

## 2013 Carbon Calculations

### Waste Analysis

Total waste produced:

Year	Staff FTE*	Landfill Waste Total (kg)	Landfill per FTE (kg/FTE)	Recycling Waste Total (kg)	Recycling per FTE (kg/FTE)	Compost Waste Total (kg)	Compost per FTE (kg/FTE)	Landfill Waste %	Recycling Waste %	Composting Waste %
2012	7.55	101.00	13.38	130.00	17.22	0.00	0.00	56.28%	43.72%	0.00%
2013	7.09	5.00	0.71	257.00	36.32	112.5	15.87	1.33%	68.67%	30.00%

\* Cheltenham office only as no figures available for Scotland Office

Total carbon emissions from waste disposal:

Year	Staff (FTE)	Waste Total (kg)**	Waste Emissions (kg/CO2)	Emissions per FTE (kgCO2/FTE)
2012	9.81	300.15	46.85	4.78
2013	8.93	472.32	13.72	1.54

Notes:

- Extrapolated from 1 week audit figures multiplied by 50 (to allow for bank holidays etc.)
- 2012 figures calculated using Defra's conversion factors 2012 - 290kgCO2/1000kg waste for landfill (municipal waste, average) and 21kgCO2/1000kg waste for recycling
- 2013 figures calculated using Defra's conversion factors 2013 - 290kgCO2/1000kg waste for landfill (municipal waste, average), 21kgCO2/1000kg waste for recycling and 6kgCO2/1000kg waste for composting
- Waste figures are for Cheltenham office only so total for carbon calculation has used waste per FTE average to extrapolate total waste usage across both offices

## Water Analysis

Year	Staff (FTE)	Water Usage (l)	Water per FTE (l/FTE)	Water Emissions (kg/CO <sub>2</sub> )	Emissions per FTE (kgCO <sub>2</sub> /FTE)
2012	9.81	35786.88	3648	24.62	2.51
2013	8.93	32576.64	3648	34.29	3.84

Notes:

- As water is from a shared building, the above uses WRAP's office average figure of 16 litres per person per day
- Total hours calculated as 5 days x 46.5 weeks (allowing for annual leave)
- 2012 figures calculated using Defra's conversion factors 2012 of 344kgCO<sub>2</sub>/million litres for direct and 344kgCO<sub>2</sub>/million litres for indirect emissions
- 2013 figures calculated using Defra's conversion factors 2013 of 344kgCO<sub>2</sub>/million litres for water supply and 708.5kgCO<sub>2</sub>/million litres for water treatment

## Lighting & Heating Analysis

Year	Staff (FTE)	Lighting & Heating Usage Total (kWh)	Lighting & Heating Emissions (kgCO <sub>2</sub> )	Emissions per FTE (kgCO <sub>2</sub> /FTE)
2012	9.81	8809.35	5195.93	529.66
2013	8.93	8539.40	4098.91	459.00

Notes:

- Assumption that lighting is on 8 hours x 5 days x 32 weeks per annum
- Using Carbon Trust average office heating figure per m<sup>2</sup> per annum
- 2012 figures calculated using Defra's conversion factors 2012 of 0.58982kgCO<sub>2</sub>/kWh for direct & indirect emissions
- 2013 figures calculated using Defra's conversion factors 2013 of 0.442kgCO<sub>2</sub>/kWh for electricity generation and 0.038kgCO<sub>2</sub>/kWh for transmission & distribution