

Footprint Foundations

Simon Miller

simon@bestfootforward.com

01865 250818



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Best Foot Forward



- Oxford-based sustainability consultants.
- Established in 1997 – after first footprint project in 1996
- Specialists in environmental accounting, particularly mass balance, carbon and ecological footprinting
- Core staff with a network of international partners & associates
- Queen’s Award, ACCA and Biffaward winners
- Completed over 300 footprint studies.



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Key considerations

1. What's the point?
2. Boundaries
3. Footprint methodologies
4. Conversion factors
5. Standards, labelling & certification
6. Communication & action



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1 - What's the point?

- Completing a footprint will:



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Footprinting as a starting point...



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What can we footprint?

- Anything really:
 - Individual lifestyle
 - Product
 - Service
 - Event
 - Organisation
 - Sector
 - Region
 - Country
- Increasingly recognised as an analysis method producing comparable outputs

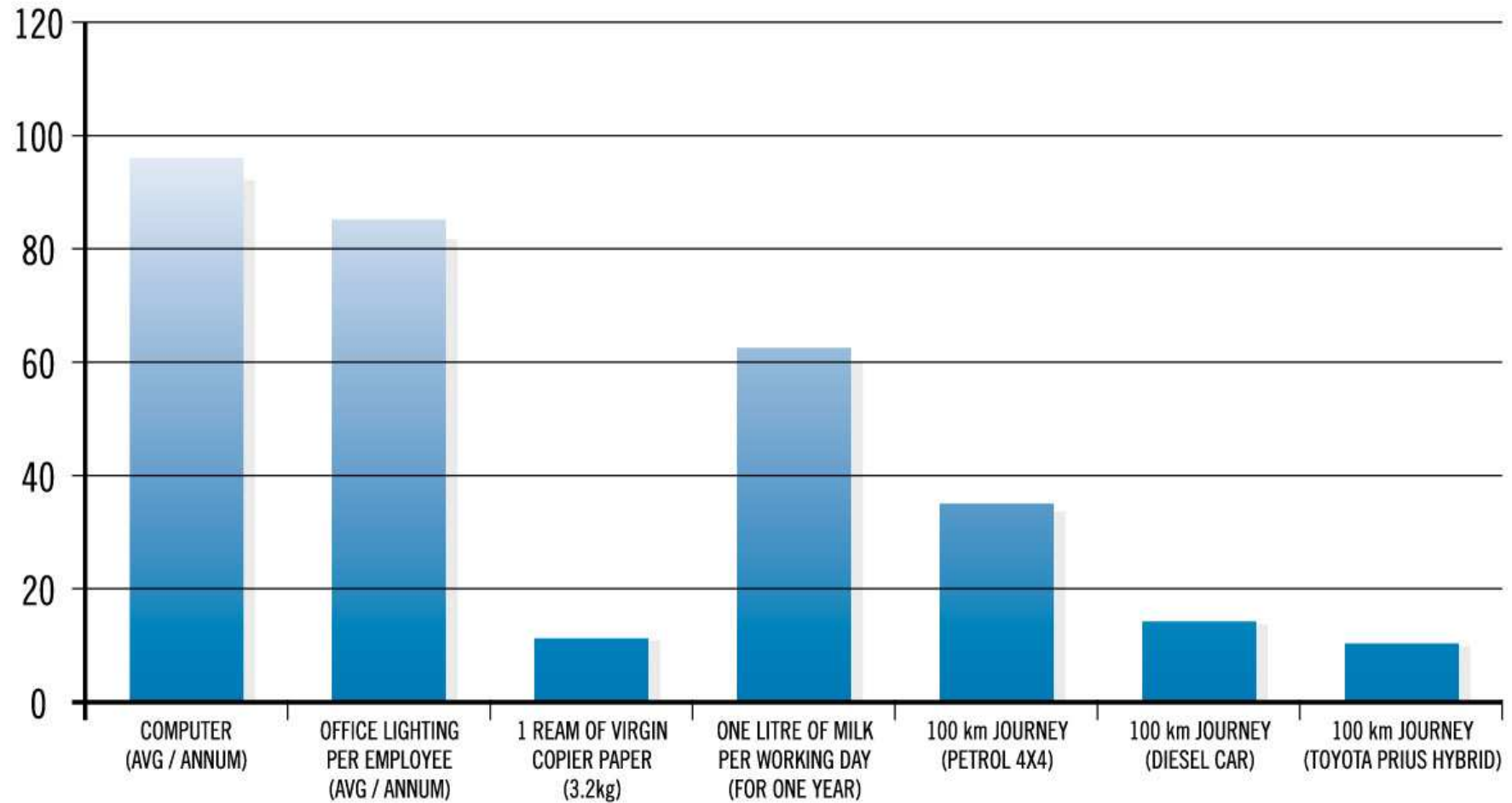


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Comparative footprints

EVERYDAY BUSINESS OBJECTS - CO₂ PER YEAR



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2 - Boundaries

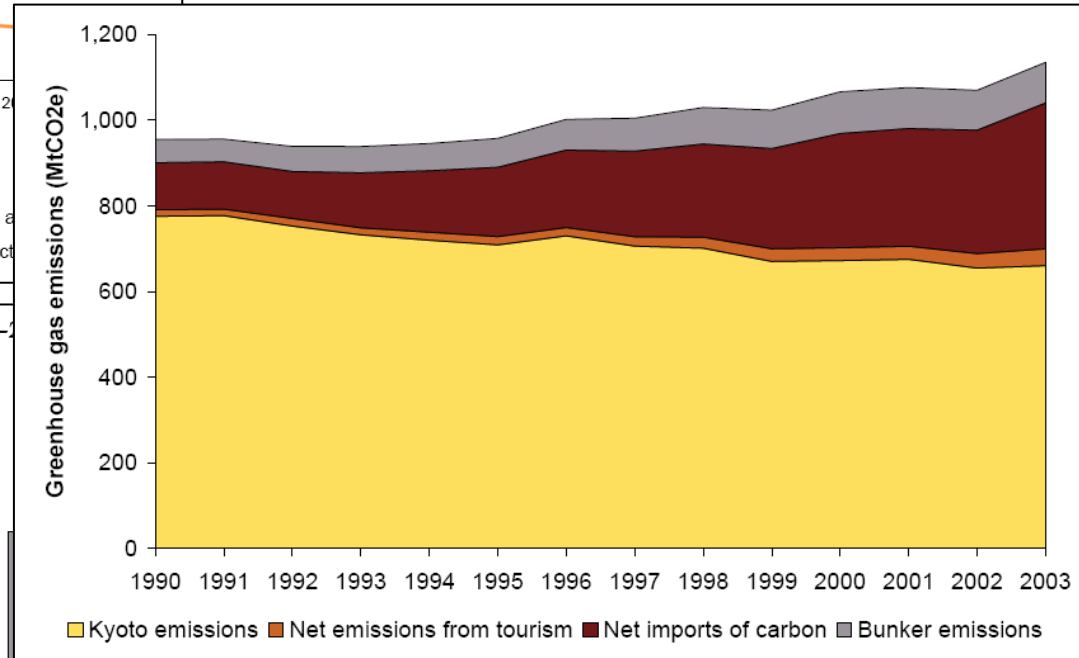
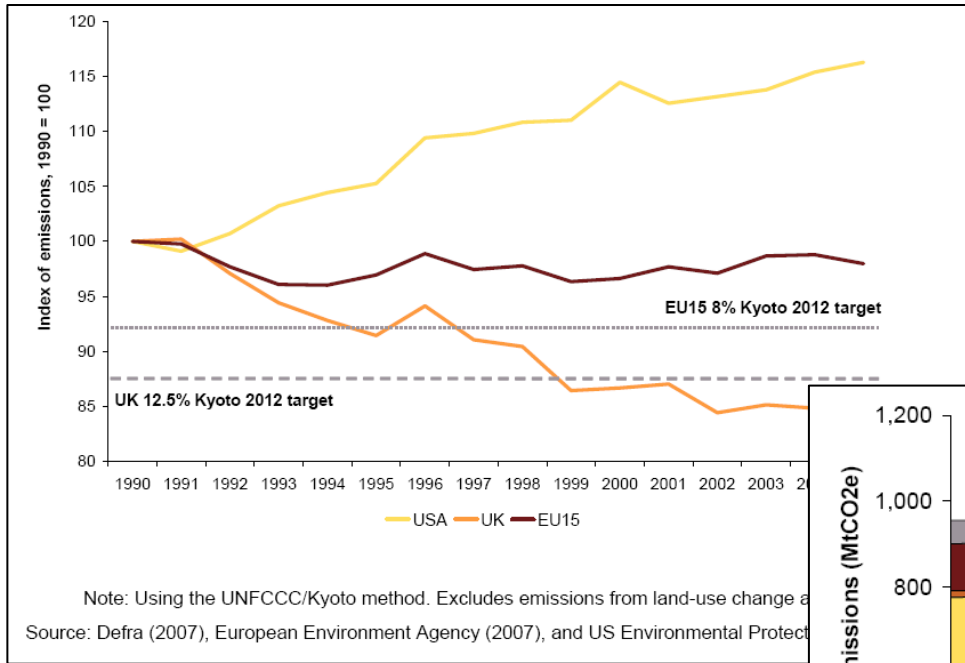
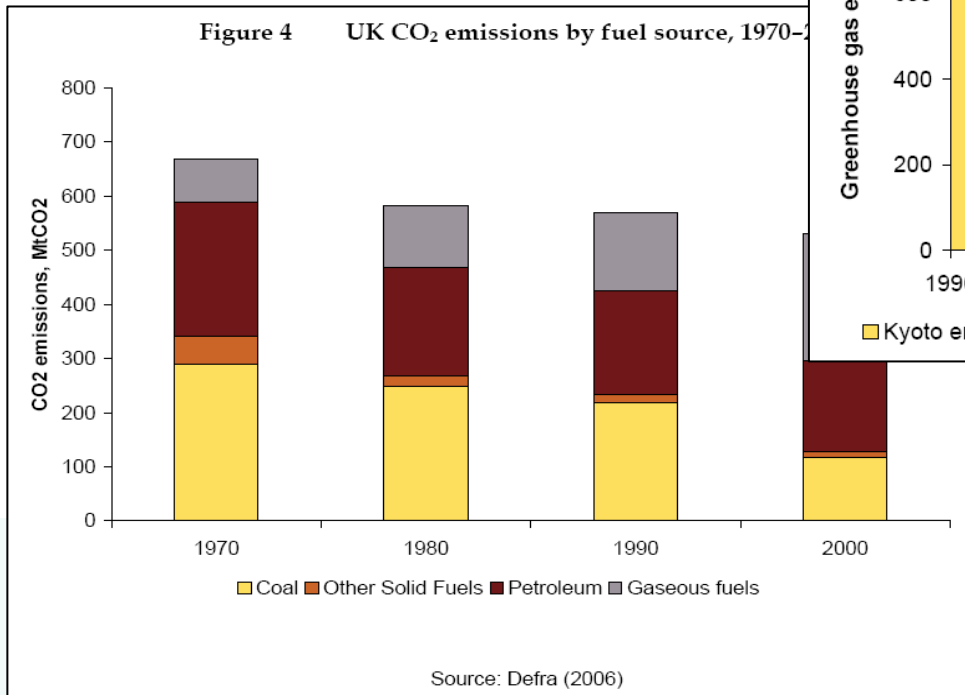
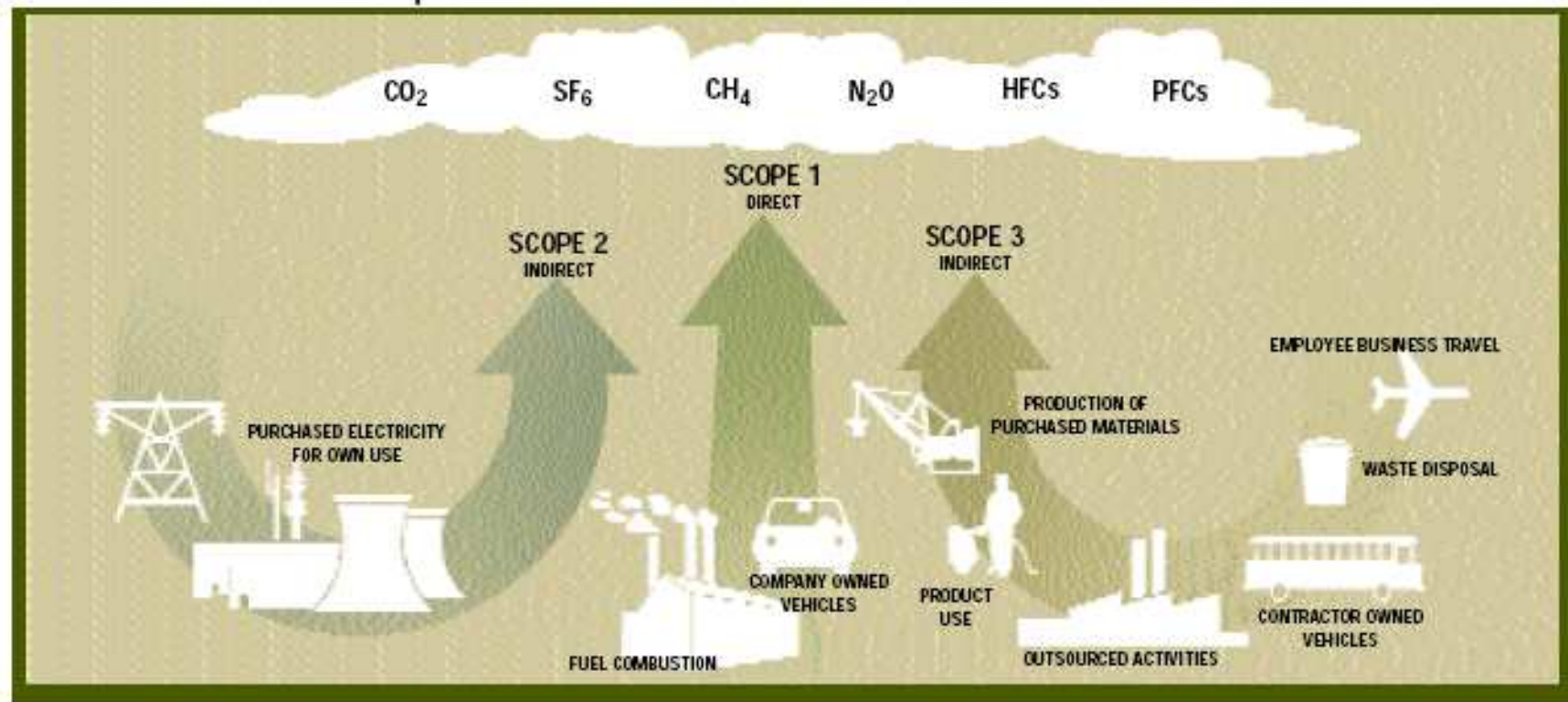


Figure 4 UK CO₂ emissions by fuel source, 1970-2000



Source: Helm et al 2007

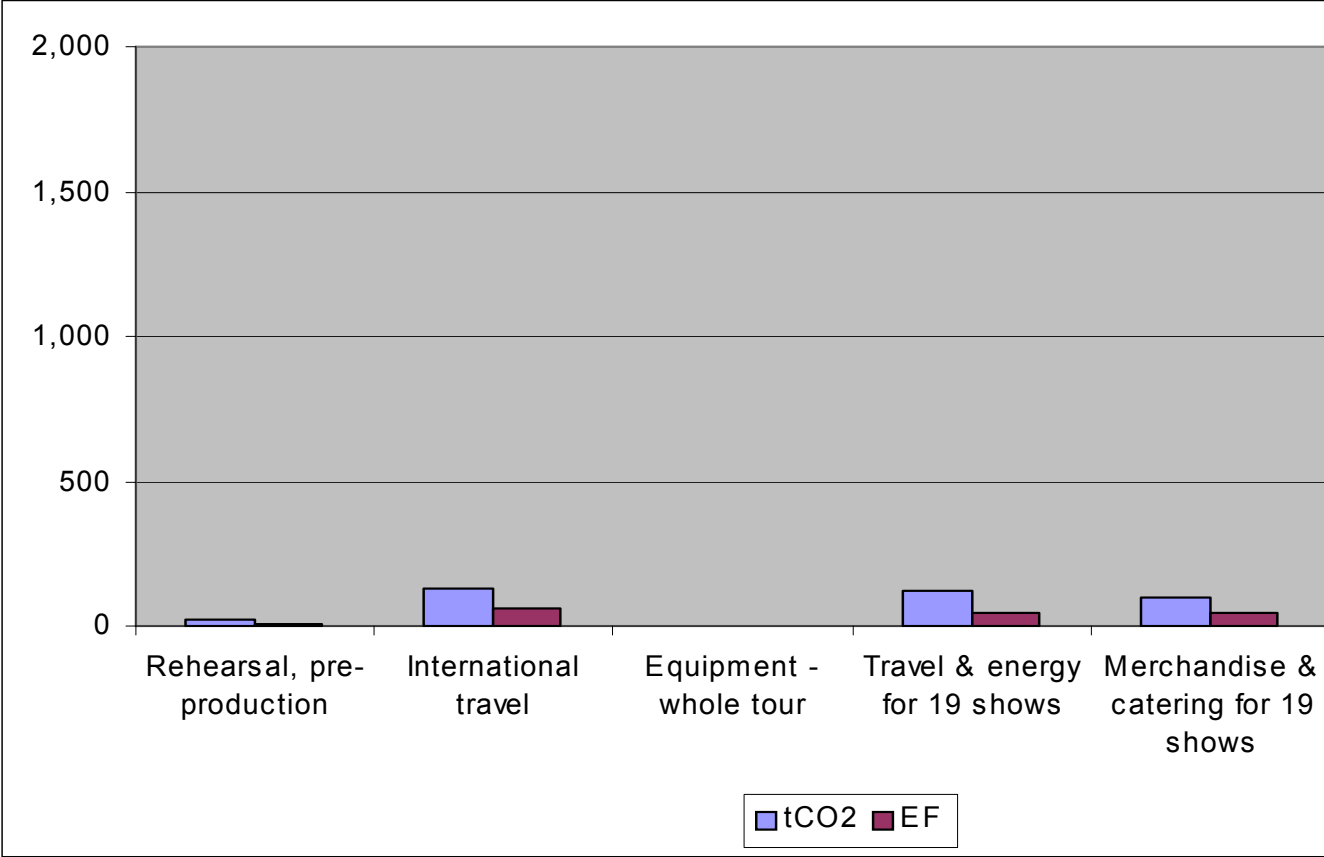
Scopes 1, 2 and 3



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Source: Greenhouse Gas Protocol

Radiohead's USA tour



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2 - Boundaries

- Crucial to study outputs that boundaries are appropriate
- Variability in boundary-setting for:
 - Organisations
 - Commuting
 - Embodied carbon of products & materials
 - Short life items
 - Assets
 - Contracted/off-site services
 - Products
 - Lifecycle approach...use phase?
- Fears of ‘double counting’



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3 - Footprint methodologies

Carbon

- Financial (input - output analysis)
- Physical resource use data
 - Primary
 - Secondary
- Inclusion of all GHGs

Ecological

- (Almost) identical input data
- Conversion factors include different land use
- Results more often than not correlated to carbon
- Particularly used for individuals and regions



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4 - Conversion factors

- Standard figures from Defra - fuel, utilities, transport
- Ongoing challenge of consistent factors used:
 - Tools:
 - Sima Pro
 - Gabi (plus database)
 - Databases
 - ecoinvent
 - Bath ICE
 - Academic papers
 - User studies



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4 - Conversion factors

- Conversion factors generated using non-standard methodologies and boundaries.
- Variability between footprint analyses from using different conversion factors
- Protectiveness by practitioners of data sources and factors
- Need:
 - Standard resource of conversion factors for practitioners
 - **MORE PRIMARY RESEARCH TO UNDERPIN FACTORS**



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5 - Standards, labelling & certification

- Footprinting has moved beyond indicative numbers
- Standards include ISO14064, GHG Reporting Protocol and (emerging) PAS 2050.
- Business community particularly expects standard approaches
- On-pack labels being promoted, and associated need for certification
- Application of ‘shadow price’ of carbon further necessitates robustness in assessments
- Steady move of footprinting from voluntary initiative to regulated process



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PAS 2050 commentary

- ‘Correct’ approach to consider embodied carbon
- Where do the controversies lie?
 - Practicalities
 - Cost of completion
 - If labelled, questions over relevance
 - Methodology
 - Allocation methods - co-products/co-services
 - Treatment of waste
 - Inclusion of use phase
 - Conversion factors used
 - Uncertainty and comparability

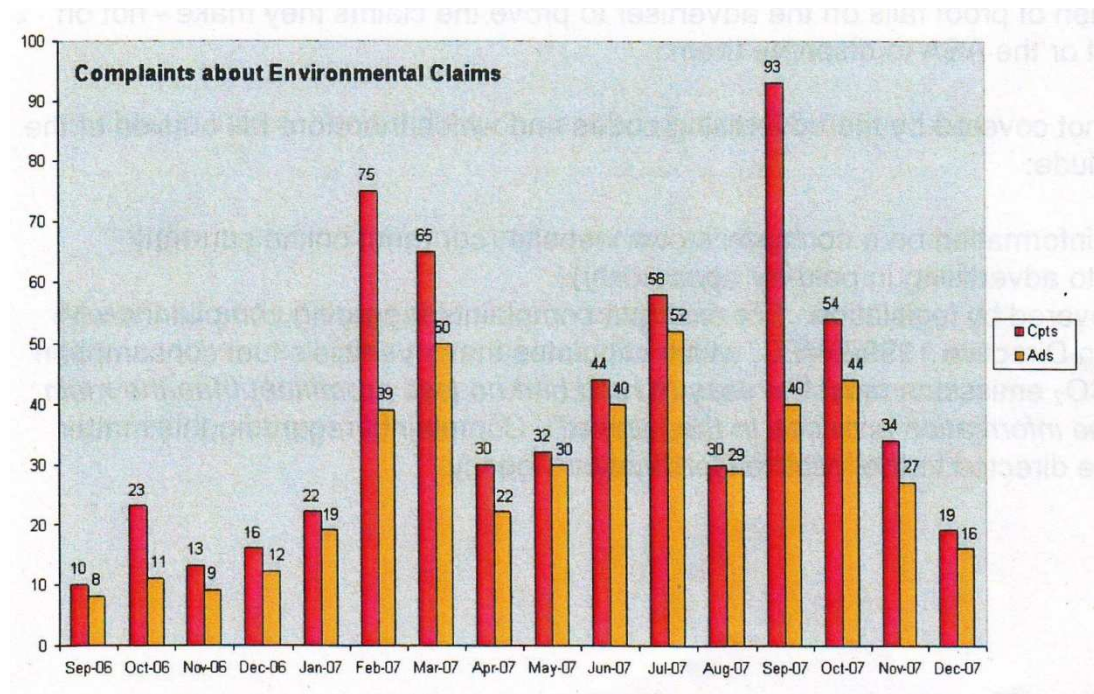


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6 - Communication - are green claims a grey area?

- Increasing numbers of complaints to ASA - 500% increase in 2007
- Four issues ASA is grappling with:
 1. Lifecycle boundaries
 2. Treatment of renewable energy
 3. “Zero carbon” and “carbon neutral”
 4. Promoting ‘best in class’ of inherently unsustainable products



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Source: ASA, 2008

6 - Communication & action

- Amongst practitioners we need to:
 - Increase report transparency
 - Explicitly list our assumptions
 - Reference conversion factors wherever possible
 - Recognise uncertainty in results
 - Share concerns on conversion factor quality
- Ensure footprinting is a tool to assist carbon reduction strategies, and not the end point in itself



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Embedding footprinting

- Steady evolution of footprinting approaches
- Likely move from footprint ‘services’ to ‘products’
- BFF working to this end, with development of Footprinter™ accounting system for:
 - Office
 - Furniture
 - Construction
 - ...and other sectors to come



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To finish...

- Footprinting is becoming more accurate and effective although each development raises new questions
- General move towards broader boundaries and complete GHG metrics
- Final PAS 2050 decisions likely to be fundamental to the footprinting industry
- Underlying data (and associated science) determines accuracy, uncertainty and ultimate value of results.
- Footprinting must be *one tool* for developing sustainability plans



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Contact

Simon Miller

simon@bestfootforward.com

www.bestfootforward.com

www.footprinter.com



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