Carbon Footprinting -
sources of carbon and managing emissions

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Counting Carbon

• Sources of Carbon

• Measuring Carbon

• Reducing Carbon
Carbon Footprintting

A ‘carbon footprint’ measures the total greenhouse gas emissions caused directly and indirectly by a person, organisation, event or product.

• Conversion factors
Green House Gas Protocol - understanding, quantifying and managing

- International accounting tool

- Recognised by business, governments and NGOs,
Greenhouse Gas Protocol

Sources of Emissions
Counting Carbon

The following diagram identifies the main types of emissions sources under each scope:

**Scope 1: Direct**
- Fuels Combustion (e.g. boilers, furnaces or turbines)
- Owned Transport (e.g. trucks, trains, ships, airplanes, cars)
- Process Emissions (e.g. cement, aluminium, waste processing)
- Fugitive Emissions (e.g. air conditioning and refrigeration leaks, methane leaks from pipelines)

**Scope 2: Energy Indirect**
- Consumption of purchased electricity, heat, steam and cooling

**Scope 3: Other Indirect**
- Purchased materials and fuels (e.g. extraction, processing and production)
- Transport-related activities* (e.g. commuting, business travel, distribution)
- Waste disposal (e.g. waste, recycling)
- Leased assets, franchising and outsourcing
- Sold Goods and Services (e.g. Use of goods and services)

*From / to point of ownership transfer

Key:
- **Recommended**
- **Discretionary**
Carbon Footprint Presentation and Reporting

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<td>Intensity measurement CO2 per 1000 products</td>
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Consultancy Business Footprint
2009/2010

• Scope 1 – Use 1200 litres of oil to heat the office. Travel 6,000 miles in business car

• Scope 2 – Used 5000 kWh of electricity in the office

• Scope 3 – Business travel involved 2000 miles by train, 1000 miles by air.
## Consultancy Business Carbon Footprint 2009/10

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<td>GHG Emissions for period April 09/March 10</td>
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Conversion Factors

• 2010 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting

• Guidance on how to measure and report your greenhouse gas emissions [www.defra.gov.uk](http://www.defra.gov.uk)
Practical Steps to reduce Carbon Footprint

- **Purchased Electricity for Own Use**
- **Scope 1 Direct**
  - Fuel Combustion
  - Company Owned Vehicles
  - Product Use
  - Outsourced Activities
- **Scope 2 Indirect**
  - Purchased Electricity for Own Use
  - Contractor Owned Vehicles
- **Scope 3 Indirect**
  - Employee Business Travel
  - Waste Disposal

Greenhouse Gases: CO2, SF6, CH4, N2O, HFCs, PFCs