

# Emissions Factors August 2019

## Australia

### Background

Eden Suite uses emission factors published by the Federal Department of Climate Change and Energy Efficiency (DCEE) in their National Greenhouse Account (NGA) factors. These factors are used for Scope 1 and 2 emissions and some Scope 3 (e.g. Waste). Advice from DCEE is that the NGA factors from the year before should be applied to the following year's emissions. For example, the NGA Factors released in July 2011 should be applied to 2011-12 reporting. Where no factors are provided by DCEE other sources are used, primarily DEFRA (UK) for air travel and Victorian EPA for paper and water.

### Links

- Department of Climate Change and Energy Efficiency, [National Greenhouse Account Factors, August 2019](#)
- Environment Protection Authority Victoria (EPA Victoria), [Greenhouse Gas Inventory Management Plan 2012-13](#)
- The UK Government Department for Business, Energy & Industrial Strategy, [2019 Government emission conversion factors for greenhouse gas company reporting](#)

### Emissions factors

The table below provides the emission factors used by Eden Suite

Emissions source	Unit	Emissions conversion factor into kg (per unit)	Reference
<b>Direct emissions (Scope 1)</b>			
Petrol for vehicles	GJ	67.62	National Greenhouse Account Factors, August 2019, Table 4
LPG for vehicles	GJ	60.9	National Greenhouse Account Factors, August 2019, Table 4
Automotive diesel oil for vehicles (ADO)	GJ	70.51	National Greenhouse Account Factors, August 2019, Table 4
Ethanol for vehicles	GJ	0.40	National Greenhouse Account Factors, August 2019, Table 4
E10 (calculated as 90% gasoline and 10% ethanol)	GJ	60.898	National Greenhouse Account Factors, August 2019, Table 4
Avgas for aircraft	GJ	67.75	National Greenhouse Account Factors, August 2019, Table 4
Natural gas	GJ	51.53	National Greenhouse Account Factors, August 2019, Table 2
LPG (stationery energy)	GJ	60.6	National Greenhouse Account Factors, August 2019, Table 3
Diesel oil (stationery energy)	GJ	70.2	National Greenhouse Account Factors, August 2019, Table 3
<b>Indirect emissions (Scope 2)</b>			
Purchased electricity (Victoria)	kWh	1.02	National Greenhouse Account Factors, August 2019, Table 44
Purchased electricity (NSW)	kWh	0.81	National Greenhouse Account Factors,

Emissions source	Unit	Emissions conversion factor into kg (per unit)	Reference
			August 2019, Table 44
Purchased electricity (QLD)	kWh	0.81	National Greenhouse Account Factors, August 2019, Table 44
Purchased electricity (SA)	kWh	0.44	National Greenhouse Account Factors, August 2019, Table 44
Purchased electricity (WA) - SWIMS	kWh	0.69	National Greenhouse Account Factors, August 2019, Table 44
Purchased electricity (TAS)	kWh	0.15	National Greenhouse Account Factors, August 2019, Table 44
Purchased electricity (NT)	kWh	0.63	National National Greenhouse Account Factors, August 2019, Table 44
<b>Indirect emissions (Scope 3)</b>			
Purchased electricity (Victoria)	kWh	0.10	National Greenhouse Account Factors, August 2019, Table 44
Purchased electricity (NSW)	kWh	0.09	National Greenhouse Account Factors, August 2019, Table 44
Purchased electricity (QLD)	kWh	0.12	National Greenhouse Account Factors, August 2019, Table 44
Purchased electricity (SA)	kWh	0.10	National Greenhouse Account Factors, August 2019, Table 44
Purchased electricity (WA)	kWh	0.04	National Greenhouse Account Factors, August 2019, Table 44
Purchased electricity (TAS)	kWh	0.02	National Greenhouse Account Factors, August 2019, Table 44
Purchased electricity (NT)	kWh	0.08	National Greenhouse Account Factors, August 2019, Table 44
Emissions from fuel extraction for natural gas (VIC)	GJ	3.9	National Greenhouse Account Factors, August 2019, table 41
Emissions from fuel extraction for natural gas (NSW)	GJ	12.8	National Greenhouse Account Factors, August 2019, table 41
Emissions from fuel extraction for natural gas (QLD)	GJ	8.7	National Greenhouse Account Factors, August 2019, table 41
Emissions from fuel extraction for natural gas (SA)	GJ	10.4	National Greenhouse Account Factors, August 2019, table 41
Emissions from fuel extraction for natural gas (WA)	GJ	4.0	National Greenhouse Account Factors, August 2019, table 41
Emissions from fuel extraction for petrol	GJ	3.6	National Greenhouse Account Factors, August 2019, table 43
Emissions from fuel extraction for LPG	GJ	3.6	National Greenhouse Account Factors, August 2019, table 43
Emissions from fuel extraction for ADO	GJ	3.6	National Greenhouse Account Factors, August 2019, table 43

Emissions source	Unit	Emissions conversion factor into kg (per unit)	Reference
Emissions from fuel extraction for E10	GJ	3.6	National Greenhouse Account Factors, August 2019, table 43

Emissions source	Unit	Emissions conversion factor into tonnes (per unit)		Reference
Municipal solid waste (generic)	tonnes	1.4		National Greenhouse Account Factors, August 2019 table 47
Flights*	Passenger km	<463km	0.00025493	UK Government Department for Business Energy & Industrial Strategy Conversion factors 2019 - Full set (for advanced users) – Business travel - air Note: these factors include radiative forcing and uplift factors The 463km limit for short-haul flights has been defined following the classification used by UK DEFRA (see table 32), based on the guidance from CORINAIR (originally referenced here). CORINAIR sets 250 nautical miles (463km) as the upper limit for 'short flights'
		463-3700km		
		Average	0.00015832	
		Economy	0.00015573	
		Business	0.0002336	
		>3700km		
		Average	0.00019562	
		Economy	0.00014981	
		Premium Economy	0.0002397	
		Business	0.00043446	
		First Class	0.00059925	
Emissions from fuel extraction for aircraft gasoline	Passenger km	<463km	0.00002791	UK Government Department for Business, Energy & Industrial Strategy Conversion factors 2019 - Full set (for advanced users) – WTT - Business travel - air Note: these factors include radiative forcing and uplift factors
		463-3700km		
		Average	0.00001734	
		Economy	0.00001706	
		Business	0.00002558	
		>3700km		
		Average	0.00002142	
		Economy	0.00001641	
		Premium Economy	0.00002625	
		Business	0.00004758	
		First Class	0.00006563	
Office copy paper**	kg	100% Recycled	0.00152	EPA Victoria, Greenhouse Gas Inventory Management Plan 2012-13
		Virgin	0.0013	
Reticulated water supply***	kL	0.00136		EPA Victoria, Greenhouse Gas Inventory Management Plan 2012-13
Adelaide	kl	0.001461538		National performance report 2017–18: urban water utilities
Canberra	kl	0.001360406		National performance report 2017–18: urban water utilities

Emissions source	Unit	Emissions conversion factor into tonnes (per unit)	Reference
Darwin	kl	0.000622283	National performance report 2017–18: urban water utilities
Melbourne	kl	0.001641892	National performance report 2017–18: urban water utilities
Perth	kl	0.003442922	National performance report 2017–18: urban water utilities
South East Queensland	kl	0.000922581	National performance report 2017–18: urban water utilities
Sydney	kl	0.000804651	National performance report 2017–18: urban water utilities
Tasmania	kl	0.001078212	National performance report 2017–18: urban water utilities
<b>Optional indirect emissions (Scope 3)</b>			
Staff commuting	km	See reference	EPA Victoria, Greenhouse Gas Inventory Management Plan 2012-13, page 28
Catering	\$ expenditure	See reference	EPA Victoria, Greenhouse Gas Inventory Management Plan 2012-13 page 27
Public transport	\$ expenditure	See reference	EPA Victoria, Greenhouse Gas Inventory Management Plan 2012-13, page 22
Taxi	\$ expenditure	See reference	EPA Victoria, Greenhouse Gas Inventory Management Plan 2012-13, page 22
Couriers	\$ expenditure	See reference	EPA Victoria, Greenhouse Gas Inventory Management Plan 2012-13, page 30
Colour publications	sheets	See reference	EPA Victoria, Greenhouse Gas Inventory Management Plan 2012-13, page 31

#### \*Flights

Note: these factors include radiative forcing and uplift factors

#### \*\*Office Paper

It is assumed that 1 ream= 2.5kgs

For more detail, see EPA Victoria Greenhouse Gas Inventory Management Plan 2012-13 for how to apply these emissions factors.

#### \*\*\*Reticulated water

Where 1 kL= 1m<sup>3</sup>

For more detail, see EPA Victoria Greenhouse Gas Inventory Management Plan 2012-13.