

Julie's Bicycle

SUSTAINING CREATIVITY

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: January 2019

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 2018' (referred to as 'BEIS').

Type	Name	2018 Factor	Unit	Source	Explanation
Energy	Electricity	0.3072	kg CO2e per kWh	BEIS	Conversion factor inclusive of transmission and distribution (T&D) losses.
	Gas	0.18396	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	2.53627	kg CO2e per litre	BEIS	Burning oil (kerosene) is most common oil for domestic heating.
	Diesel	2.68779	kg CO2e per litre	BEIS	100% mineral diesel
	Petrol	2.30531	kg CO2e per litre	BEIS	100% mineral petrol
	LPG	1.51906	kg CO2e per litre	BEIS	
	Biodiesel	0.03460	kg CO2e per litre	BEIS	
Waste	Landfill	586.5	net kg CO2e per tonne	BEIS	Waste is assumed to be closest in character to mixed municipal waste.
	Recycled waste	21.3842	net kg CO2e per tonne	BEIS	
	Energy from waste	21.3842	net kg CO2e per tonne	BEIS	
	Composted waste	10.2586	net kg CO2e per tonne	BEIS	
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	0.18368	kg CO2 per veh km	BEIS	Assume average petrol car as worst case (not diesel, not small, not motorbike)
	Average diesel car	0.17753	kg CO2 per veh km	BEIS	
	Average LPG car	0.20022	kg CO2 per veh km	BEIS	
	Average petrol hybrid car	0.12568	kg CO2 per veh km	BEIS	
	MPV petrol	0.20096	kg CO2 per veh km	BEIS	
	MPV diesel	0.18452	kg CO2 per veh km	BEIS	
	Average petrol motorbike	0.11529	kg CO2 per veh km	BEIS	
	Regular taxi	0.21482	kg CO2 per veh km	BEIS	
	Black cab	0.32129	kg CO2 per veh km	BEIS	
	London bus	0.07211	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)	0.12007	kg CO2e per passenger km	BEIS	
	Average local bus	0.10097	kg CO2e per passenger km	BEIS	
	Diesel van/minibus	0.2568	kg CO2e per veh km	BEIS	Diesel van up to 3.5t
	Petrol van/minibus	0.24917	kg CO2e per veh km	BEIS	Van up to 3.5t
	LPG van/minibus	0.27457	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	0.14093	kg CO2 per km	BEIS	Unknown Fuel, Minicar
Travel (rail)	National rail	0.04424	kg CO2e per passenger km	BEIS	
	Eurostar	0.01226	kg CO2e per passenger km	BEIS	Referred to as 'International rail' in conversion factors
	Tube	0.0376	kg CO2e per passenger km	BEIS	

Travel (air)	Domestic flight	0.29832	kg CO2e per passenger km	BEIS	
	Short haul average	0.16236	kg CO2e per passenger km	BEIS	
	Short haul economy	0.1597	kg CO2e per passenger km	BEIS	
	Short haul business	0.23955	kg CO2e per passenger km	BEIS	
	Long haul average	0.21256	kg CO2e per passenger km	BEIS	
	Long haul economy	0.16279	kg CO2e per passenger km	BEIS	
	Long haul premium economy	0.26046	kg CO2e per passenger km	BEIS	
	Long haul business	0.47208	kg CO2e per passenger km	BEIS	
	Long haul first class	0.65115	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	0.11287	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	0.49680	kg CO2e per veh km	BEIS	3.5-7.5 t UK average load
	Medium diesel rigid	0.60661	kg CO2e per veh km	BEIS	7.5-17t UK average load
	Heavy diesel rigid	0.96034	kg CO2e per veh km	BEIS	>17t UK average load
	Light diesel articulated	0.79282	kg CO2e per veh km	BEIS	3.5-33t UK average load
	Heavy diesel articulated	0.94395	kg CO2e per veh km	BEIS	>33t UK average load
	Rail freight	0.03351	kg CO2e per tonne.km	BEIS	
	Ferry freight	0.37671	kg CO2e per tonne.km	BEIS	Large RoPax Ferry
	Container ship	0.01614	kg CO2e per tonne.km	BEIS	
	Domestic air freight	5.8333	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	1.9469	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	1.23205	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)