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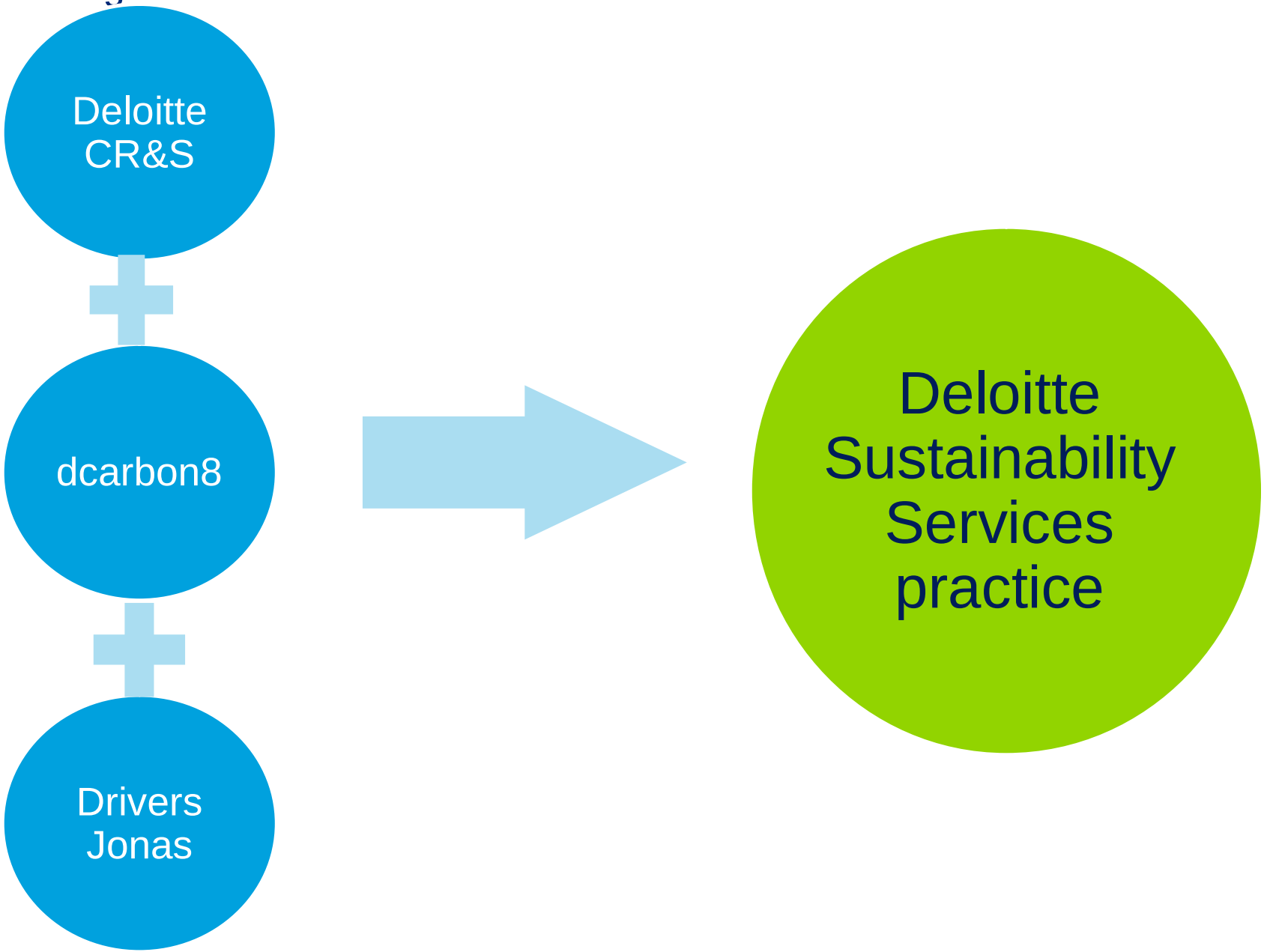
Professional Services for a Sustainable Future

Sustainability Services Group

25 November 2010

About Us

Deloitte's Sustainability Services combines 3 leaders in the field to create a single unique and integrated offer.



Deloitte's Sustainability Services

Responsible Business Services	Corporate Strategy Business Advisory Reporting and Assurance Communication and Branding
Climate Change and Carbon Management	Climate Risk & Adaptation Planning Carbon Accounting Carbon Footprinting & Reduction Services Carbon Labelling Carbon markets & offsets
Sustainable Property Services	Building Carbon Management Services Responsible Property Investment Sustainable Estates Sustainable Development and Design

Deloitte's Sustainability Services

Responsible Business Services

- Sustainability Strategy design and deployment
- Sustainability gap analysis and benchmarking
- Deloitte Sustainability Value Map TM
- Governance
- Innovation
- Behavioural change management
- Sustainability transaction support
- Sustainable supply chain management and procurement strategy
- Product lifecycle analysis
- Certification
- Health and safety advisory
- Water footprinting and labelling
- Waste management and cost optimisation

Climate Change and Carbon Management

- Governance and Strategy
- Legislation and Policy
- Carbon Risk map
- Low Carbon Cities and Regions
- Carbon Strategy design
- CRC strategy & compliance
- Carbon accounting, assurance and CRC services
- Business carbon footprinting
- Product carbon footprinting
- Carbon Management Scheme
- Strategic Design Advice
- Carbon Labelling (PAS 2050)
- Carbon markets and offset strategy
- Climate Adaptation Planning

Sustainable Property Services

- Carbon footprinting
- Renewables Analysis
- Energy and Carbon Reduction Strategies
- Portfolio benchmarking and assessment
- Acquisition appraisals
- Green leases
- Building carbon management services
- Sustainable Estate Strategy
- Option Appraisal and Business case
- Development and masterplanning advice
- Planning strategy and support
- Strategic design advice
- Rating and certification (BREEAM etc)

Cross service line collaboration

How does it all fit together?

The Market Opportunity

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Opportunity in the green economy

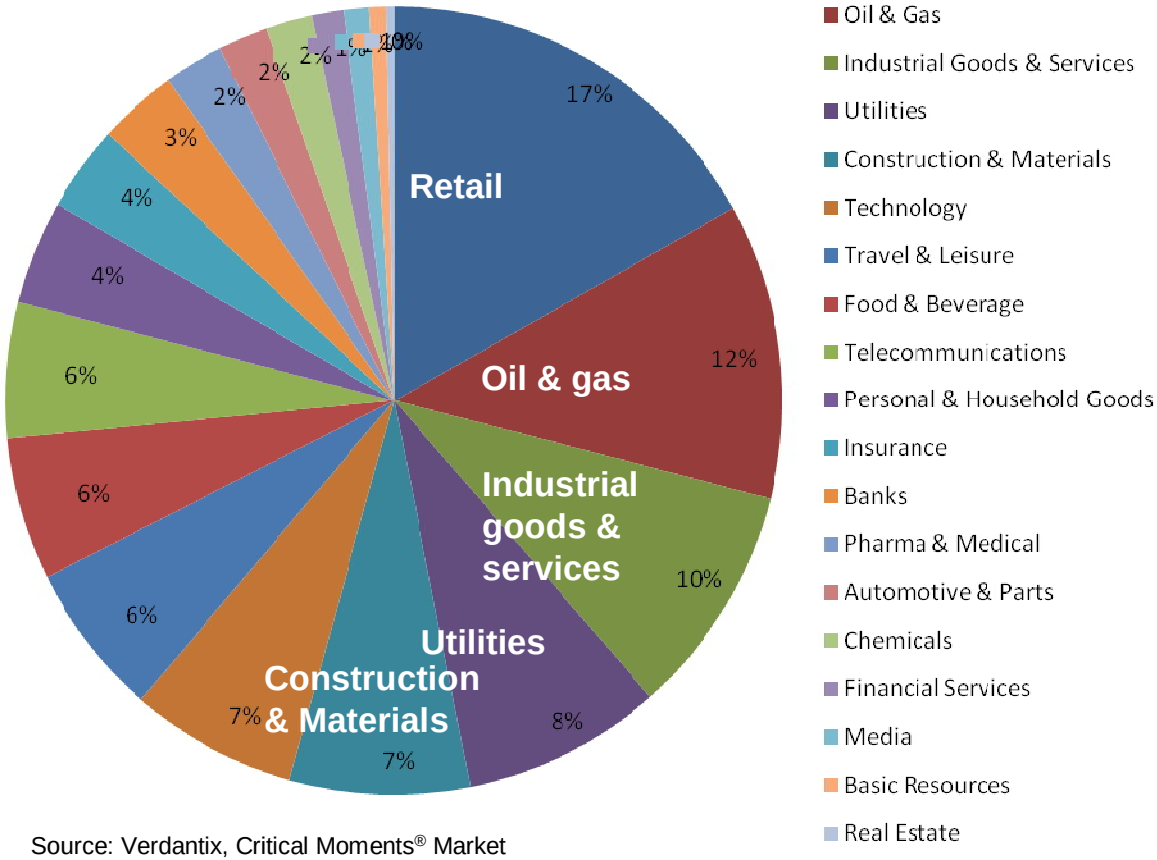
Climate change and sustainability spend by industry - UK

2009
$4.9 billion

14% CAGR

2013
$8.4 billion

Forecast breakdown of spend by industry (2013)



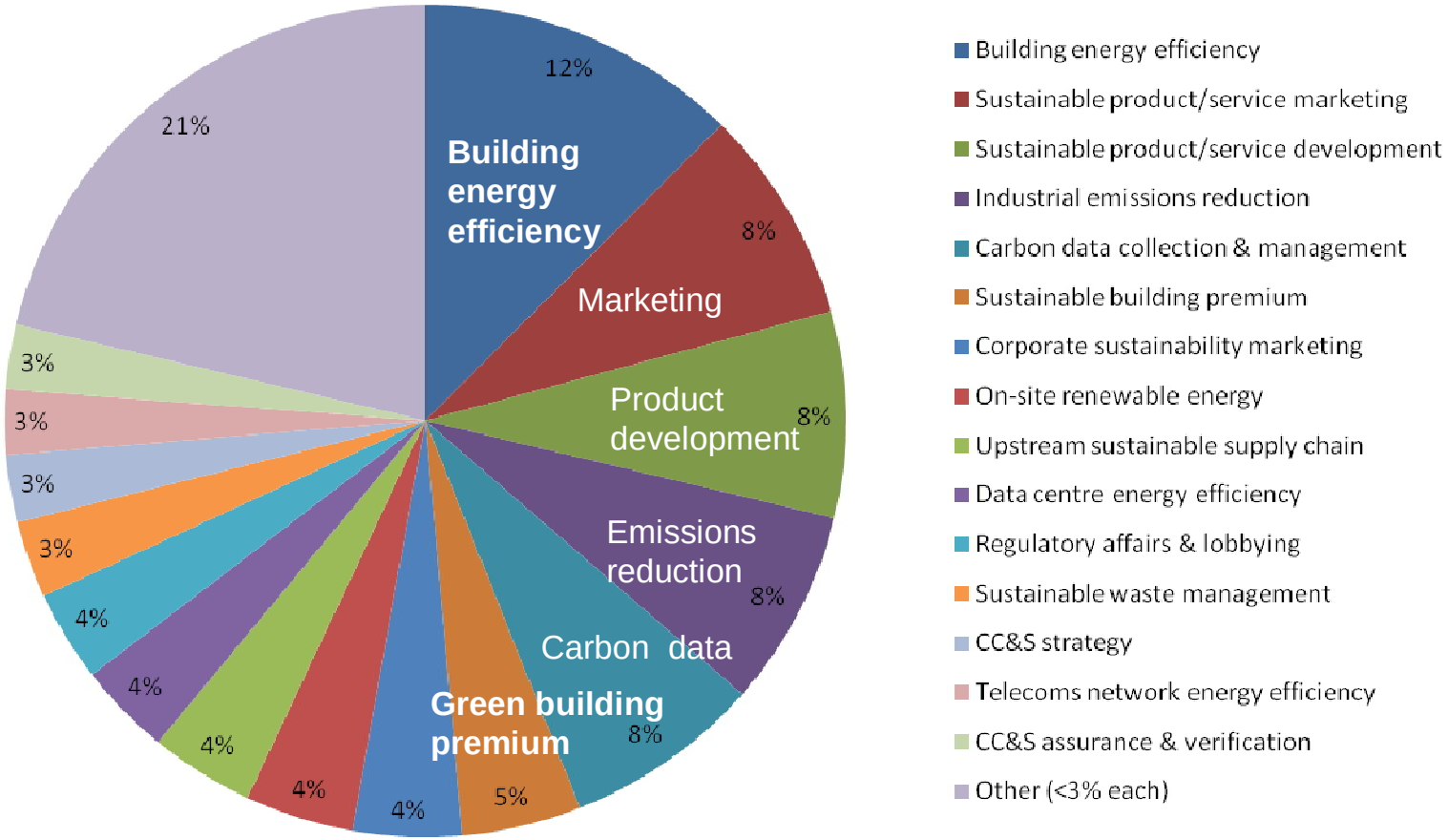
Source: Verdantix, Critical Moments® Market Forecast for Climate Change & Sustainability Spending (2010)

- 2009 -2013 CAGR by industry ranges from 11% to 17%
- 16 -17% CAGR
- Analysis excludes:
  - large-scale renewables
  - financial carbon trading

Opportunity in the green economy

Some of the largest opportunities reside within the property sector

Forecast breakdown of spend by initiative (2013)



Source: Verdantix, Critical Moments® Market Forecast for Climate Change & Sustainability Spending (2010)

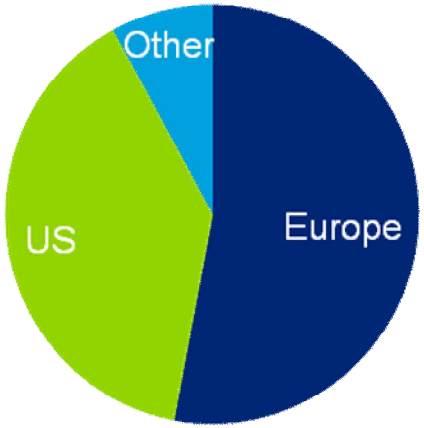
Opportunity in the green economy

Responsible investing

Responsible Investing Overview

- Responsible Investing (mainstream) vs Socially Responsible Investment (niche)

Global SRI - €5 trillion (2008)



UK Responsible Investment - £764 billion (2007)

- Europe - SRI assets under management c. 18% of asset investment
- UK world centre for sustainable and responsible finance and home to:
  - The Carbon Disclosure Project
  - Institutional Investors Group on Climate Change
  - UN Principles for Responsible Investment secretariat

Sources: Eurosif, European SRI Study 2008; Annual Report of the PRI Initiative 2009; www.unpri.org.

UN PRI

- UN Principles for Responsible Investment ("PRI")
  - Designed to be compatible with the investment styles of large, and often diversified, institutional investors that operate within a traditional fiduciary framework.
  - Apply across the whole investment business and are not designed to be relevant only to SRI products.
  - Principles point to a number of approaches, such as active ownership and the integration of ESG issues into investment analysis, that SRI and many corporate governance fund managers also practise.
- 812 signatories representing US$18 trillion of assets

CO_2 levels 'hit 30m year high'

BY AIDAN RADNEDGE

GREENHOUSE gases have reached their highest levels for millions of years, leaving Earth on the brink of ecological disaster.

Carbon dioxide levels in the atmosphere rose last year at one of the fastest rates ever recorded, new figures showed yesterday.

They climbed to 381 parts per million – 100ppm above the average in the pre-industrial age. The figure is close to what scientists say is the critical level of 400ppm, when the situation could become irreversible with the world heating up dangerously.

Campaigners said urgent action was needed and the Kyoto protocol to cut emissions was failing.

The new figures were produced by the United States National Oceanic and Atmospheric Administration, which warned that carbon dioxide levels were rising at twice the rate of 30 years ago.

When it began monitoring from its observatory in Hawaii in 1958, the figure stood at 315ppm. Last year, the increase was 2.6ppm, up more than 0.5 per cent in just 12 months.

Prof Sir David King, the Government's chief scientific adviser, said: 'That's higher than we've been for over 1million years, possibly 30million years. Mankind is changing the climate.'

Friends Of The Earth director Tony Juniper accused governments of 'lacking ambition' to tackle the problem. He added: 'Once CO_2 levels cross a certain threshold, climate change may become unstoppable and lead to catastrophic impacts on the environment and on the economy.'

Britain aims to cut emissions by 20 per cent by 2010, managing 7.5 per cent so far. The Department for Environment, Food and Rural Affairs said Britain contributed two per cent of global emissions.

Brands are responding

Sainsbury' sibility Policy

25% reducti er square metre by 2012

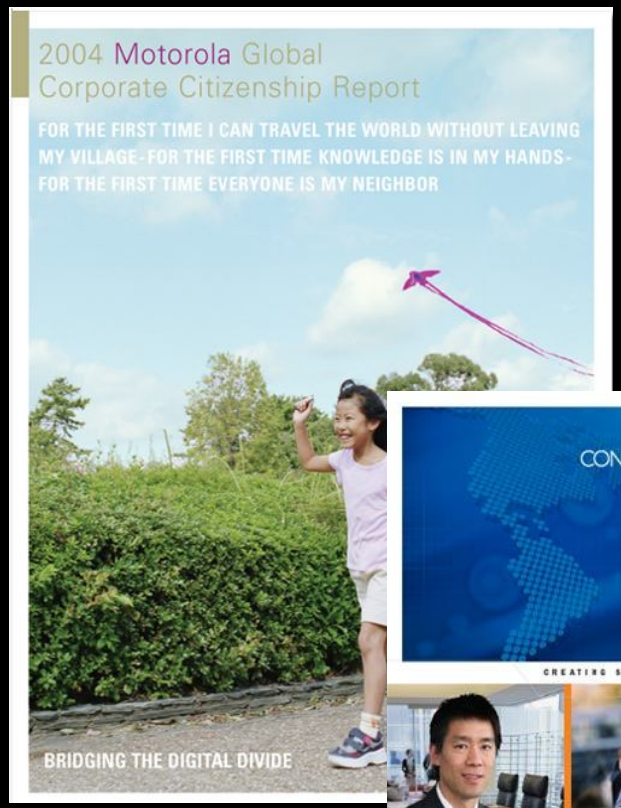
or lower depending on your calorie needs.	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

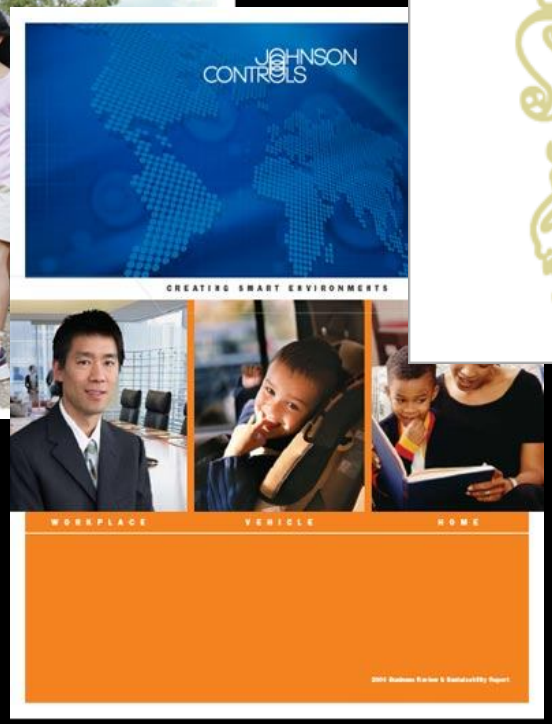
ll become the first supermarket chain to assign a rating" to everything it sells in the latest attempt by a retailer to cash in on consumers' concerns about the environment.

And Even…..

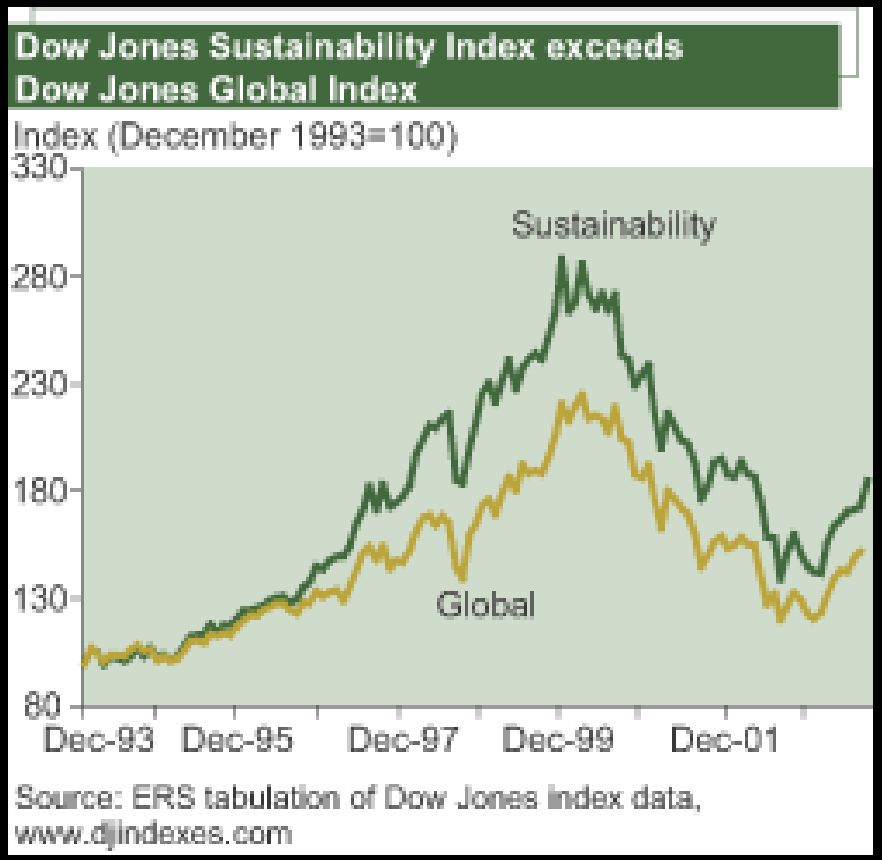
NIKETOWN
POLICE
POLICE

Sustainability Reporting





Companies see value in sustainability…



" The perception of company's environmental performance by shareholders and the general public has a significant effect on image, reputation, goodwill, bottom line and market share"

The Dow Jones Sustainability Index, 1999

= INCREASED VALUE

Life Cycle Analysis

Ziga – My Low Carbon Baby

Ziga - My Low Carbon Baby - Which Nappies Shall I Use?

Ziga - My Low Carbon Baby

And so I have spent the week looking at which nappies to use and trying to source as much information as possible to try and justify any ongoing decision I would take about whether to keep on using disposable or to switch to reusable cotton nappies.

Working with one of our PPAc's, **dcarbon8,** we got a lot of information from the Environment Agency as well as a really useful site **'the green parent' magazine**.

It seems that we stumbled on a bit of an argument here with conflicting data from the Environment Agency and Woman's Environmental Network. Both have carried out detailed studies looking at the carbon associated with making the nappy as well as washing and disposal.

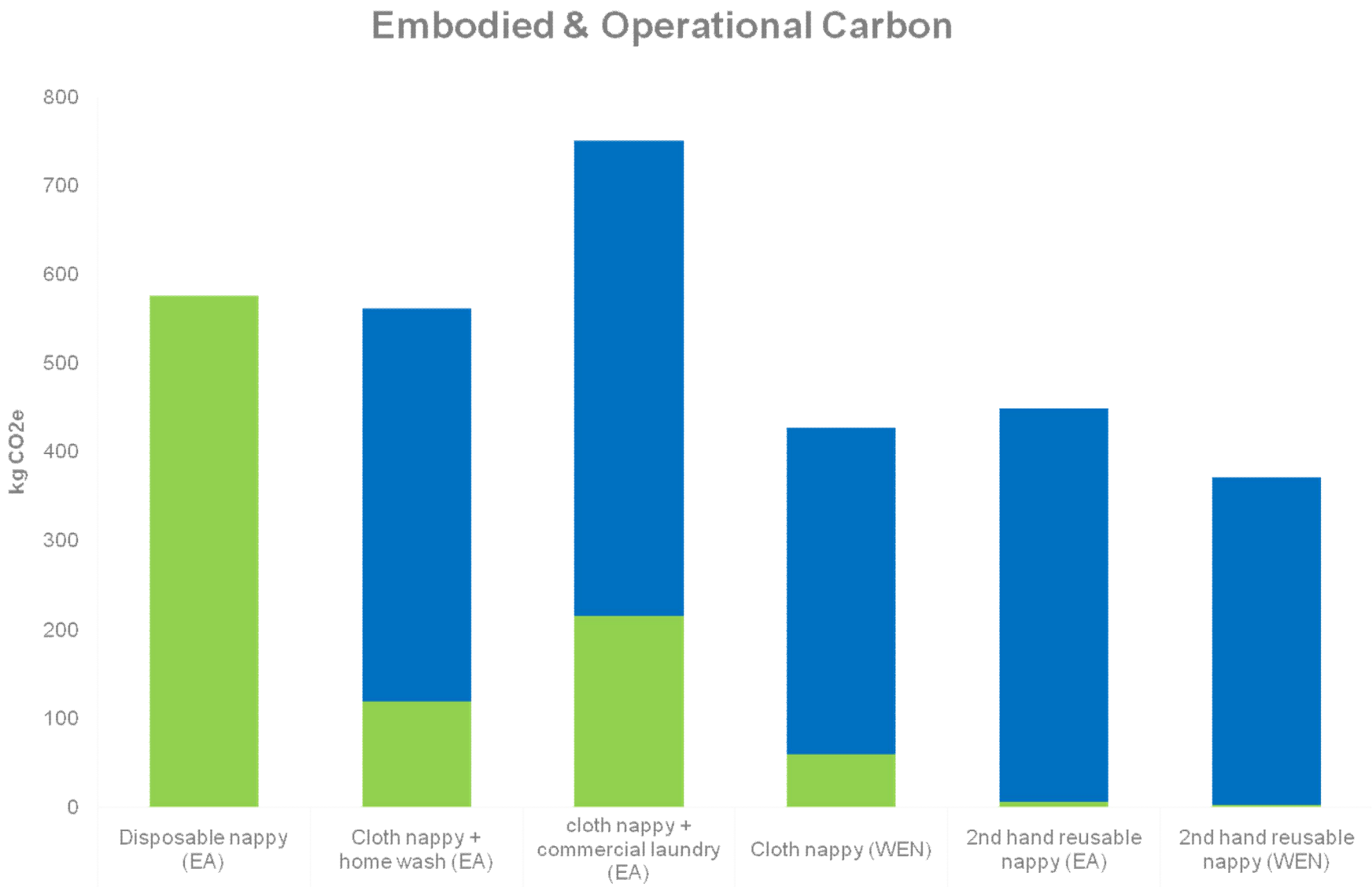
On top of this, I also need to persuade my partner that the extra washing and hassle of washing nappies is worth it!

The two key studies that we have looked at include;

- EA Study (pdf download) - **'Life Cycle Assessment of Disposable and Reusable Nappies in the UK'**
- **Women's Environmental Network**

Search blog:

Nappy Comparison



	Disposable nappy (EA)	Cloth nappy + home wash (EA)	cloth nappy + commercial laundry (EA)	Cloth nappy (WEN)	2nd hand reusable nappy (EA)	2nd hand reusable nappy (WEN)
Operational	0	443	536	367.69	443	367.69
Embodied	575.92	118	215	59	6	3

Life Cycle Carbon

Case Study - Knowaste

Knowaste Process:

- 2-stream recycling system proposed for recycling absorbent hygiene products (AHP)
- AHP consist of : disposable baby nappies, incontinence products, disposable bed liners and feminine hygiene products
- driven by three markets: the parents and babies market, adult incontinence market and the feminine hygiene market.

Life Cycle Carbon

Business as Usual Scenario

– Landfill

– Incineration

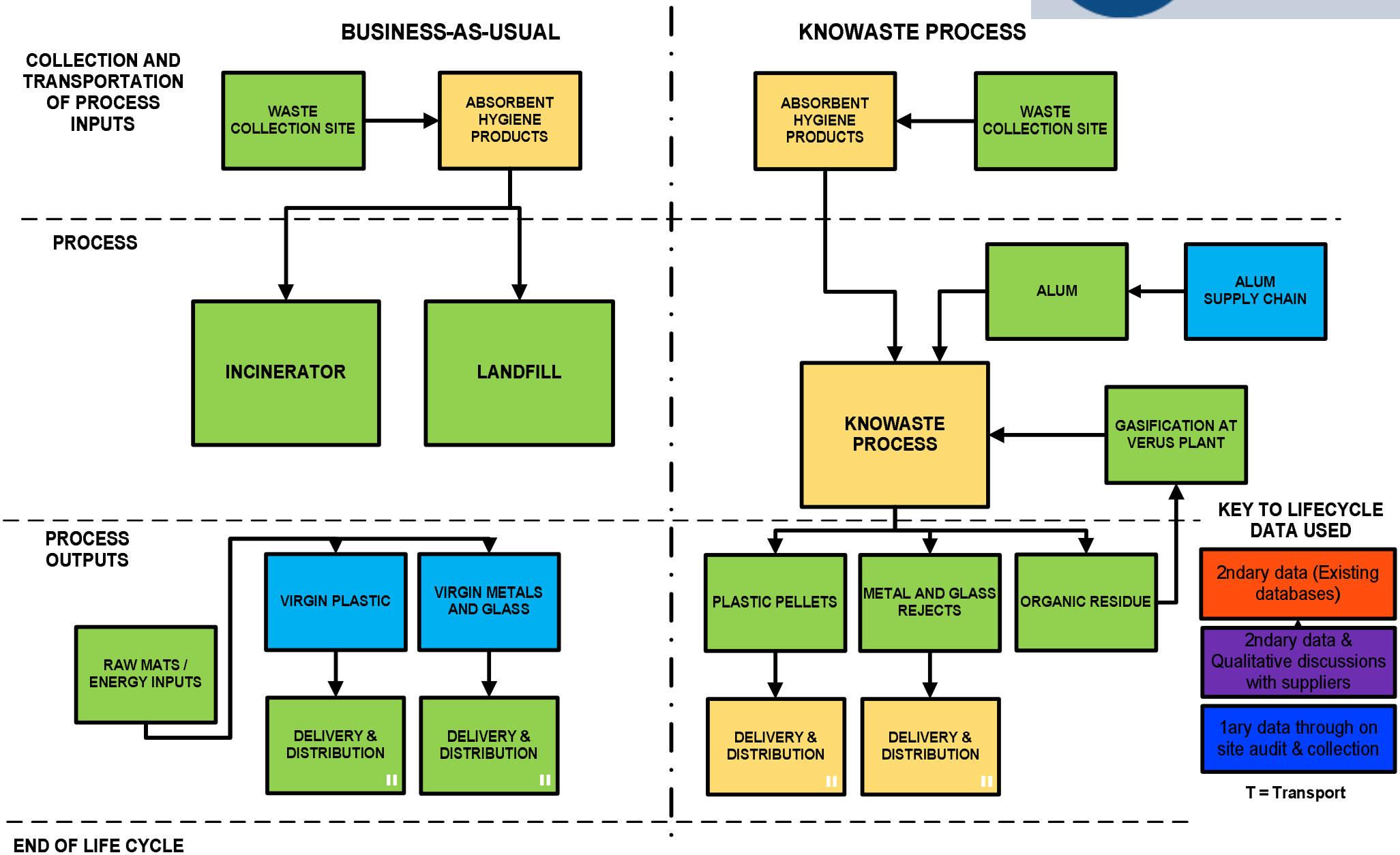
Knowaste Scenario

Treatment of waste by:

- 2 stream Knowaste process

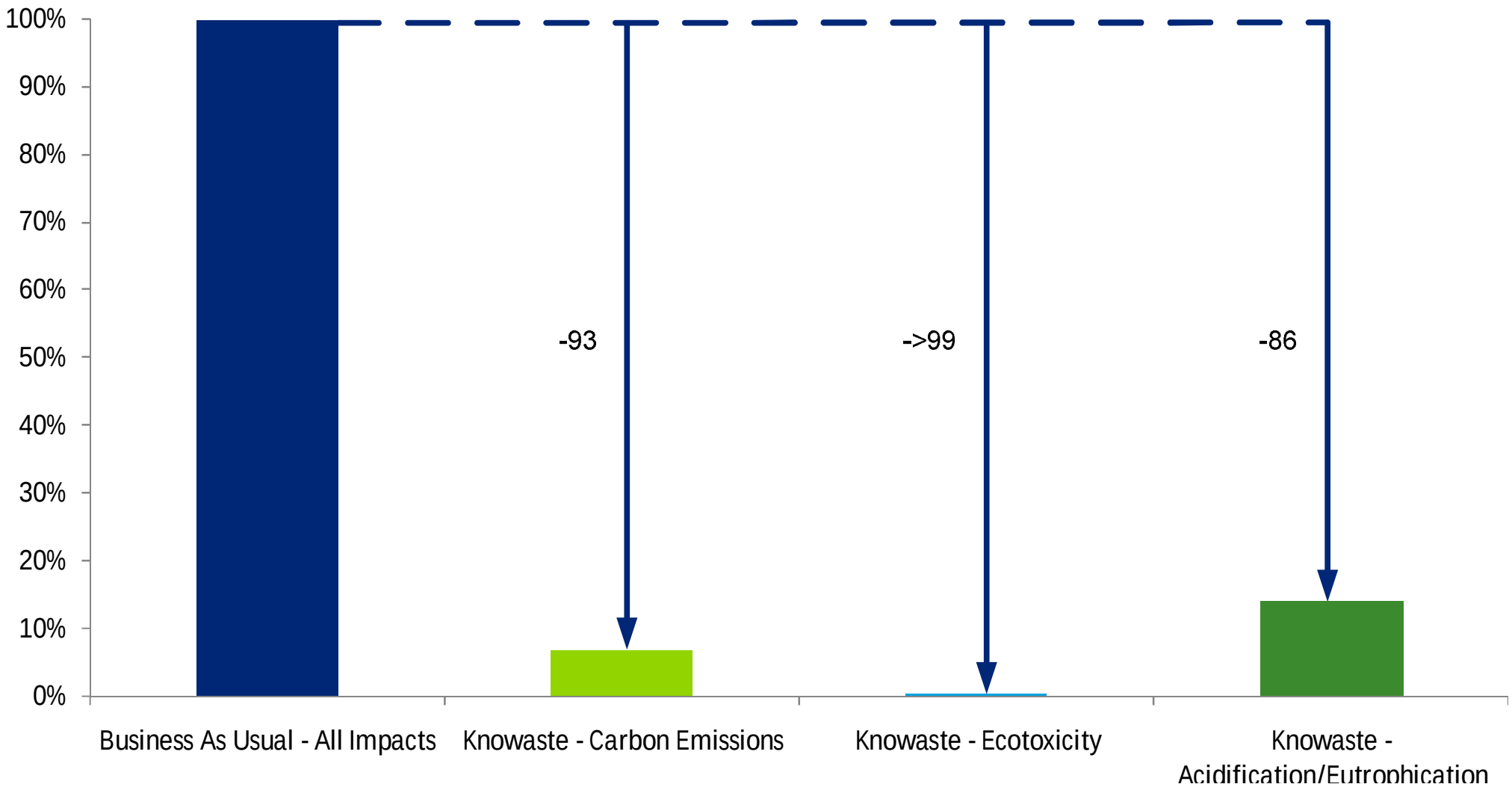
- Subsequent outputs of plastic pellets, organic residue and inert rejects

Life Cycle Stages – Boundary of the System

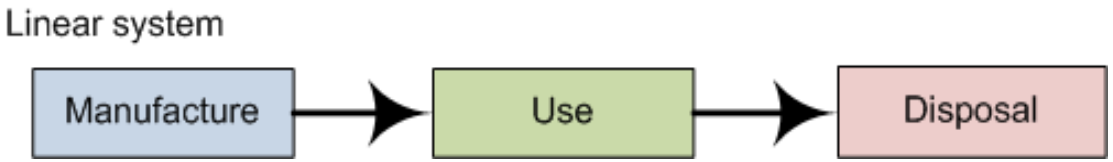


Life Cycle Carbon

Results

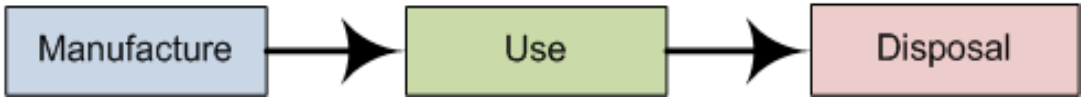


Manufacturing Systems

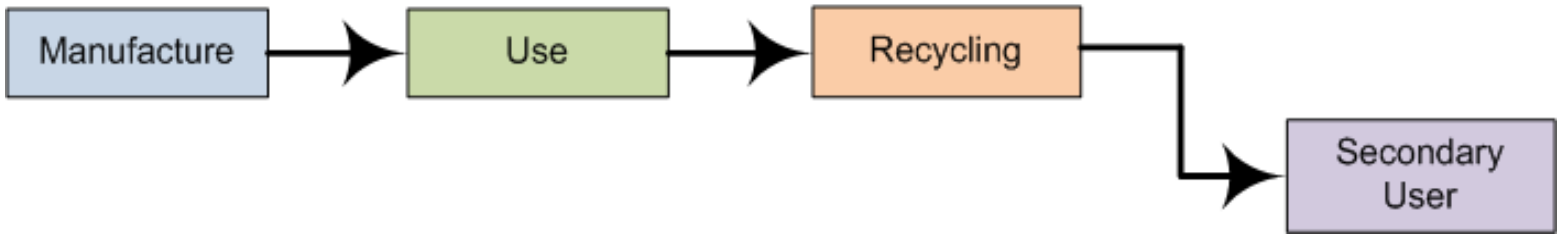


Manufacturing Systems

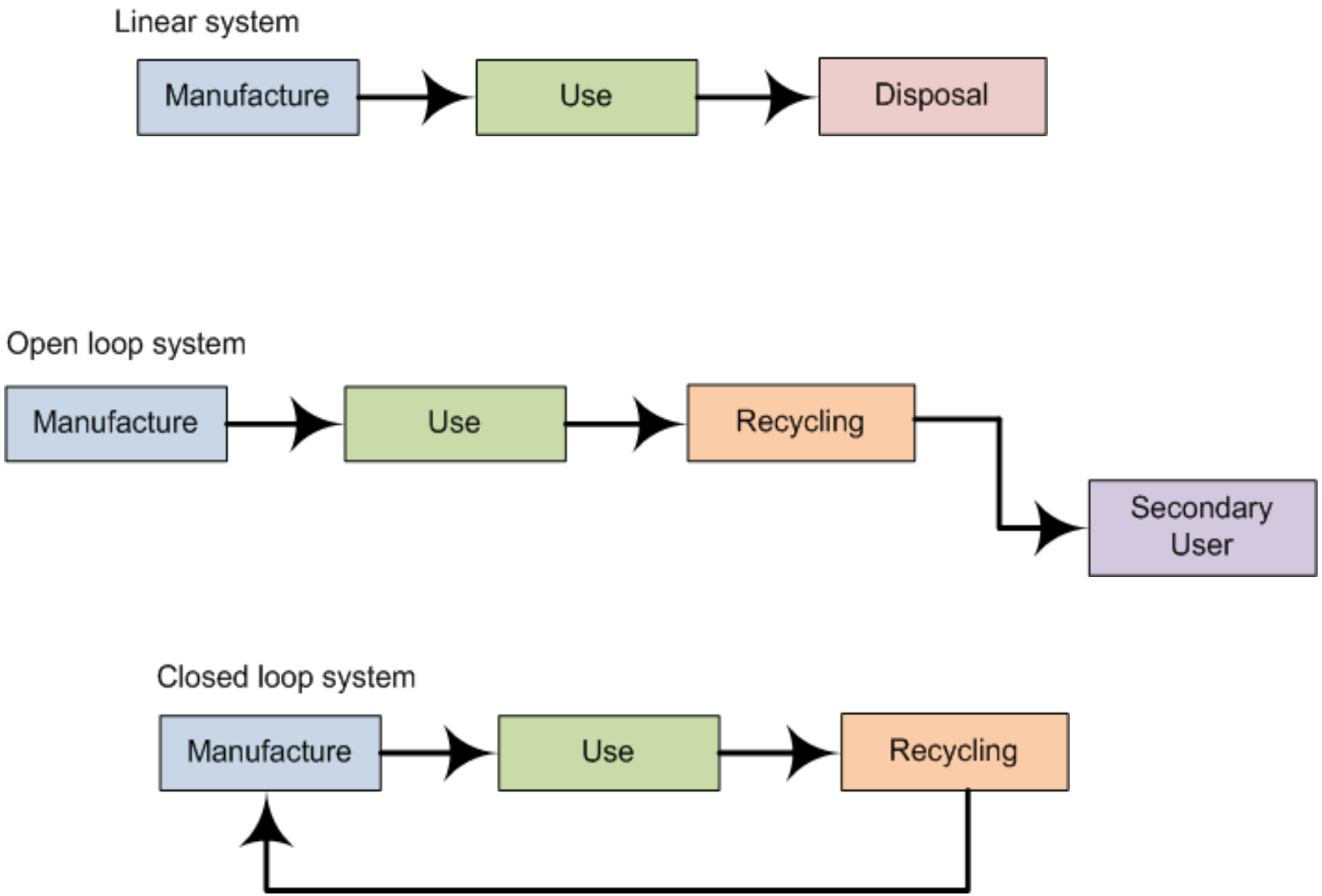
Linear system



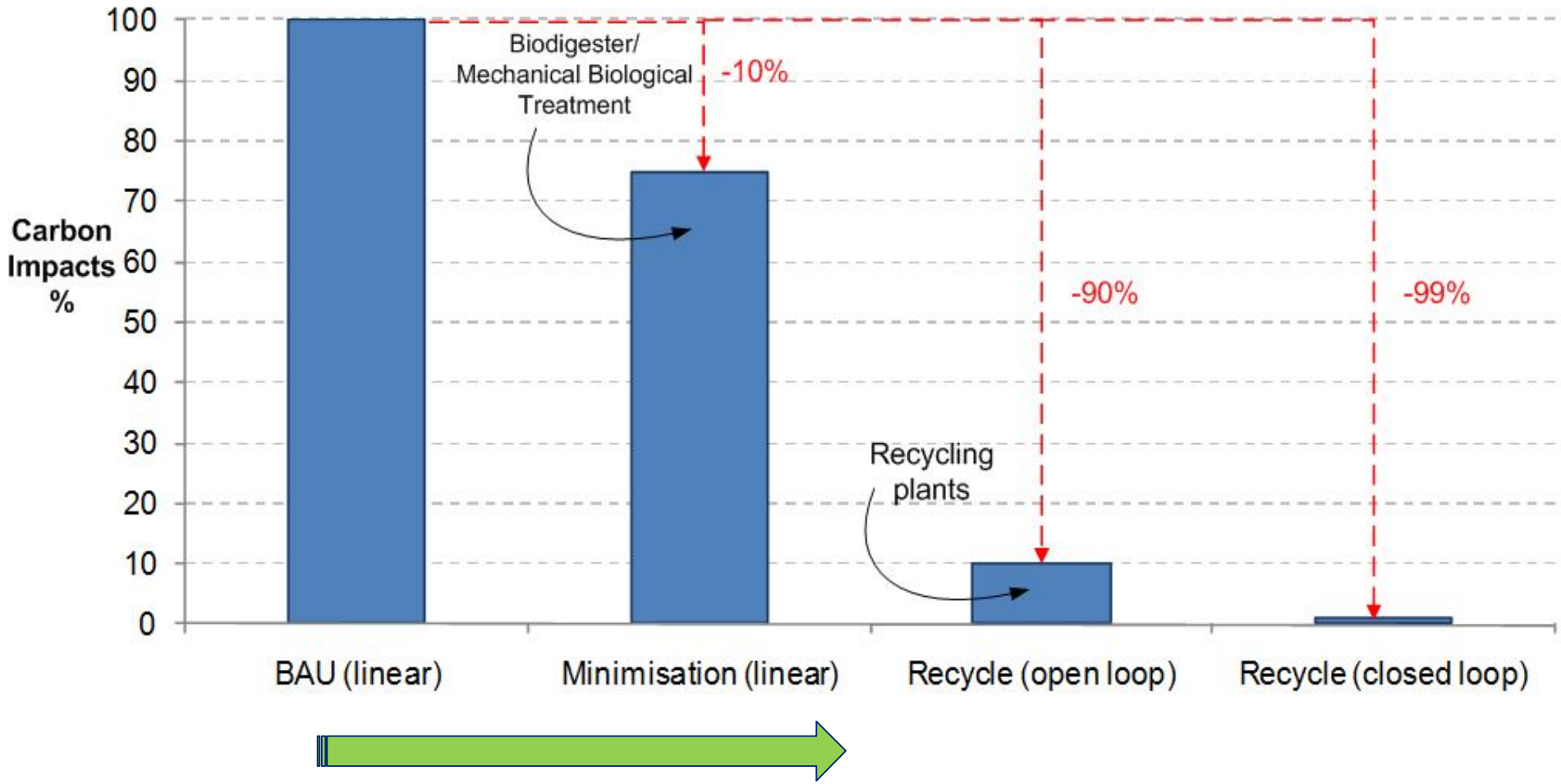
Open loop system



Manufacturing Systems



Waste Treatment Processes – Step Changes



Sustainable Property Consultancy

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dcarbon8

The Porter School of Environmental Science

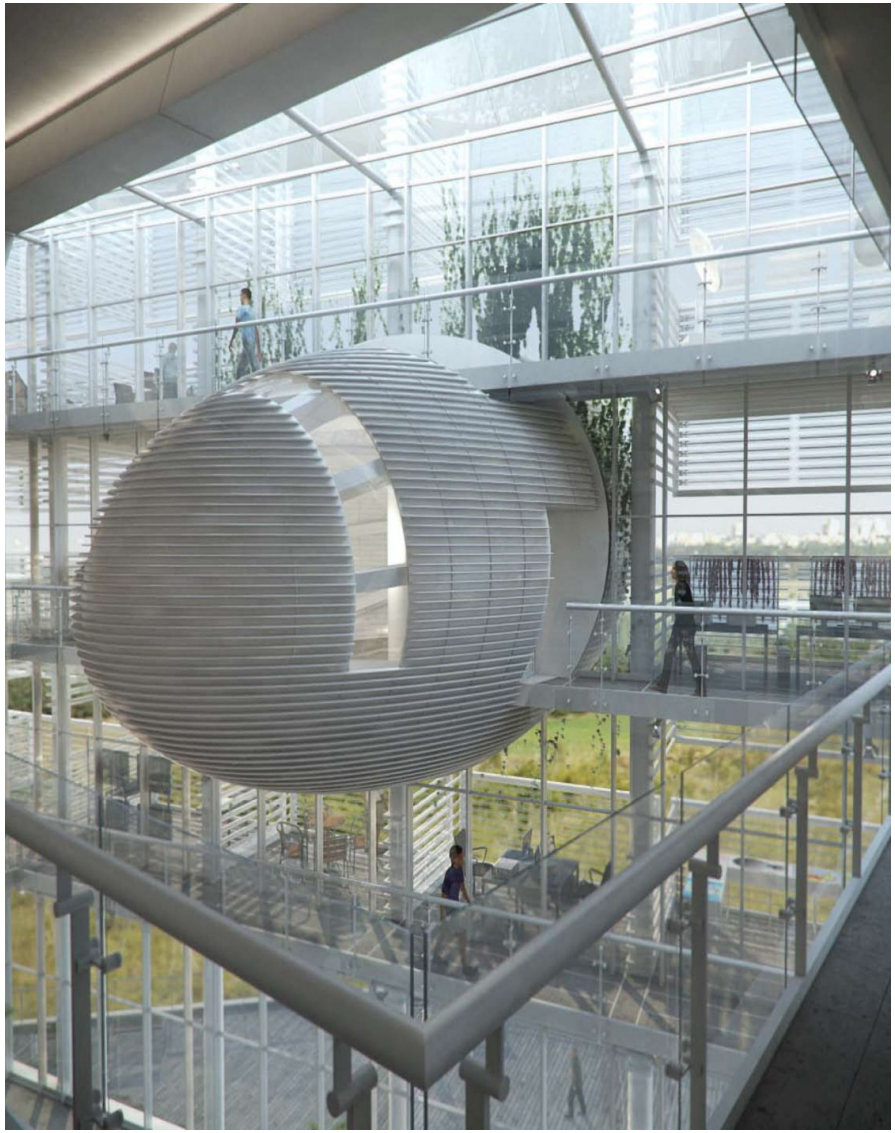
Demonstration Green Building

The building is designed as a demonstration green building for both TAU and Israel.

– Links to business

– Student understanding, learning and inspiration

– Demonstrates TAU commitment



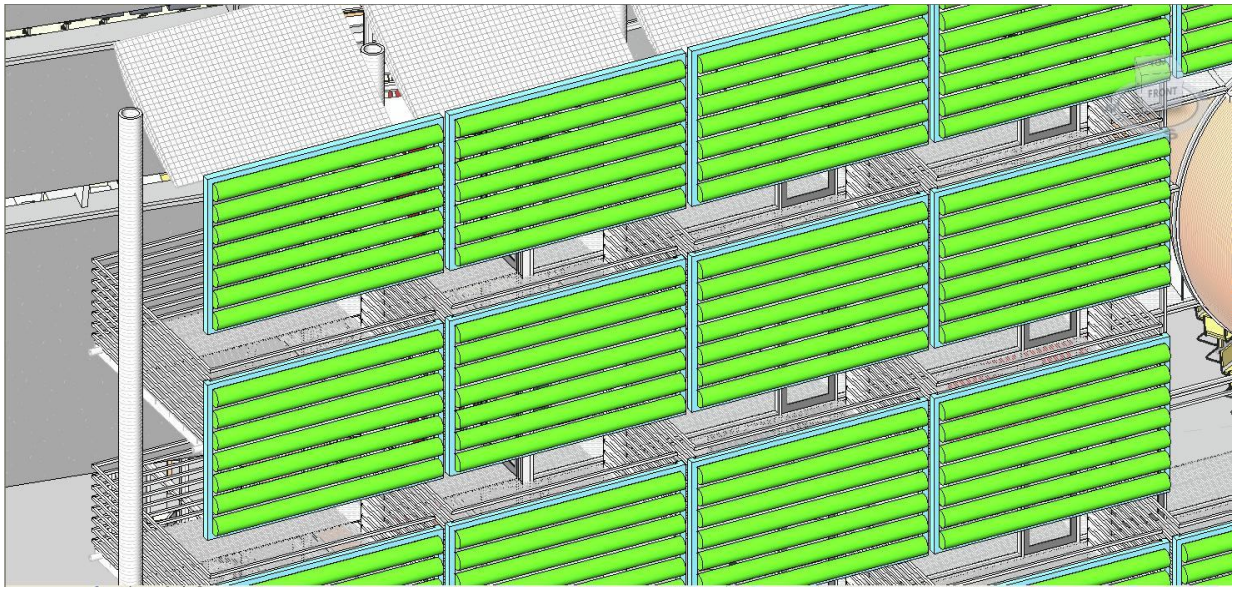
Key Attributes

- Towards zero carbon including solar powered cooling and solar electricity
- High efficiency HVAC systems including chilled beams
- Wind driven natural ventilation
- Integrated daylighting and electric lighting strategy
- Energy optimization
- On-site grey water treatment
- Eco-Wall
- LEED Platinum

The Eco Wall

The Eco-Wall becomes an active component of the building.

- Active learning
- Ability to lease spaces
- Links with business
- Integrated solar thermal cooling



Sainsbury's Case Study

Sainsbury's

Sainsbury's Dartmouth Eco-store

- Assessed the life cycle carbon impact of construction of the Dartmouth store.
- Compared this to a benchmark 'standard' store in Oakley
- Compare differences in design and contribution to total carbon impact
- Recommendation of strategic design alterations and use of alternative materials

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Sainsbury's Case Study

Sainsbury's

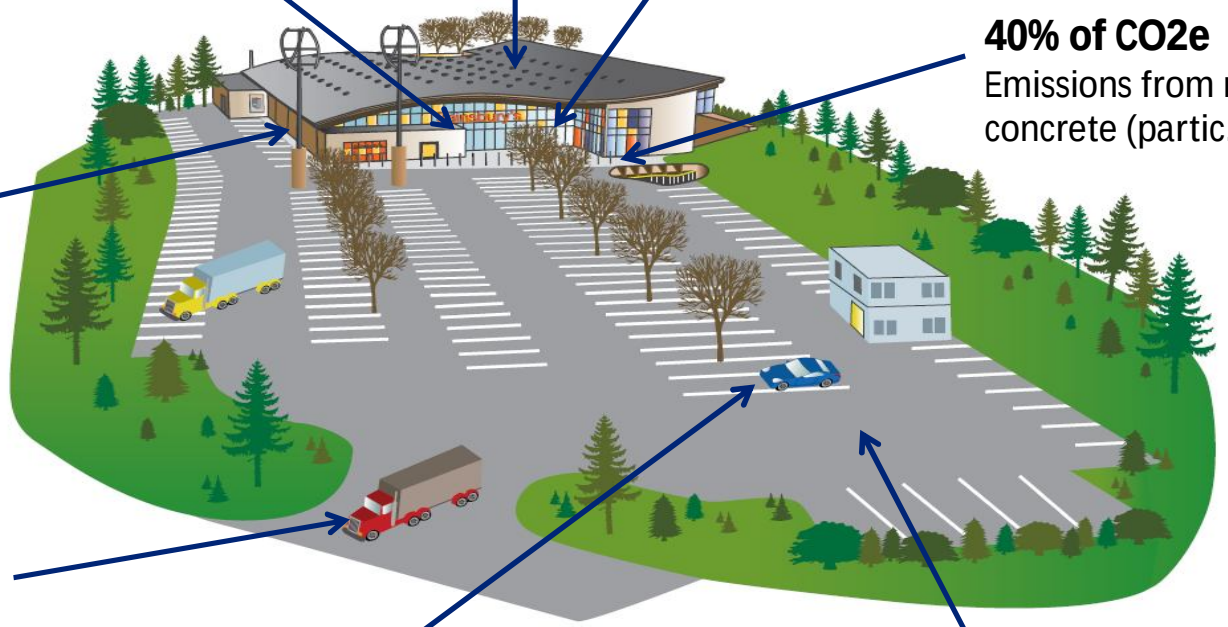
Internal Fit-out
26% of CO2e
Assessment carried out into sustainability of fit-out materials

Roofing/Cladding
4% of CO2e
BRE A rated insulated panels

Timber Frame
5% of CO2e
Timber in preference to steel

Foundations
40% of CO2e
Emissions from manufacturing concrete (partic. cement)

Concrete Slab
7% of CO2e
Emissions from manufacturing concrete (partic. cement)



Vehicle Movements
4% of CO2e
Excavated material disposed of locally

Contractor Staff Travel
4% of CO2e

Onsite Fuel
6% of CO2e
Monthly contractor fuel

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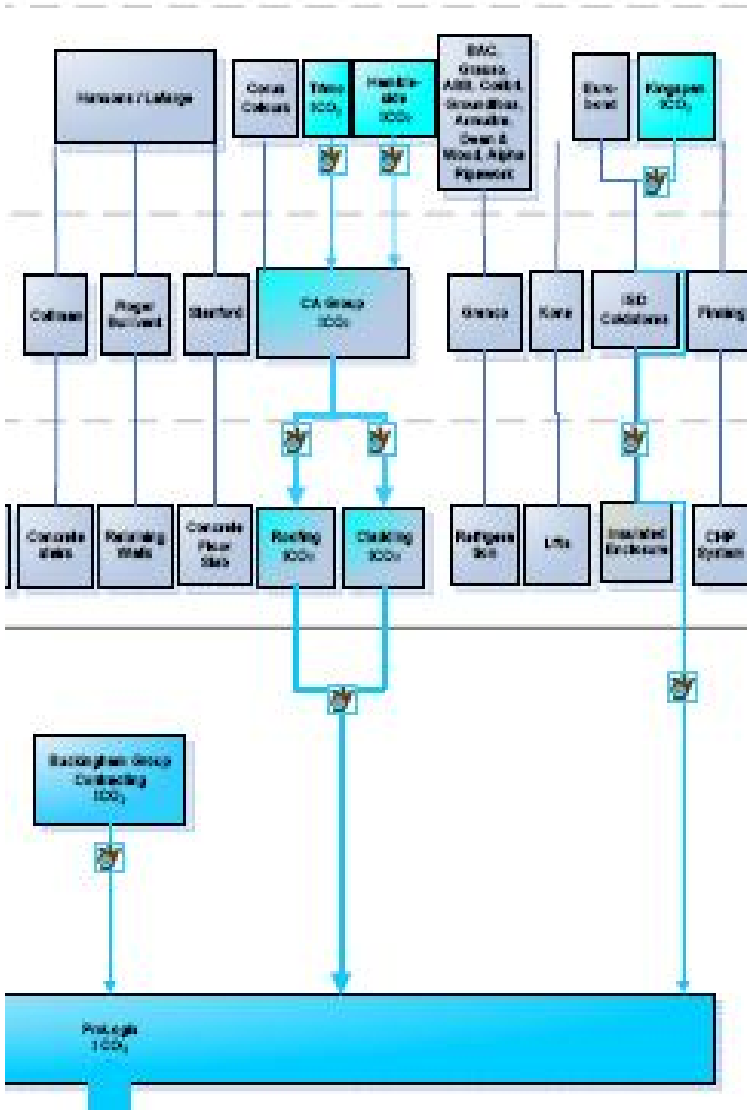
A Planet Positive Development

Sainsbury's



Planet Positive™

Building Carbon Management (Lifecycle Analysis)

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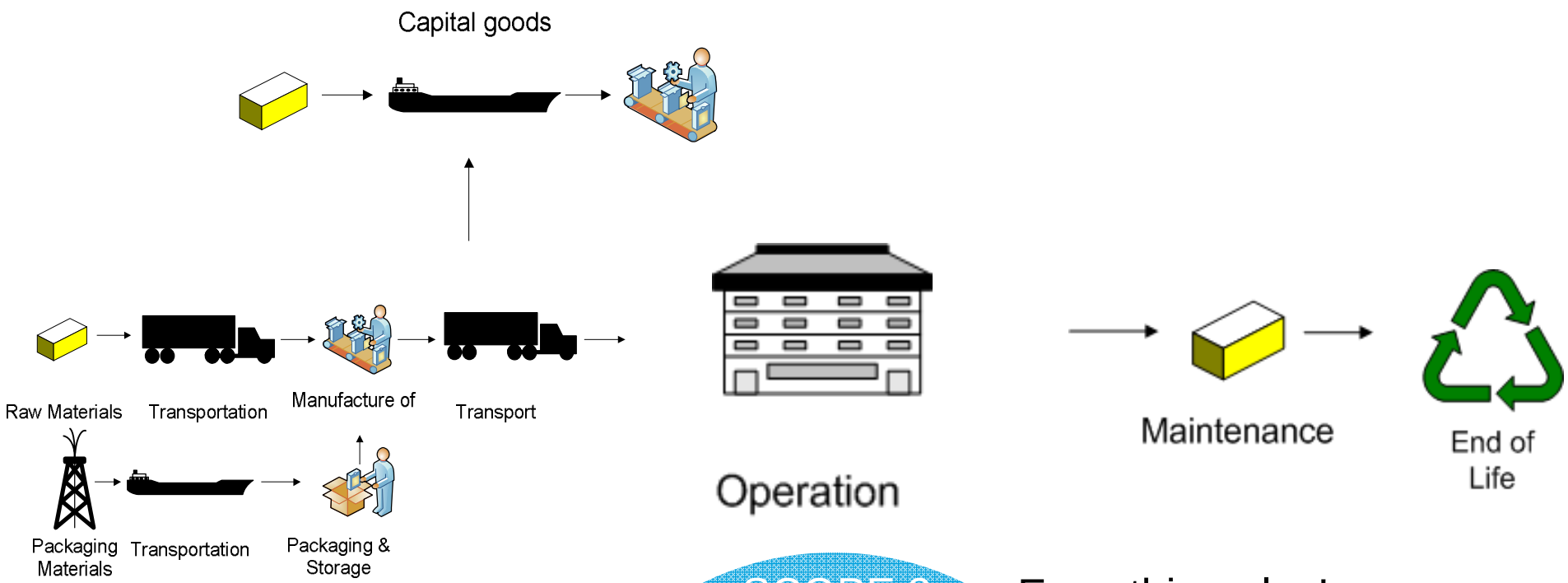
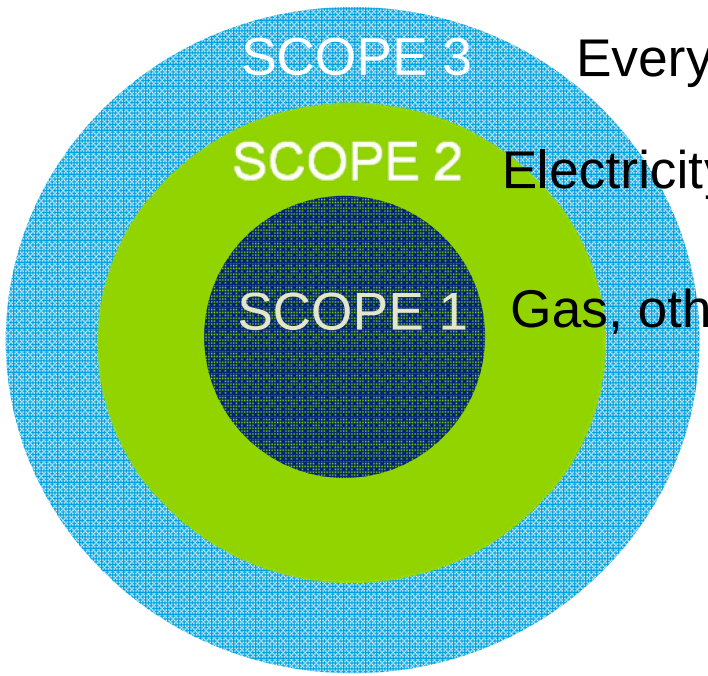
How do you look at a building?



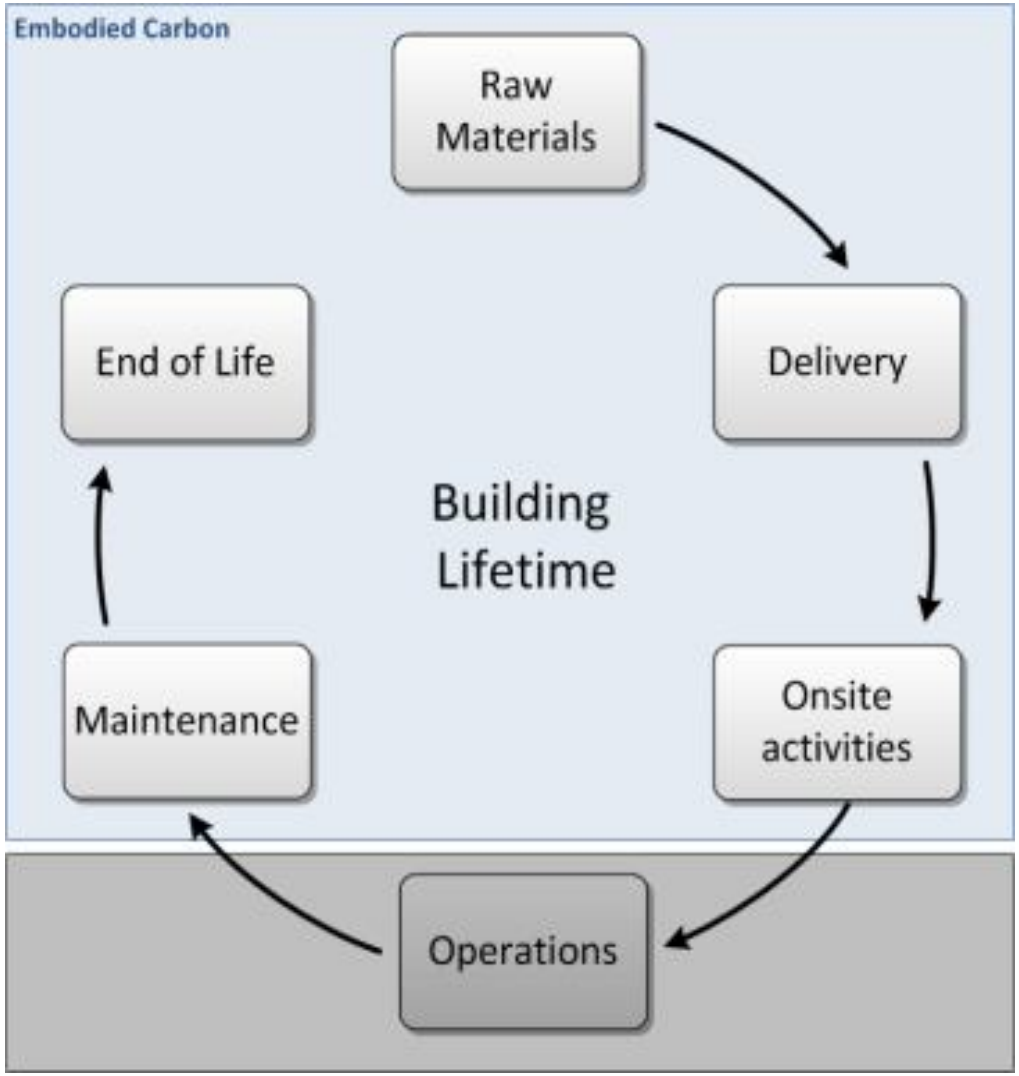


Everything else!

Electricity, steam

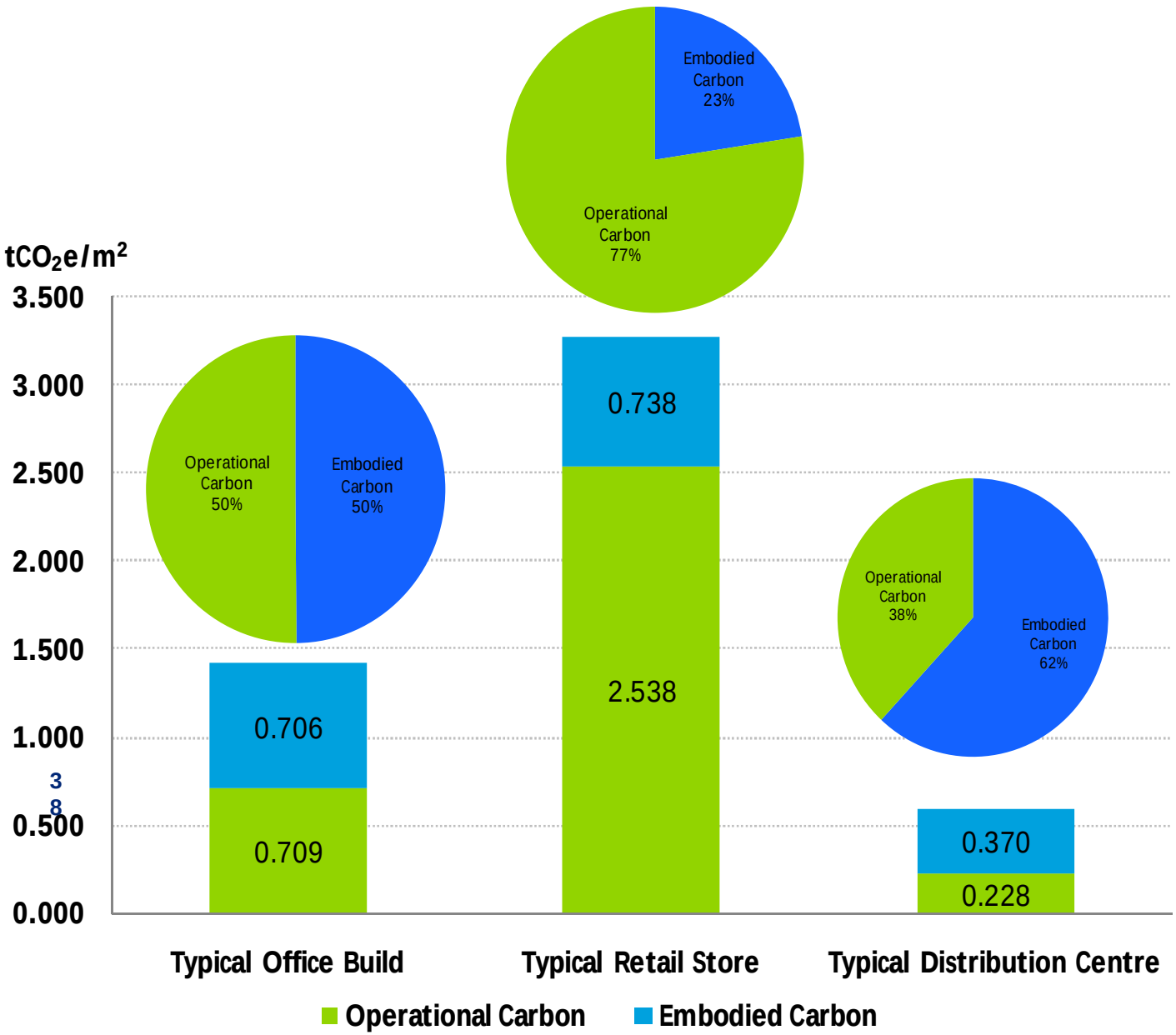
Gas, other fuels

The Building Life Cycle Stages

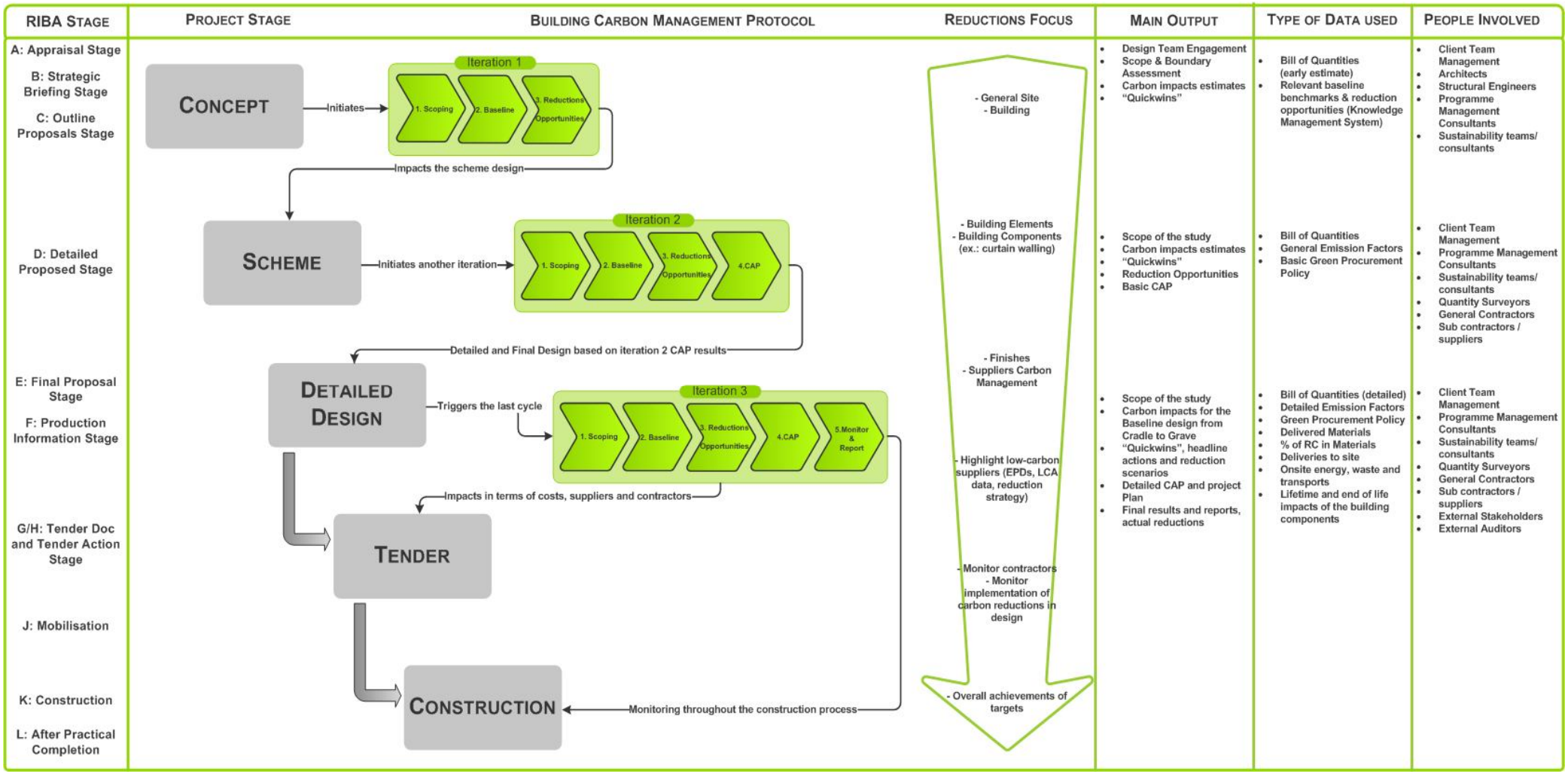


- Purpose of the study
  - Comparative study?
  - Carbon Neutral certification / PAS 2050
  - Rough estimate?
- Definition of assessment boundary
  - System and physical
- Methodology employed
  - Impacts data quality, assumptions, analysis to be used

Buildings express different carbon profiles



Design stage is crucial to effective carbon management



Masterplans, buildings, components, processes, materials

Each have specifics that determine carbon intensity....

Carbon intensity depends on:

- Life cycle stages under review
- Physical elements
- Methodology employed

The more detail you have from design teams, the more you understand,
but then the less scope you may have to change its form...

Key principles to BCMS are therefore:

- Analysis to suit each design stage – using best available data
- Using that to understand the carbon impact of design decisions
- Use live examples to overcome traditional barriers

Case study: City of Sydney

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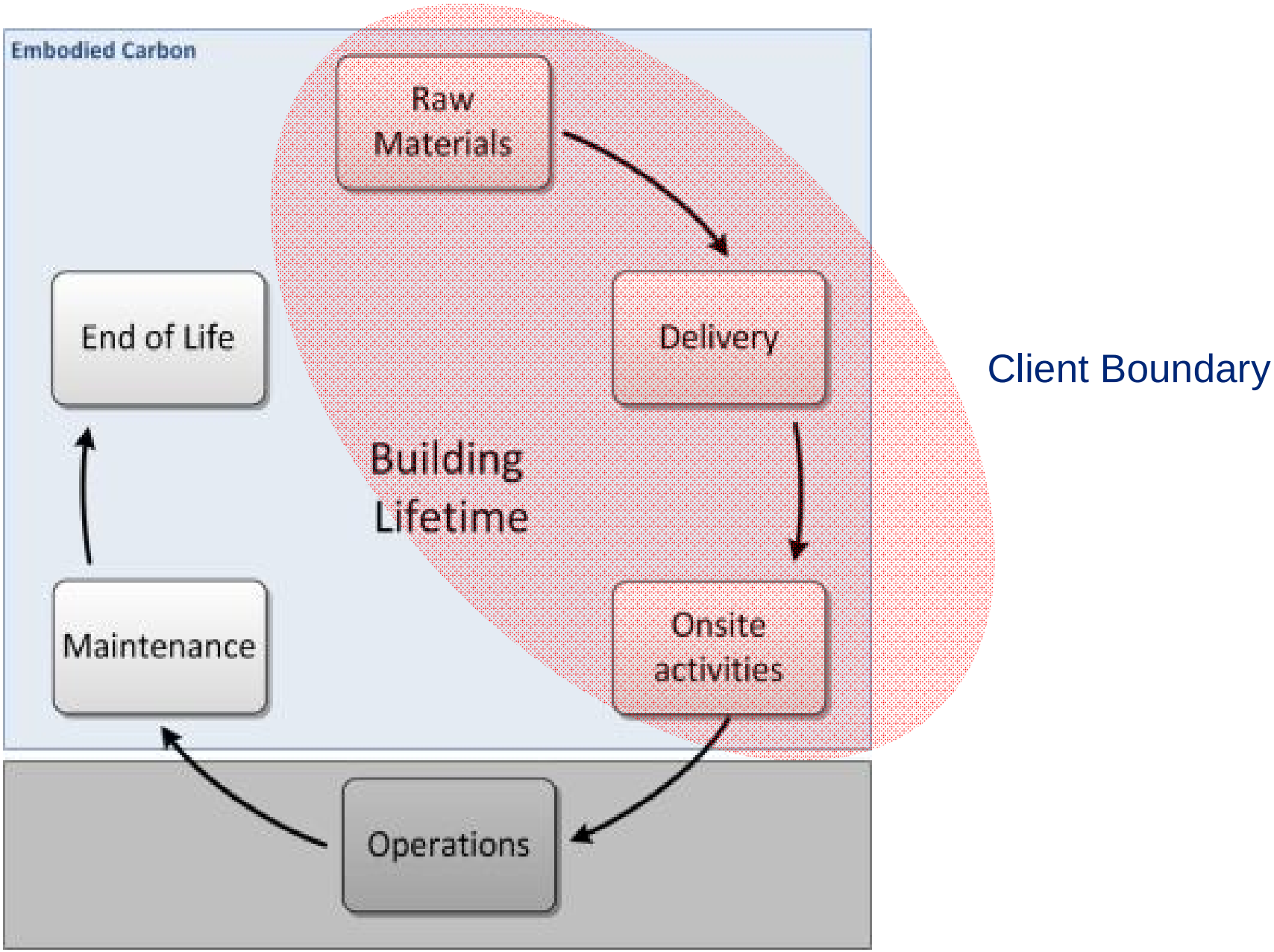
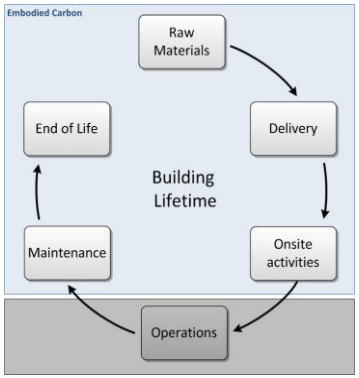
Construction Carbon Management

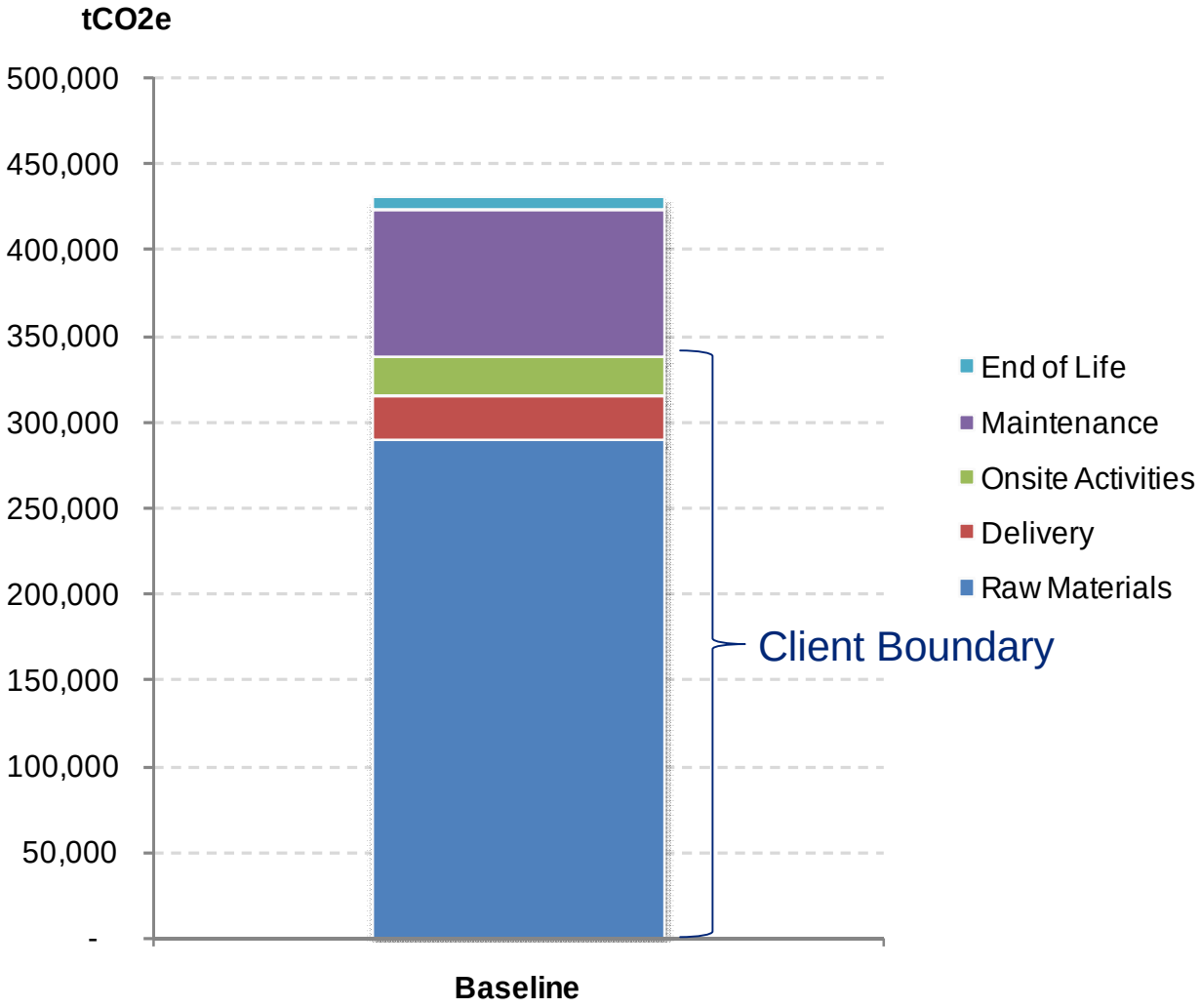


Case Study: City Of Sydney

Setting an embodied carbon baseline

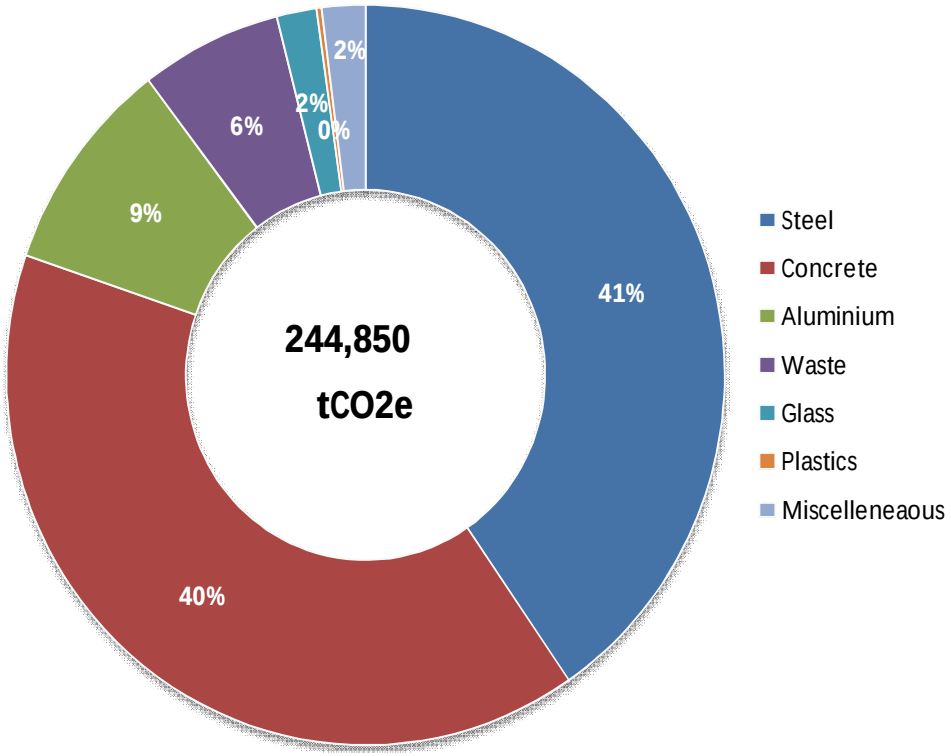
Embodied carbon (cradle to grave)

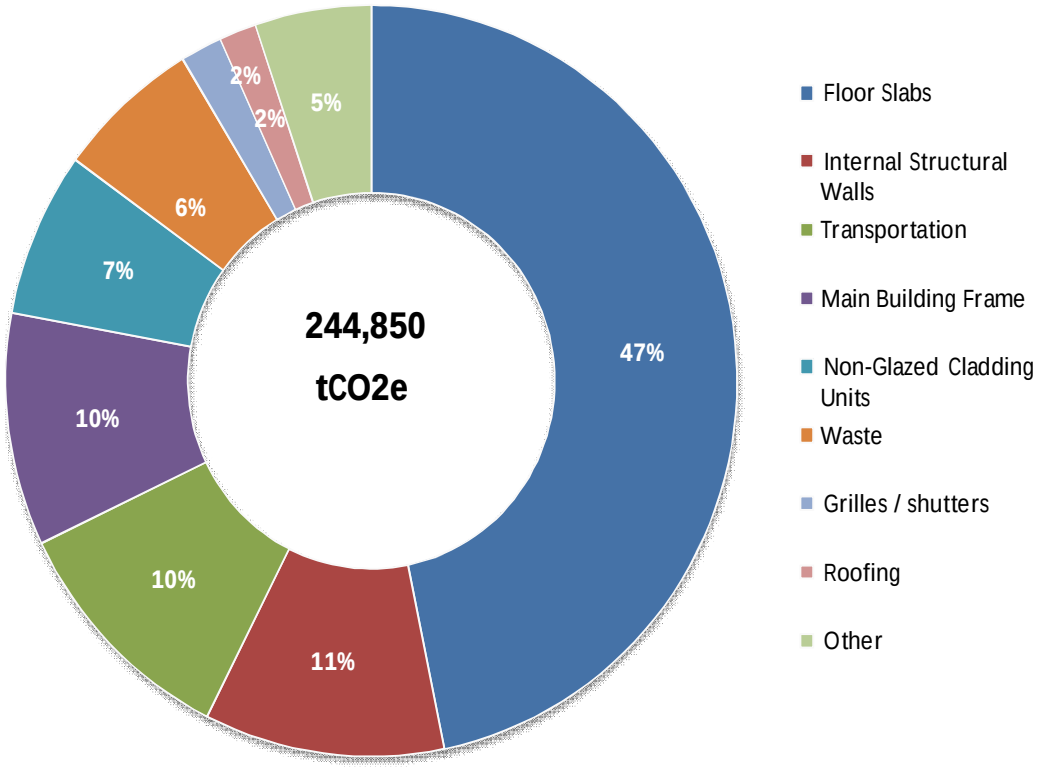




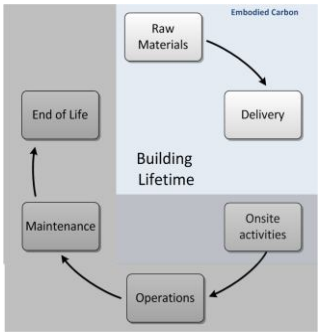
Case Study: City Of Sydney

Building components and key materials

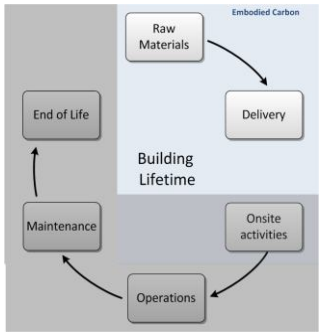




Embodied carbon (cradle to site)

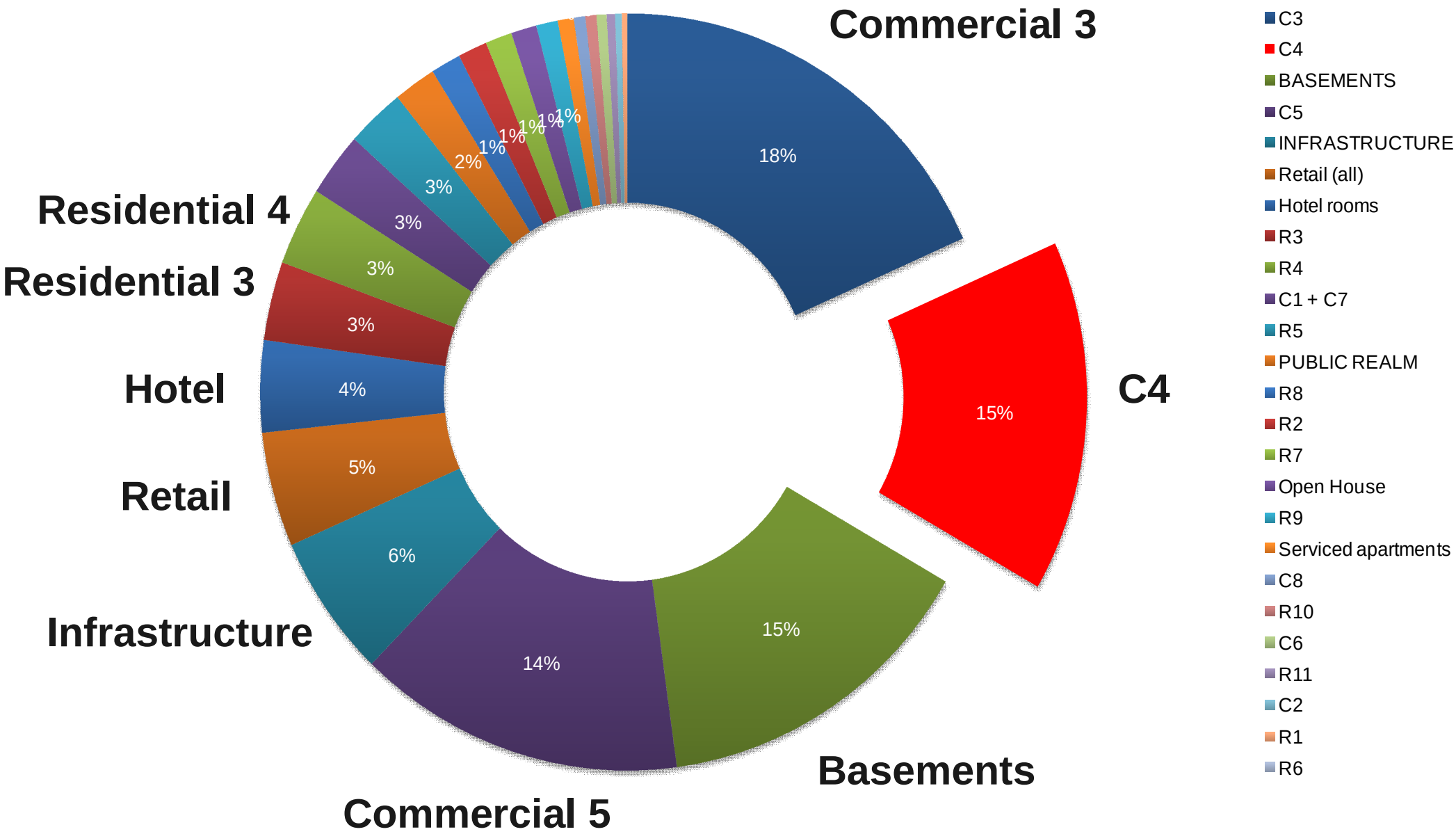


Embodied carbon (cradle to site)



Case Study: City Of Sydney

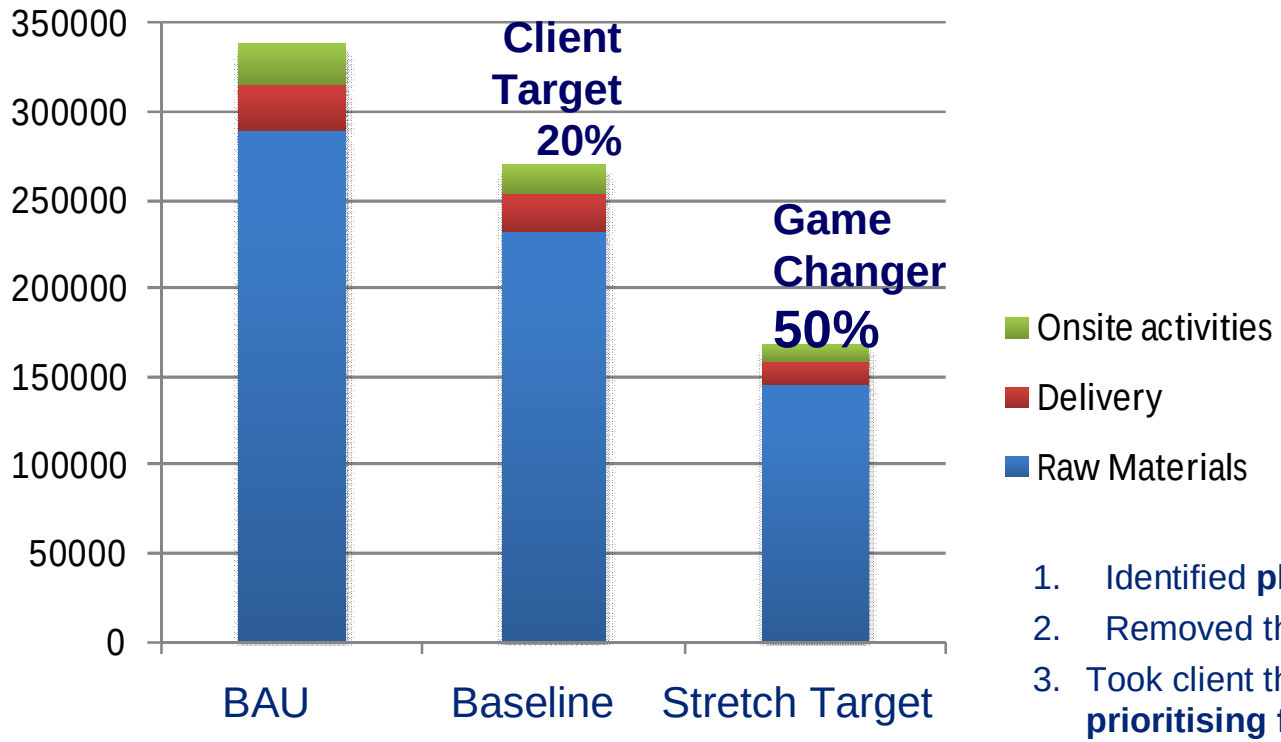
Key site elements

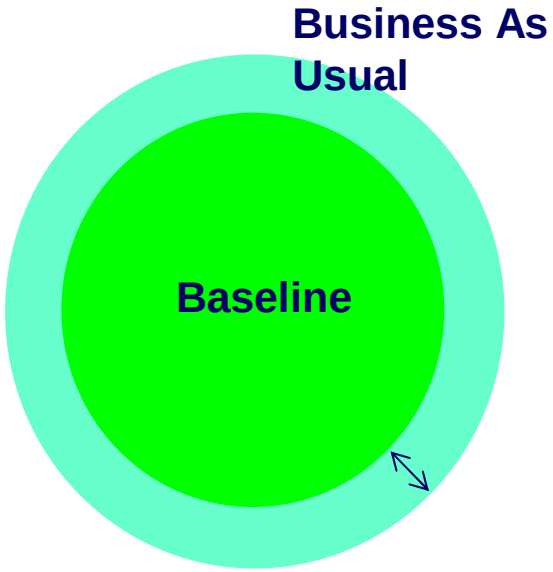


Case Study: City Of Sydney

Assessing the Business As Usual Performance

Contractual target to reduce embodied carbon from the BAU by **20%**





1. Identified **planned low carbon initiatives**
2. Removed these from baseline to **form a BAU**
3. Took client through a process of **identifying and prioritising further measures** needed to reach targets

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Carbon reporting
Discussion of current issues

Jenny Harrison
25 November 2010

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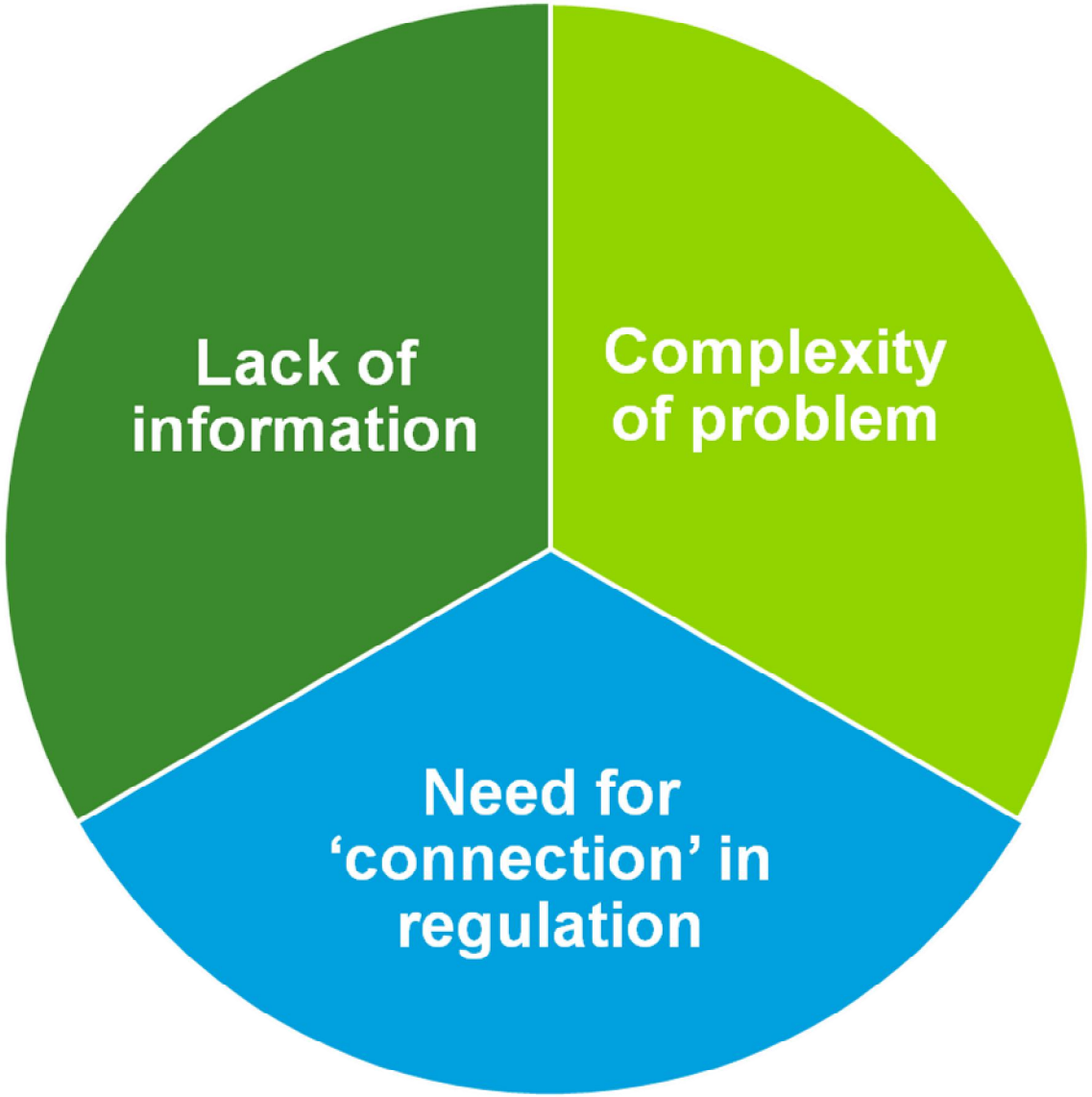
What is holding us back?



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Consistency of information – corporate reporting

Lack of standards on carbon reporting

Lack of global consistency

Need greater transparency

Increase stakeholder confidence

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Carbon reporting – context

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Setting the scene – international context

Climate change related legislation

Pushing down carbon management to governments… and companies

Kyoto Protocol 1997 – international trading schemes including EU ETS

EU Energy & Climate Package 2008 (202020 targets)

UK Climate Change Act November 2008

CRC Energy Efficiency Scheme – UK

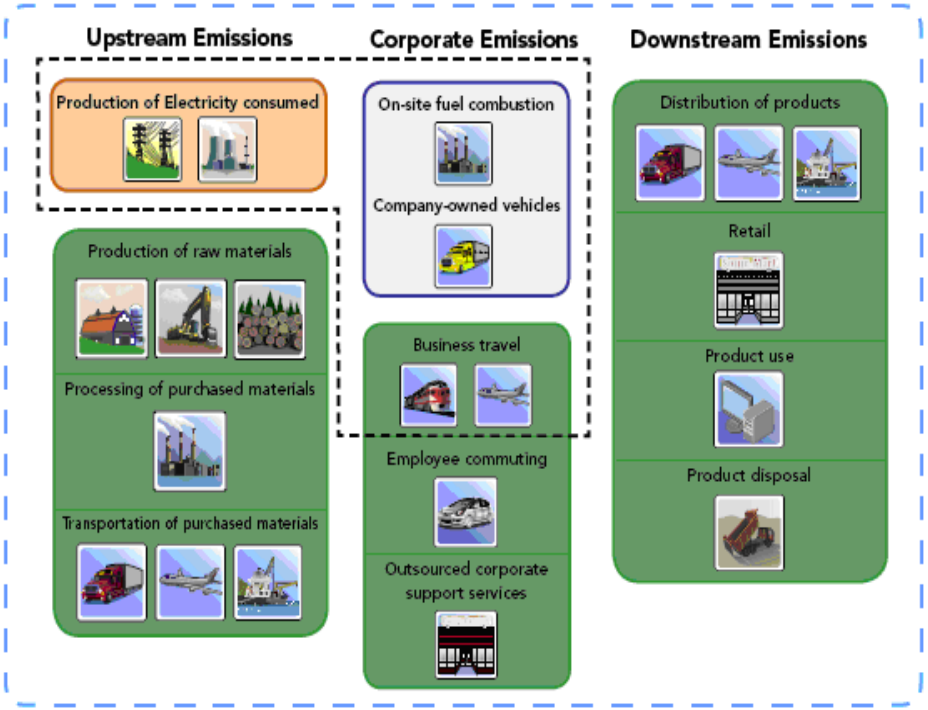
Defra voluntary carbon reporting guidelines - UK

What are carbon emissions?

GHG components (all defined as carbon equivalents):

CO_2 SF_6 CH_4 N_2O HFCs PFCs

Kyoto definitions: Scope 2 - Indirect | Scope 1 - Direct | Scope 3 - Indirect



Different potential boundaries for company emissions considerations

Source: 'Clean Air, Cool Planet', Deloitte adaptation

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CRC Gets Serious

"The CRC Energy Efficiency scheme will be simplified to reduce the burden on businesses, with the first allowance sales for 2011-12 emissions now taking place in 2012 rather than 2011.

Revenues from allowance sales totalling £1 billion a year by 2014-15 **will be used to support the public finances**, including spending on the environment, **rather than recycled to participants**."

HM Treasury Spending Review, October 2010

Implications

- Abolition of recycling payments dramatically changes the nature of the scheme
- Financial impact will significantly increase
- Deferral of first allowance sale will improve organisations' immediate cash flow

Ongoing

- Performance League Table will be retained
- Consultation on further simplification awaited November 2010
- Footprint report still needs to be submitted July 2011 – robust data collection

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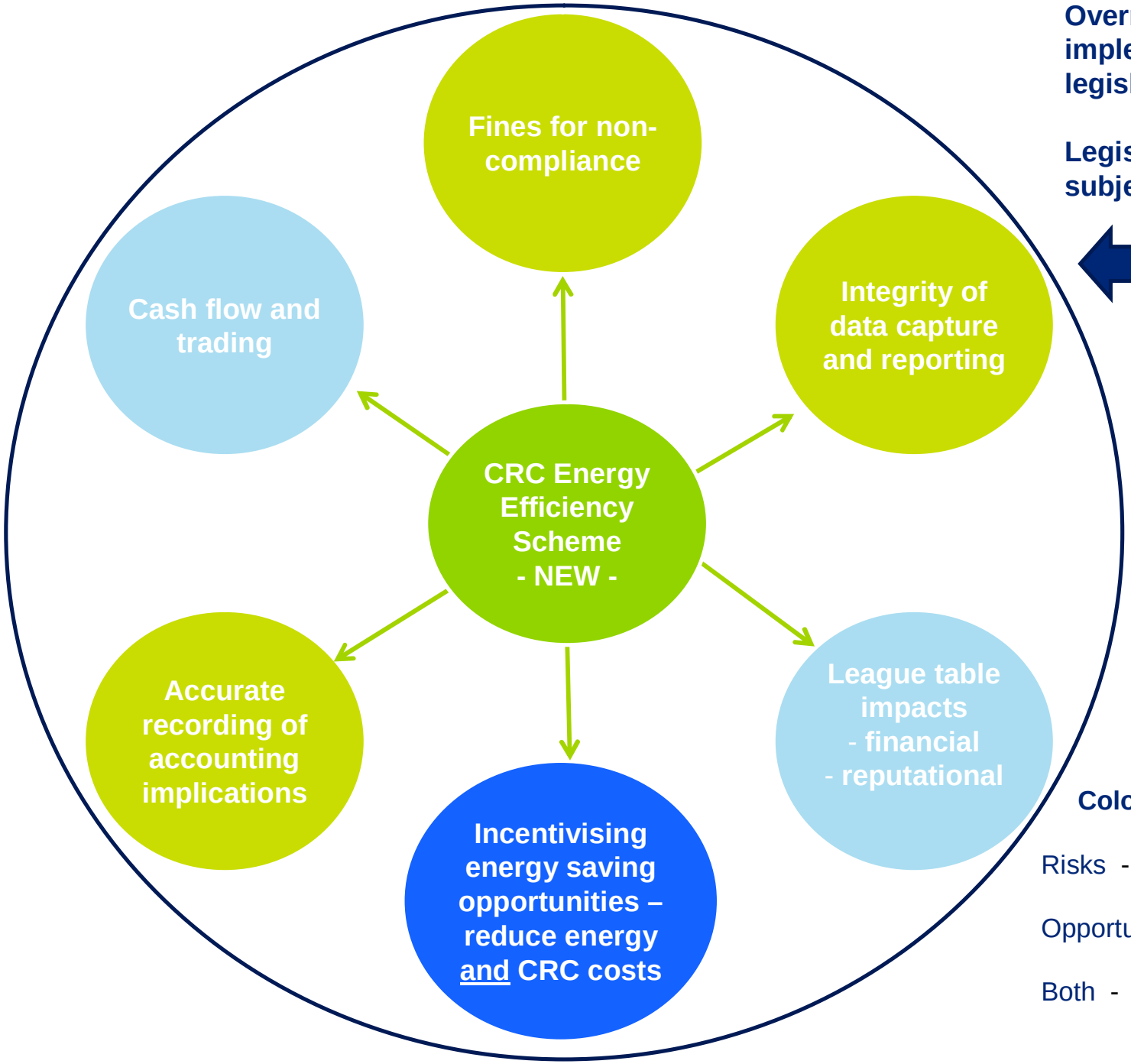
CRC - risks and opportunities



Overriding risk of implementing new legislation

Legislation still subject to changes

Colour Code

Risks -

Opportunities -

Both -

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Carbon reporting and assurance – the journey

International and UK reporting developments

GHG Protocol

Carbon disclosure project (voluntary)

Defra GHG reporting guidance (voluntary)

HM Treasury sustainability reporting for public sector (mandatory)

Carbon neutral / planet positive accreditation
Carbon Trust Standard
Verification of project credits
Life cycle assessments
Supplier sustainability

ISAE 3000

AA 1000 – AccountAbility (sustainability)

IAASB Assurance on a Greenhouse Gas Statement (ISAE 3420 consultation paper)

Variety of assurance frameworks can be applied to carbon information

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Overview of FTSE 350 corporate responsibility reporting

All the FTSE 100 report on sustainability, as well as 202 of FTSE 250

38 companies in FTSE 350 have some form of assurance over the carbon data they report

54% of the FTSE 100 reports are assured, 33% of the FTSE 250

Variety of choices (what's in / what's out) and of assurance standards impacts comparability of this assurance

Source: Carbonsmart 2010 / Deloitte

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Carbon reporting – Deloitte's survey

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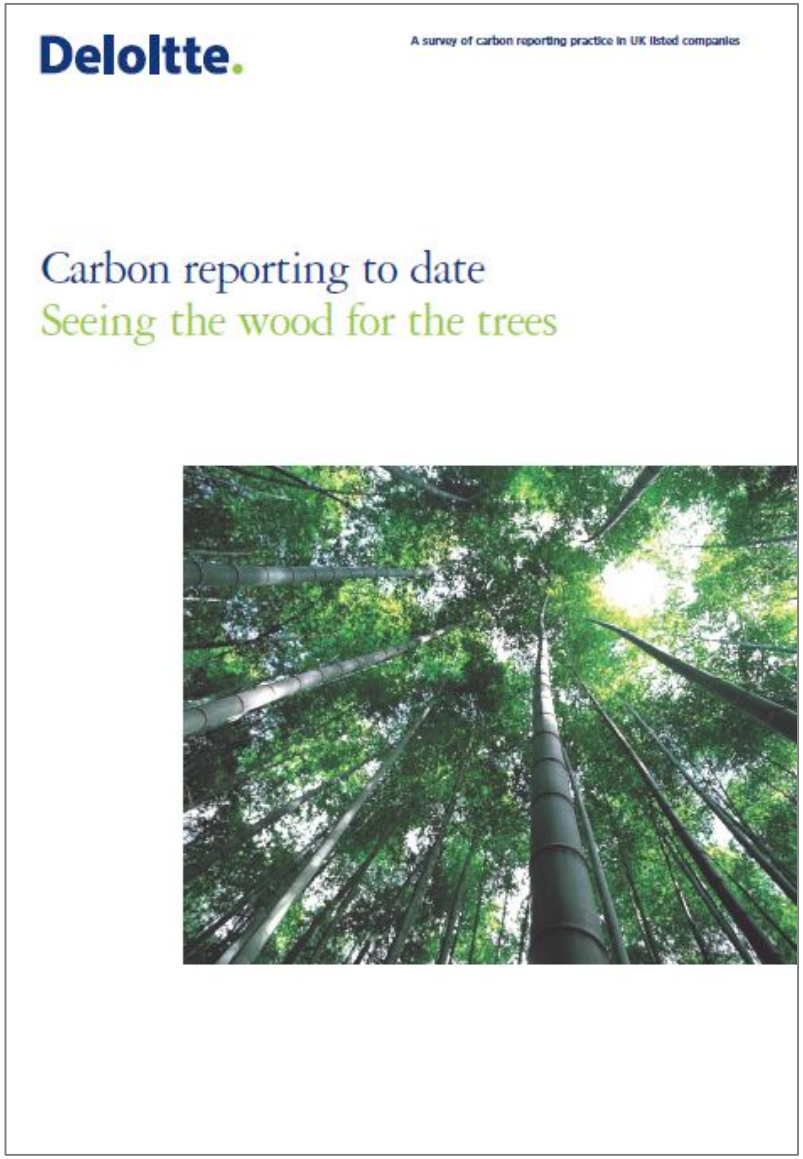
Deloitte carbon reporting survey

Seeing the wood for the trees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A survey of carbon reporting practice in UK listed companies

Carbon reporting to date
Seeing the wood for the trees

- Survey of 100 UK listed companies
- How practices have developed to date
- In particular, the survey reviews:
  - the type of information reported (e.g. narrative and numerical data, basis for reporting, comparatives, baselines and targets);
  - how closely information compares to recommendations in the Defra guidance;
  - where companies report this information; and
  - whether this information is assured (independently audited).
- Includes:
  - overview of guidance currently available
  - “better practice” examples
  - disclosure checklist
  - illustrative carbon disclosures
  - Available from 8 November 2010

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Key findings

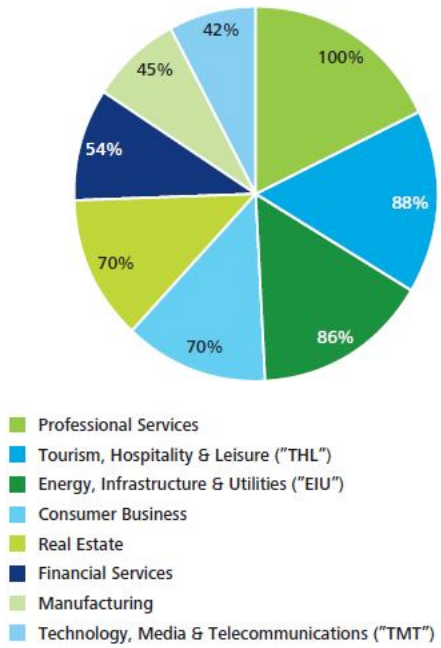
A high degree of variation in carbon reporting practices and many companies, particularly those outside the top tier of FTSE companies, could do better.

Highlights include:

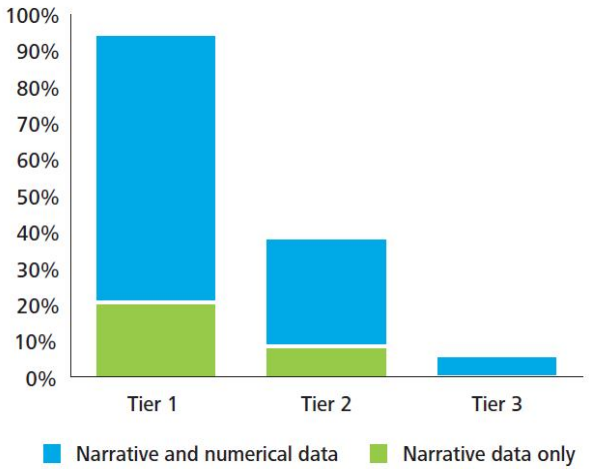
- 57% of companies reported carbon information to some degree and all but one company in Tier 1* did so;
- 37% of companies 'formally reported' numerical data on their carbon footprint;
- 20% of companies 'formally reported' a specific target in relation to carbon reduction;
- Only 9% of companies disclosed that information on carbon had been reported in line with the Defra guidance; and
- Only 8% of companies stated that their reported information had been assured by a third party.

* The sample was stratified into three categories based on market capitalisation; the top 350 listed companies ("Tier 1", companies ranked from 351 – 750 ("Tier 2") and the smallest 350 listed companies ("Tier 3")

Percentage reporting carbon data by industry group



Analysis of narrative or numerical data being reported



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Responding to the carbon reporting challenge

Governance
Senior management engagement/debate/leadership

Vision/Strategy
Part of the overall business strategy?

Procedures and programmes
How performance will be achieved

KPIs and targets
Relevance to internal and external shareholders?

Monitoring and audit
Checking on implementation

Data collection, collation and analysis
Is it reliable?

Disclosure
Articulation of risks, strategy, programmes and performance

Stakeholder Expectations
What do they think is important?

What role can the reporting process fulfil in building key relationships, informing and addressing stakeholders' expectations?

Internal/External Assurance

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Integrated reporting

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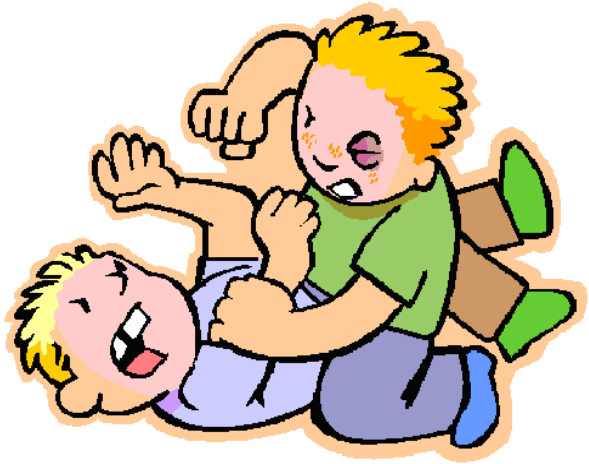
Principles of integrated reporting



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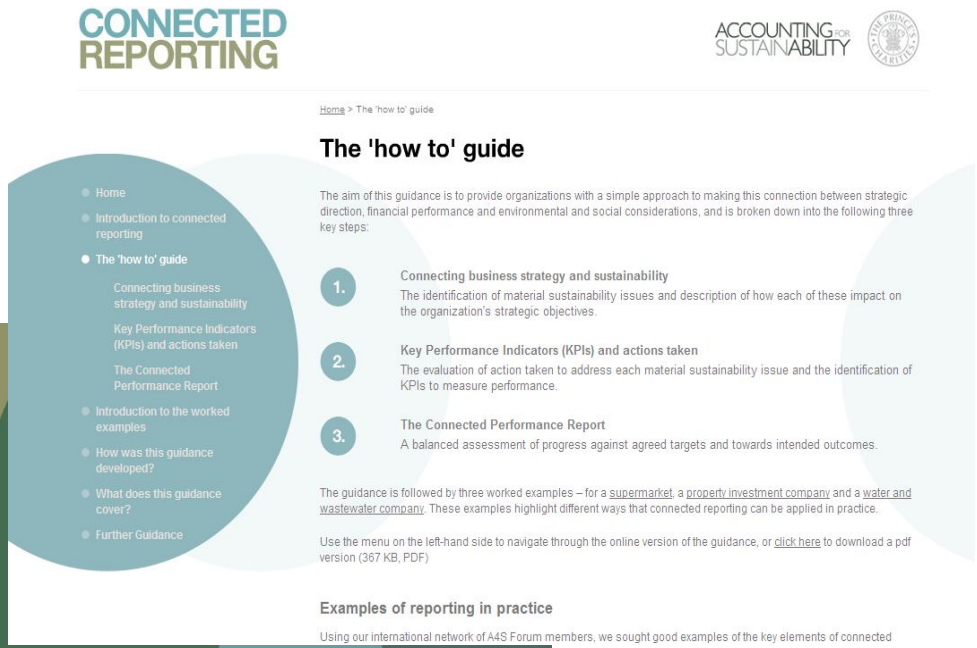
Research and guidance on connected/ integrated reporting

Novo Nordisk
Southwest Airlines
BASF



www.accountingforsustainability.org

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Summary and Discussion

- Legislation vs guidance – Which is needed carrot or stick?
- Is carbon really the only show in town? What about water, waste, and other social issues
- Why bother with embodied carbon? Surely not as important as operational issues
- Professional services – are we really as good as niche players?

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