

V12: Business Carbon Footprint

General

DNOs that are part of a larger corporate group must provide a brief introduction outlining the structure of the group, detailing which organisations are considered within the reporting boundary for the purpose of BCF reporting.

The Business Carbon Footprint methodology and principles are based on Greenhouse Gas Emissions protocols and these should be referred to when submitting figures under any of the BCF reporting categories.

Please detail any assumptions that have been used when calculating figures for any of the BCF reporting categories.

The basis for calculating any apportionment factors across Distribution Service Areas must also be set out.

Please also detail any auditing performed to verify emissions data throughout the commentary.

The methodology utilised within the report follows UK Carbon Reporting guidance as provided by Defra/DECC and is compliant with the principles of the 'Greenhouse Gas Protocol' and the 2014 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting.

In line with these principles the data presented aims to meet the following criteria to ensure its continued validity and authenticity.

- Relevant: the report and commentary remains reflective of the substance and economic reality of the company's business relationships.
- Complete: all relevant emission sources are included (although in practice lack of data or cost of gathering must be noted as a limiting factor).
- Consistent: accounting approaches, inventory boundary and calculation methodology have been applied consistently over reporting period.
- Transparent: information on the processes, procedures, assumptions and limitations of the BCF reporting are disclosed in a clear, factual, neutral and understandable manner, enabling internal and external verifiers to attest to its credibility.
- Accurate: GHG measurements, estimates, or calculations should be systemically neither over nor under the actual emissions value, as far as can be judged, and that uncertainties be reduced as far as practicable.

The data has been reviewed internally by the WPD Environment Team and by an independent consultant.

As required, and stated in the RIGs, the organisational boundary for this business carbon footprint has been defined using the operational control approach.

There is a mismatch between Table CV12 and Table V1 in respect of the reporting of SF6 emissions.

In Table CV12, DNOs are required to report SF6 emissions with the unit of measurement being kg.

In Table C12, DNOs are required to report SF6 emissions with the unit of measurement being tCO_{2e}.

This mismatch results in an error message on Table CV12. We have not resolved this error message.

Building energy usage (Scope 1 & 2)

The methodology used to calculate building energy usage should be detailed here. All substation consumption must be calculated as energy supplied and the methodology for how this has been assessed must be detailed here.

Energy use for the following sites; WPD Avonbank, WPD Pegasus, WPD Lamby Way and WPD Tipton have been apportioned according to the following allocations;

- West Midlands 30%
- East Midlands 30%
- South Wales 15%
- South West 25%

Summary Statements – Buildings Energy Use (Scope 1 & 2)

WPD West Midlands

Buildings – Electricity 2617.37 tCO_{2e}

Buildings – Other Fuels 32.99 tCO_{2e}

Substations usage 8703.81 tCO_{2e}

Total tCO_{2e} 11354.17 tCO_{2e}

WPD East Midlands

Buildings – Electricity 3369.50 tCO_{2e}

Buildings – Other Fuels 125.99 tCO_{2e}

Substations usage 11038.72 tCO_{2e}

Total tCO_{2e} 14533.71 tCO_{2e}

WPD South Wales

Buildings – Electricity 1684.66 tCO_{2e}

Buildings – Other Fuels 30.08 tCO_{2e}

Substations usage 4507.02 tCO_{2e}

Total tCO_{2e} 6222.48 tCO_{2e}

WPD South West

Buildings – Electricity 4782.82 tCO_{2e}

Buildings – Other Fuels 18.58 tCO_{2e}

Substations usage 3329.16 tCO_{2e}

Total tCO_{2e} 8130.57 tCO_{2e}

Detailed data tables are provided below.

Buildings – Electricity (Scope 2)

The 2014/15 data presented is based upon actual billed consumptions (kWh) and SMART meter downloads from the WPD depots. Energy usage from all WPD SURF Telecom sites has been included in the 2014/15 Buildings – Electricity data (all regionalised).

The tCO_{2e} is determined using the current 2013 Guidelines to Defra/DECC GHG Conversion Factors for Company Reporting, Electricity one year grid rolling average 0.49426.

Buildings - Other Fuel (Scope 1)

Gas Usage

2014/15 total tCO_{2e} gas use data presented is determined using the DEFRA Guidelines published conversion factor of 0.184973 (Gross CV)

Operational Transport (Scope 1)

The methodology used to calculate the operational transport usage should be detailed here. Any assumptions that have been used where specific information is not available should also be detailed.

The following allocations have been used for WPD fleet emissions and helicopter charter and testing emissions;

- West Midlands 30%
- East Midlands 30%
- South Wales 15%
- South West 25%

Summary Statements – Operational Transport

WPD West Midlands

Road	11098.12	tCO _{2e}
Rail	0	tCO _{2e}
Sea	0	tCO _{2e}
Air	378.24	tCO _{2e}
Total	11476.36	tCO_{2e}

WPD East Midlands

Road	12134.34	tCO _{2e}
Rail	0	tCO _{2e}
Sea	0	tCO _{2e}
Air	596.43	tCO _{2e}
Total	12730.78	tCO_{2e}

WPD South Wales

Road	7128.14	tCO _{2e}
Rail	0	tCO _{2e}
Sea	0	tCO _{2e}
Air	170.06	tCO _{2e}
Total	7298.16	tCO_{2e}

WPD South West

Road	9658.23	tCO _{2e}
Rail	0	tCO _{2e}
Sea	2.40	tCO _{2e}
Air	283.31	tCO _{2e}
Total	9943.94	tCO_{2e}

Detailed data tables are provided below.

Operational Transport – Road

Operational road transport emissions currently take into account the following contributions:

- DNO own operational fleet vehicles.
- Fleet vehicles operated by external service providers.

The 2014/15 increase in data for South Wales and South West has been due to the inclusion this year of fuel card data which was previously omitted.

Assumptions used in calculating operational transport road tCO_{2e}

WPD fleet data based on fuel data analysis (fuel cards and on-site pumps)

Business Transport (Scope 3)

The methodology used to calculate the business transport usage should be detailed here.

The following allocations have been used for WPD Business Mileage;

- West Midlands 30%
- East Midlands 30%
- South Wales 15%
- South West 25%

Summary Statement – Business Transport

WPD West Midlands

Road 1000.46 tCO_{2e}

Rail 6.47 tCO_{2e}

Sea 0.006 tCO_{2e}

Air 31.91 tCO_{2e}

Total 1038.85 tCO_{2e}

WPD East Midlands

Road 1000.46 tCO_{2e}

Rail 6.47 tCO_{2e}

Sea 0.006 tCO_{2e}

Air 31.91 tCO_{2e}

Total 1038.85 tCO_{2e}

WPD South Wales

Road 489.93tCO_{2e}

Rail 3.23 tCO_{2e}

Sea 0.003 tCO_{2e}

Air 15.96 tCO_{2e}

Total 509.12 tCO_{2e}

WPD South West

Road 813.38tCO_{2e}

Rail 5.39 tCO_{2e}

Sea 0.005 tCO_{2e}

Air 26.59 tCO_{2e}

Total 845.37 tCO_{2e}

Detailed data tables are provided below.

Business Transport – Road

Total mileage data presented includes all business mileage from company cars and private cars used on business based on mileage claims processed by Payroll.

The data does not include employee travel to and from work.

Assumptions used in calculating business transport road tCO_{2e}

The mileage claims system is unable to record fuel type for the miles claimed, however the latest National UK Licencing Statistics state 36:64 diesel to petrol use.

The following conversion factors have therefore been used:

Passenger Road transport – Average Car (Diesel) 0.18546/km kgCO_{2e}

Fugitive Emissions

The methodology used to calculate fugitive emissions should be detailed here. Any fugitive emissions that have not been calculated, or have been estimated should be identified.

FUGITIVE EMISSIONS (Scope 1)

SF₆ – Sulphur Hexafluoride

For the purposes of this report only SF₆ fugitive emissions for the regulatory year (Apr 14 – Mar 15) have been included. These have been calculated by assuming a 0.1% leakage of the total volume of SF₆ and any known occasions of topping up of equipment.

Gas lost to environment	Apr 14 – Mar 15 (kg)	tCO _{2e}
WPD West Midlands	62.0	1481.80
WPD East Midlands	14.1	337.95
WPD South Wales	141.4	3379.94
WPD South West	129.0	3082.38

Emission data for South Wales and South West is high due to significant leaks in switchgear at Carmarthen / Bulith Wells and Axminster respectively.

Emission data for East Midlands is low as a result of absent data and low pressure SF₆ gas alarm.

Above calculations based upon the global warming potential (GWP) of SF₆ = 23900 (i.e. 1kg of SF₆ is equivalent to 23900kg of CO₂) as per the current published DECC/DEFRA conversion factors.

Fugitive Emissions – Gases Other

Emission data for operating air conditioning units has been omitted due to the relatively small volumes of tCO_{2e} emitted from the units in comparison with the effort required to collect and collate the data accurately.

Fuel combustion (Scope 1 & 3)

The methodology used to calculate fuel combustion should be detailed here. Any sources of emissions that have not been included should be identified as well as the degree of estimation.

Summary Statements – Fuel Combustion

WPD West Midlands

Gas Oil	4370.42	tCO _{2e}
Natural Gas	0.02	tCO _{2e}
Fuels Other	1.64	tCO _{2e}
Total	4372.09	tCO_{2e}

WPD East Midlands

Gas Oil	1528.02	tCO _{2e}
Natural Gas	0.08	tCO _{2e}
Fuels Other	1.37	tCO _{2e}
Total	1530.37	tCO_{2e}

WPD South Wales

Gas Oil	901.05	tCO _{2e}
Natural Gas	0	tCO _{2e}
Fuels Other	20.06	tCO _{2e}
Total	921.11	tCO_{2e}

WPD South West

Gas Oil	1538.82	tCO _{2e}
Natural Gas	0	tCO _{2e}
Fuels Other	211.83	tCO _{2e}
Total	1750.64	tCO_{2e}

Detailed data tables are provided below.

Gas Oil (red diesel) Combustion

Information is taken from gas oil delivery records and ESP fuel purchase information. The current published DECC/DEFRA conversion factor– Gas Oil (red diesel) 2.92577 ltr CO₂ / km has been used for the period 1 April 2014 to 31 March 2015.

Natural Gas Combustion

Natural gas fuel combustion associated with WPD activities - Natural Gas convert litres to m³ (x 0.001) - KgCO_{2e} = 2.0346

LPG

LPG fuel combustion associated with WPD activities 1.502252 ltr Kg/CO_{2e}

Losses

Please detail any information relevant to BCF losses reporting here, including an indication of which methodology was used to calculate losses.

Not applicable

Contractors

The exclusion of any contractors must be justified in this section, as well as detailing the proportion of contractors that have been excluded.

The main contractors operating on the network have been included in the submission; these consist of the dig and lay contractors, tree trimming contractors, Major Projects' contractors, generator contractors, asset recovery contractors and waste management contractors. The approach was based on operational nature of the work performed on behalf of WPD and size of contract value.

Smaller value and services contracts have not been included in the submission, details of the contractors included can be found behind the V12 tables.

In terms of carbon emissions the contractors currently included within the BCF account for approximately 75% of all associated contracted emissions.

Additional contractors, approximately 25%, are currently excluded based on less significant emissions, current practicalities of gathering data and current expenditure.

DETAILED TABLES

BUILDING EMISSIONS

WPD West Midlands:

Buildings - Summary Statement

Summary – Buildings Energy Use WPD West Mid

Buildings – Electricity 2617.37

Buildings – Other Fuels 32.99

Substations usage 8703.81

Total tCO_{2e} 11354.17

Buildings – Electricity

Summary Statement – Buildings Electricity Use

WPD West Midlands Buildings	tCO _{2e}
Stoke	407.87
Tipton 30%	353.93
Gloucester	211.39
Warstock Road	122.41
Hednesford	50.60
Hereford	39.28
Worcester	349.44
Ludlow	94.01
Telford	155.97
Tipton Ocker	97.44
Avonbank 30%	232.46
Pegasus 30%	283.92
Lamby Way 30%	190.78
Plus Surf Telecom	27.86
Total tCO_{2e}	2617.37

Substation Usage

Summary – Buildings Energy Use –Substations West Mid

Substations usage kWh	17 609 790
Total tCO_{2e}	8703.81

WPD East Midlands (EM):

Buildings - Summary Statement

Summary – Buildings Energy Use WPD EM

Buildings – Electricity 3369.50

Buildings – Other Fuels 125.49

Substations usage 11038.72

Total tCO_{2e} 14533.71

Buildings – Electricity

Summary Statement – Buildings Electricity Use

WPD EM Buildings	tCO _{2e}
Nottingham	129.56
Grantham	190.86
Lincoln	181.78
South Normanton	292.25
Boston	45.80
Chesterfield	17.82
Derby	160.80
Hinckley DC	126.97

