

This is a list of the emission conversion factors used on the Creative IG Tools for the purposes of calculating an organisation's carbon footprint.

Last updated: August 2018

The source for the emission conversion factors unless otherwise stated is:

The Department for Business, Energy and Industrial Strategy's 'Greenhouse gas reporting: conversion factors 2017' (referred to as 'BEIS').

Type	Name	2017 Factor	Unit	Source	Explanation
Energy	Electricity	0.38443	kg CO2e per kWh	BEIS	Conversion factor inclusive of transmission and distribution (T&D) losses.
	Gas	0.18416	kg CO2e per kWh	BEIS	Gross CV.
	Onsite renewables	0	kg CO2e per kWh	2015 JB Factors	Julie's Bicycle zero rate all renewable electricity sources, in recognition of exclusion of life cycle emissions from fossil fuel conversion factors.
Fuel	Oil	2.53233	kg CO2e per litre	BEIS	Burning oil (kerosene) is most common oil for domestic heating.
	Diesel	2.67193	kg CO2e per litre	BEIS	100% mineral diesel
	Petrol	2.30075	kg CO2e per litre	BEIS	100% mineral
	LPG	1.50807	kg CO2e per litre	BEIS	
	Biodiesel	0.02001	kg CO2e per litre	BEIS	Julie's Bicycle zero rate all waste vegetable oil and UK grown biofuels, in recognition of the short timescale of the carbon cycle and that life cycle emissions are not included in fossil fuel conversion factors

Waste	Landfill	588.9	net kg CO2e per tonne	BEIS	Waste is assumed to be closest in character to mixed municipal waste. The 2015 landfill conversion factor has significantly increased due to changes in the methane (CH4) emission factor. This is the result of changes in the GHG inventory methodology and updated Global Warming Potential (GWP) factors.
	Recycled waste	21.8	net kg CO2e per tonne	BEIS	Using DEFRA conversion factor from 2015 onwards.
	Energy from waste	21.8	net kg CO2e per tonne	BEIS	
	Composted waste	6	net kg CO2e per tonne	BEIS	Using DEFRA conversion factor from 2015 onwards.
Water	Water use	0.344	kg CO2e per cubic metre	BEIS	
	Waste water	0.708	kg CO2e per cubic metre	BEIS	
Travel (road)	Average petrol car	0.18568	kg CO2 per veh km	BEIS	Assume average petrol car as worst case (not diesel, not small, not motorbike)
	Average diesel car	0.17887	kg CO2 per veh km	BEIS	
	Average LPG car	0.20105	kg CO2 per veh km	BEIS	
	Average petrol hybrid car	0.11792	kg CO2 per veh km	BEIS	
	MPV petrol	0.20219	kg CO2 per veh km	BEIS	
	MPV diesel	0.18545	kg CO2 per veh km	BEIS	
	Average petrol motorbike	0.11662	kg CO2 per veh km	BEIS	
	Regular taxi	0.21863	kg CO2 per veh km	BEIS	
	Black cab	0.32006	kg CO2 per veh km	BEIS	
	London bus	0.0727	kg CO2e per passenger km	BEIS	London bus to take account of bus being more full than national local average due to event
	Local bus (not London)	0.12259	kg CO2e per passenger km	BEIS	
	Average local bus	0.10259	kg CO2e per passenger km	BEIS	

	Diesel van/minibus	0.25749	kg CO2e per veh km	BEIS	Diesel van up to 3.5t
	Petrol van/minibus	0.26206	kg CO2e per veh km	BEIS	Van up to 3.5t
	LPG van/minibus	0.27685	kg CO2e per veh km	BEIS	Van up to 3.5t
	Dedicated coach	0.6744	kg CO2 per veh km	National Atmospheric Emissions. Inventory Vehicle Speed. Emission Factors Version 02/3	Assume bus, average speed 96km per hour, Euro II. More accurate than Defra conversion factors considering how full dedicated coaches are, compared to average occupancy of UK buses.
	Buggies	0.14133	kg CO2 per km	BEIS	Unknown Fuel, Minicar
Travel (rail)	National rail	0.04678	kg CO2e per passenger km	BEIS	
	Eurostar	0.01225	kg CO2e per passenger km	BEIS	Referred to as 'International rail' in conversion factors
	Tube	0.04674	kg CO2e per passenger km	BEIS	
Travel (air)	Domestic flight	0.26744	kg CO2e per passenger km	BEIS	
	Short haul average	0.16103	kg CO2e per passenger km	BEIS	
	Short haul economy	0.15845	kg CO2e per passenger km	BEIS	
	Short haul business	0.23767	kg CO2e per passenger km	BEIS	
	Long haul average	0.19745	kg CO2e per passenger km	BEIS	
	Long haul economy	0.15119	kg CO2e per passenger km	BEIS	
	Long haul premium economy	0.24189	kg CO2e per passenger km	BEIS	
	Long haul business	0.43843	kg CO2e per passenger km	BEIS	
	Long haul first class	0.60473	kg CO2e per passenger km	BEIS	
	Small jet	2.85	kg CO2 per veh km	Personal correspondence , Dr. Graham Sinden, Carbon Trust	
	Large jet	7.03	kg CO2 per veh km	Personal correspondence ,	

				Dr. Graham Sinden, Carbon Trust	
Travel (sea)	Ferry	0.11611	kg CO2e per passenger km	BEIS	Average for all passengers (foot and car)
Travel Accommodation	Hotel night	32.63	kg CO2 per room per night	WBCSD 2004 and CIBSE 2004	WBCSD 2004 and CIBSE 2004
Travel (freight)	Light diesel rigid	0.53612	kg CO2e per veh km	BEIS	3.5-7.5 t UK average load
	Medium diesel rigid	0.66058	kg CO2e per veh km	BEIS	7.5-17t UK average load
	Heavy diesel rigid	0.96353	kg CO2e per veh km	BEIS	>17t UK average load
	Light diesel articulated	0.84055	kg CO2e per veh km	BEIS	3.5-33t UK average load
	Heavy diesel articulated	0.93631	kg CO2e per veh km	BEIS	>33t UK average load
	Rail freight	0.03394	kg CO2e per tonne.km	BEIS	
	Ferry freight	0.38751	kg CO2e per tonne.km	BEIS	Large RoPax Ferry
	Container ship	0.01605	kg CO2e per tonne.km	BEIS	
	Domestic air freight	5.11535	kg CO2e per tonne.km	BEIS	Inclusive of Radiative Forcing (RF) i.e. nonCO ₂ climate change effects of aviation (water vapour, contrails, NOx etc)
	Short haul air freight	1.99837	kg CO2e per tonne.km	BEIS	Inclusive of Radiative Forcing (RF) i.e. nonCO ₂ climate change effects of aviation (water vapour, contrails, NOx etc)
	Long haul air freight	1.45648	kg CO2e per tonne.km	BEIS	Inclusive of Radiative Forcing (RF) i.e. nonCO ₂ climate change effects of aviation (water vapour, contrails, NOx etc)