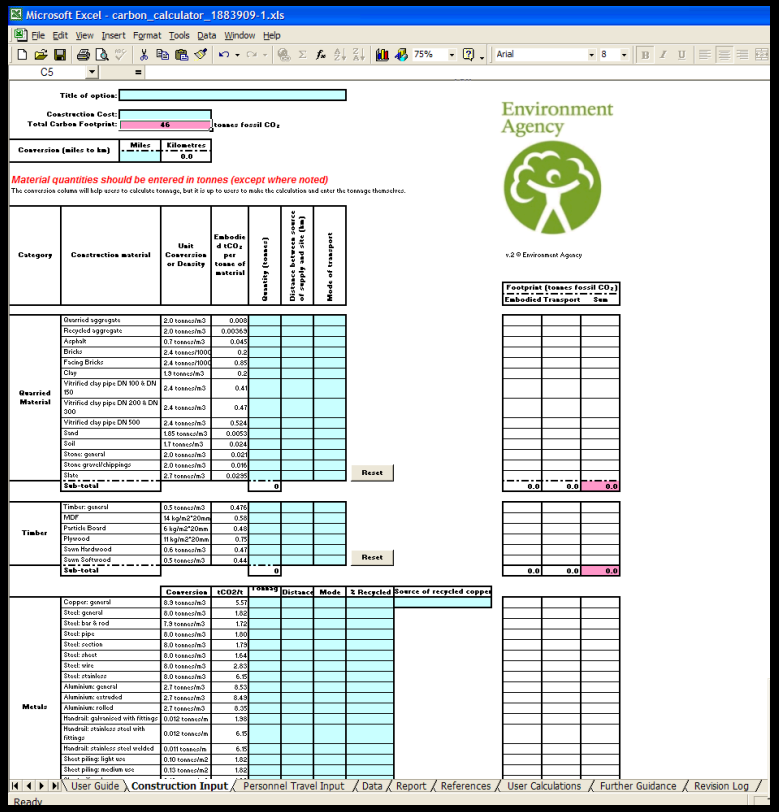
Check carbon emissions / footprint through calculator

Learn from best practice. Learn from your results

Act – improve the way you plan, procure, manage and do things

Plan – better starting point on next project

Environment Agency carbon footprint calculator



Environment Agency

- A tool for planning and improvement – not offsetting
- Written by industry client for industry
- Spreadsheet format – easy to use
- Hour with a schedule
- Flexible – add your own materials and calculations
- Basis for planning and benchmarking
- Open source – for industry use
- Contains guidance and references

Environment Agency carbon footprint calculator

Focus on:

- materials (focuses on cement and concrete)
- transportation of materials (method and distance)
- waste (disposal, quantity, transportation)
- project personnel travel (method, type of vehicle and distance)
- project accommodation
- project plant
- waste

Environment Agency carbon footprint calculator

Quick and dirty (project type, duration and value)

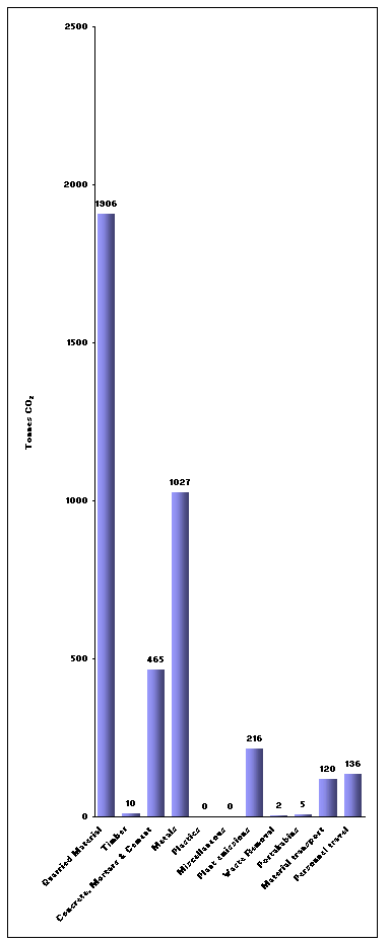
In depth:

Allows comparison to average - are you above or below

Project Management – encourages planning alternatives
- Materials
- Transportation – materials, suppliers and labour
- Waste
- Site energy

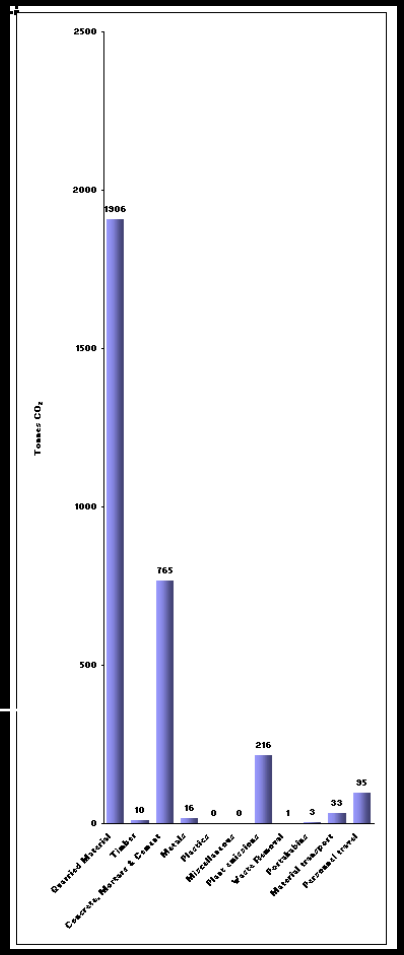
Identifies significant carbon emissions (impact) for action

Environment Agency carbon footprint calculator



Steel Frame, Metal Clad/Roof
Widely sourced

Concrete Frame, Brick Clad, Timber Slate Roof
Local sourced



3887 tonnes fossil CO2

3045 tonnes fossil CO2

summary…

Built environment a key factor …

Be confident with your route to zero …

Waste and carbon management - a collaborative issue …

Carbon calculators are improvement tools …

Plan Do Check and Act to improve your carbon footprint …

Check out EA tool for your projects, act and improve …

Be successful

"Every time I have done the right thing for the environment I've made a profit"

Yvon Chouinard,
founder and owner of Patagonia and 1% For The Planet member

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All slides and notes from this evening at isite blog
www.fairsnape.wordpress.com

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