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Climate Connected Carbon Calculator Documentation

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1 Introduction

We understand that some users of the footprint tool may be surprised at the results. Very often we don't realise the CO2 eq impact of our choices and behaviours.

We have based all of our measurements on a combination of peer reviewed scientific data which we combine with official statistics (CSO). We will review the values regularly and update them when required.

2 Questions on Self – "Let's get started: About You..."

2.1 County: "What county do you live in?"

This question serves two purposes – it enables us to calculate the expected PV output in the home, where there is PV installed. It enables us to direct users to community level results and actions according to county (see Section X)

Solar Radiation varies according to geolocation. We break this down county by county by assigning an average solar radiation value. This is determined by using the Photovoltaic Geographical Information System (PVGIS)[1]. The county's solar radiation value is determined by 1kW in the centre-point of the county. The values for each county are shown in

[1] https://re.jrc.ec.europa.eu/pvg_tools/en/tools.html

Table 1: PV values for each County

County	Av kWh/yr/kWp
Antrim	855.92
Armagh	923.24
Carlow	957.97
Cavan	895.47
Clare	936.3
Cork	996.89
Derry	834.23
Donegal	820.2
Down	885.9
Dublin	982.29
Fermanagh	859.57
Galway	880.05
Kerry	873.22
Kildare	922
Kilkenny	959.48
Laois	950.8
Leitrim	878.96
Limerick	915.9
Longford	909.32
Louth	976.94
Mayo	885.99
Meath	975.48
Monaghan	895.24
Offaly	938.16
Roscommon	929.92
Sligo	848.25
Tipperary	913.15
Tyrone	855.8
Waterford	1053.2
Westmeath	932.47
Wexford	1038.86
Wicklow	1027.52

2.2 Gender

The purpose of this question is solely to enable the calculations of CO2eq from diet which are determined on ***average*** consumption by gender. This is discussed in more detail in Section X.

2.3 Bill-Payer

This question is set to determine what suggestions could be deemed appropriate in relation to household energy behaviour changes. If the respondent is a utility bill payer, then it makes sense to suggest changes such to the heat system, if not, then these suggestions would probably not be relevant and would be noise in the personalised results.

3 "Energy Use in Your Home"

3.1 Statement: "Answers should be based on your whole household's energy use"

It is not reasonable for the respondent to be able to track their exact portion of the their home's overall energy use. We track energy use through billing as the simplest and only feasible method. We are then able to estimate the user's portion of that bill through Question 3.2

3.2 "How many adults live in your home?"

We will divide the total CO2eq determined by the estimated kWh of fuel as indicated by the bill amount and fuel. We give options up to 7. The average number of persons per home is 2.7 – and this includes children. We feel we are on safe ground limiting the number of adults to 7: any more would suggest an institutional environment which is not relevant to the scope.

3.3 "Annual Electricity Cost (€):"

We ask for bill amounts because they are easier for most people to remember than kWh per year. The calculator estimates the energy use based on Irish electricity average price. The SEAI publishes half-yearly statistics for energy prices in Ireland[2]. In Oct 2025, the average electricity price for the domestic user is €0.326/kWh. We divide the user's stated annual bill amount by this value.

Note - Standing Charges: Each electricity supplier charges standing charges. Table 2 shows that the average standing charge for electricity customers is €254.62. We therefore subtract

[2] https://www.seai.ie/sites/default/files/publications/Domestic-Fuel-Cost-Comparison.pdf

this amount from the total annual bill before determining the kWh used per home, as stated above.

Table 2: Oct 2025 Average Standing Charges

Supplier	2025 Standing Charge
Electric Ireland	€218.55
Bord Gáis Energy	€241.00
SSE Airtricity	€236.62
Energia	€257.38
Flogas	€342.00
PrePayPower	€283.47
Pinergy	€238.71
Community Power	€219.22
Average	**€254.62**

The average values for which these and all results are measured against is discussed in Section X below.

3.4 "What Fuel Do You Use to Heat Your Home"

The options are:

- Home Heating Oil (33%)
- Natural Gas (33%)
- Electricity (15%)
- Coal (3%)
- LPG (1%)
- Turf (4%)
- Wood: (4%)

This is a total of 93% of heating systems according to the CSO[3]

[3] https://www.cso.ie/en/releasesandpublications/ep/p-hebeu/householdenvironmentalbehaviours-energyuse2024/fuelorenergysourceusedforheating/

The CO2eq value for each fuel type is given in Table 3. It is based on the values given by the SEAI[4] and updated annually (although this is only relevant in relation to electricity).

Table 3: kgCO2 per kWh per fuel type

Home Heating Type/Fuel	kg CO2/kWh	€ per kWh
Home Heating Oil	0.257	0.1121
Electricity	0.226	0.3699
Electricity 100% Renewable Tariff	0	0.3699
Coal	0.353	0.0946
Wood Pellets	0	0.1012
Natural Gas	0.184	0.1347
LPG	0.2293	0.1621
Turf	0.374	0

We assign a zero CO2 for renewable energy derived electricity. For example, this is the value stated for renewable tariff electricity in the Fuel Mix Disclosure of Electric Ireland[5]

3.5 "Yearly Heating Cost (€): put in "0" if you use electricity for heating"

The average value as stated in the input box is discussed in the Averages Section () below.

The annual kWh value the user is given is based on the costs per unit for heating fuel as determined by the published SEAI statistics[6]. This excludes Turf which is discussed below.

The annual spend reported by the user is divided by the cost per kWh of the fuel selected in 3.4 and then multiplied by the assigned kgCO2/kWh shown in Table 3. The per user carbon footprint for behaviour arising from heating is determined by dividing this value by the number of adults in the home reported in 3.2.

((Cost Heating Per Year/Cost per kWh)*kgCO2eq for fuel)/Number of adults in the home

Note – Turf: As turf is not legally sold in Ireland, but is used by 4% of the population - but more so in the Atlantic Region – we cannot use the € cost per kWh approach. Instead, from testing we

[4] https://www.seai.ie/data-and-insights/seai-statistics/conversion-factors
[5] https://www.electricireland.ie/residential/help/detail/fuel-mix-disclosure
[6] https://www.seai.ie/sites/default/files/publications/Domestic-Fuel-Cost-Comparison.pdf

found that energy users of turf are more familiar with the measurement of turf quantities in bags. While the weight of turf varies according to density, we estimate a typical bag of turf weighs 20kg (this has been reported to us by our community contacts). The SEAI emissions factors allow us to estimate that a 25kg bag will emit 34.075kg of CO2 and generate 91 kWh of energy. Though most of this is lost due to the inefficiency of solid fuel combustion in the home.

Table 4: Turf - Emissions kgCO2eq/kWh and Energy Values kWh/kg

	kgCO2eq/kWh	kgCO2/kg	kwh/kg
Sod peat	**0.3744**	**1.363**	**3.640491**

Therefore, a home that uses a typical 400 25kg bags of turf[7] in a heating season will produce 13,600 kgCO2 in emissions.

We do not consider secondary heating systems as that will make the calculator too complicated for the user and involve too many steps and questions.

4 "Your Transport – how do you get around?"

4.1 Cars

The variables are:

- Engine / Fuel
- Vehicle size
- Vehicle age
- How many km do you drive per year?

Table 5: Car Emissions, by Fuel type, Size, Age

Fuel Type	Category	Registration Period	Emission Factors kgCO2/km
Petrol	Small (<1.4 litre)	2000-2005	0.301
Petrol	Small (<1.4 litre)	2006-2010	0.284
Petrol	Small (<1.4 litre)	2011+	0.272
Petrol	Medium (1.4-2 litre)	2000-2005	0.371
Petrol	Medium (1.4-2 litre)	2006-2010	0.354
Petrol	Medium (1.4-2 litre)	2011+	0.341
Petrol	Large (>2 litre)	2000-2005	0.44

[7] https://www.theguardian.com/world/2022/dec/12/like-an-oilwell-in-your-back-yard-irish-turn-to-cutting-peat-to-save-on-energy-bills 400 bags X 25kg is 10,000kgs which is the typical use reported

Petrol	Large (>2 litre)	2006-2010	0.424
Petrol	Large (>2 litre)	2011+	0.411
Diesel	Small (<1.4 litre)	2000-2005	0.248
Diesel	Small (<1.4 litre)	2006-2010	0.242
Diesel	Small (<1.4 litre)	2011+	0.236
Diesel	Medium (1.4-2 litre)	2000-2005	0.331
Diesel	Medium (1.4-2 litre)	2006-2010	0.319
Diesel	Medium (1.4-2 litre)	2011+	0.312
Diesel	Large (>2 litre)	2000-2005	0.415
Diesel	Large (>2 litre)	2006-2010	0.397
Diesel	Large (>2 litre)	2011+	0.39
Electric	Hybrid electric (not plug-in)	Any	0.248
Electric	Plug-in hybrid electric (PHEV)	Any	0.236
Electric	Battery (BEV) Irish grid	Any	0.103
***Emission Factors sourced from Ecoinvent[8].**			

The user's input for estimated kms per year is multiplied by the corresponding gCO2 per km according to the other variables. So for example 9000kms per year in a medium sized 2011+ diesel car has a carbon footprint of:

9000km/yr*0.312kgCO2eq = 2,808 kgCO2eq/yr

4.2 How else do you commute/travel on a typical week?

Table 6: Mode of Public Transport kgCO2 per km

Mode		CO2/km
Bus	Any	0.42
Train	Any	0.56
Tram	Any	0.56
Cycling	Any	0.011
Walking	Any	0

The emissions factors are taken from O'Riordan, V, et al 2022[9]

For typical distances travelled, we use CSO National Travel Survey 2016[10].

[8] https://ecoinvent.org/

[9] Vera O'Riordan, Fionn Rogan, Brian Ó Gallachóir, Tomás Mac Uidhir, Hannah Daly, 'How and why we travel – Mobility demand and emissions from passenger transport', Transportation Research Part D: Transport and Environment, Volume 104, 2022, https://doi.org/10.1016/j.trd.2022.103195 Zenodo, IPTEM V 2.8, https://zenodo.org/records/5102564#.Youu56jMLIU,

[10] https://www.cso.ie/en/releasesandpublications/ep/p-nts/nts2016/keyf/

Table 7: Modes of transport by trip length kms

More of Travel	Kms per trip
City bus	10.8
Intercity Bus	50
Average LUAS journey	5.3
Average Rail Journey	28
Average Cycle Journey	9.5

We can combine the information provided by the user as to frequency of mode use with typical distance travelled (Table 7) and carbon intensity per km (Table 6) to reach an estimate of the annual footprint of the user for each transport type (Table 8)

Table 8: kgCO2eq/yr according to transport type and frequency

Mode	Frequency	km/yr	kg CO2/yr
City Bus	Daily	5184	2177
City Bus	Weekly	1123	472
City Bus	Monthly	259	109
City Bus	Once or Twice a year	32	14
City Bus	Never	0	0
Non-City Bus	Daily	7584	3185
Non-City Bus	Weekly	1643	690
Non-City Bus	Monthly	379	159
Non-City Bus	Once or Twice a year	47	20
Non-City Bus	Never	0	0
LUAS	Daily	2544	1425
LUAS	Weekly	551	309
LUAS	Monthly	127	71
LUAS	Once or Twice a year	16	9
LUAS	Never	0	0
Train/DART	Daily	13440	7526
Train/DART	Weekly	2912	1631
Train/DART	Monthly	672	376
Train/DART	Once or Twice a year	84	47
Train/DART	Never	0	0
Bicycle	Daily	4560	50
Bicycle	Weekly	988	11
Bicycle	Monthly	228	3
Bicycle	Once or Twice a year	29	0
Bicycle	Never	0	0
None of these	Never	0	0

The form will return an accumulated value of kgCO2/eq for the users report use of non-car transport over the year.

There are no average footprints against which to measure the users' returned figures.

4.3 If you take a taxi do you...

The response will determine the CO2 intensity per km travelled – the question is intended to produce a prompt suggesting the user request an EV in the future.

4.4 How often do you take a taxi?

Based on available CSO statistics[11], 8.6km is the average journey length of a taxi ride. The distribution of fuel types for taxis is shown in Table 9.

Table 9: Taxi fuel types (source[12])

% type	Fuel
59%	Diesel
17%	Hybrid
15%	EV
8%	Petrol

Applying the same emissions values per km for each fuel as outlined in Table 5, and assuming vehicle age of 2011+, we can determine the emissions per journey for the response 'whatever comes up' as 2.37 kgCO2eq/*km trip.

The kgCO2 for users who 'always request an EV' is 8.6km*0.170kgCO2 = 1.118 kgCO2eq

We therefore have Table 10 which combines frequency, distance and CO2 emissions.

Table 10: Taxi Trip Emissions

Whatever turns up kgCO2eq/yr	Always EV kgCO2eq/yr	Frequency
865.1	408.1	Daily
308.1	145.3	2-3 per week
123.2	58.1	1 per week
71.1	33.5	2-3 per month
28.4	13.4	1 per month
5.9	2.8	2-3 per year

[11] https://www.cso.ie/en/releasesandpublications/ep/p-nts/nts2016/keyf/

12 https://www.nationaltransport.ie/wp-content/uploads/2024/08/NTA-Taxi-Driver-Presentation-Feb-2024.pdf

2.4	1.1	1 per year

4.5 Used a ferry in the last year?

To follow

4.6 How many flights did you take in the past year? Only count personal flights (not work):

The user is Asked for number of flights (return is assumed) per year short haul (UK), Medium Haul (EU) and Long Haul (Rest of the World). The assumed distances for each are shown in Table 11. We use the myclimate calculator[13] which is relatively well regarded[14] to calculate emissions per trip.

Table 11: kg CO2eq by return flight type.

Haul	Class	Average Kms	kg CO2 Per Return Trip
Number of in Ireland and to/from UK flights	Economy	900	336
Number of short-haul flights, to/from Europe (<2000km)	Economy	1500	582
Number of long-haul, to/and from North America, Quatar, or further	Economy	5500	2000

5 How you consume

5.1 Which of these best describes your diet?

The options for the user are

- High meat-eater (≥ 100 g/day)
- Medium meat-eater (50–99 g/day)

[13] https://co2.myclimate.org/en/flight_calculators/new
[14] https://www.nature.com/articles/s43247-025-02847-4

- Low meat-eater (< 50 g/day)
- Pescetarian
- Vegetarian
- Vegan

Scarborough, Appleby, Mizdrak, et al (2014) [15] provide data on the carbon footprint of diets based on a large sample of UK residents (12,600 men, 45,000 women) assigned diet types as above. Their analysis provides a kg CO2eq footprint per 2,000 calories for each diet type[16].

In our model we assume a male consumption of 2,300 calories, female consumption 2000 calories, and 'rather not say' as 2150 calories per day. We reach annual values for kgCO2eqper year as shown here in Table 12 by multiplying their per 2,000 kcal value by 365*115% for males, by 365 for females, and by *365*107.5% for noon-binary/rather not say'.

Table 12: kgCO2eq/yr according to gender and diet type

Gender	Diet Type	kg CO2/yr
Male	High meat-eater (≥ 100 g/day)	3,047
Male	Medium meat-eater (50–99 g/day)	2,376
Male	Low meat-eater (< 50 g/day)	1,960
Male	Pescetarian	1,654
Male	Vegetarian	1,616
Male	Vegan	1,234
Female	High meat-eater (≥ 100 g/day)	2,617
Female	Medium meat-eater (50–99 g/day)	2,051
Female	Low meat-eater (< 50 g/day)	1,705
Female	Pescetarian	1,424
Female	Vegetarian	1,387
Female	Vegan	1,048
Rather Not Say/Non-Binary	High meat-eater (≥ 100 g/day)	2,832

[15] Scarborough, P., Appleby, P.N., Mizdrak, A. *et al.* Dietary greenhouse gas emissions of meat-eaters, fish-eaters, vegetarians and vegans in the UK. *Climatic Change* **125**, 179–192 (2014). https://doi.org/10.1007/s10584-014-1169-1

[16] https://pmc.ncbi.nlm.nih.gov/articles/PMC4372775/table/Tab3/

Rather Not Say/Non-Binary	Medium meat-eater (50–99 g/day)	2,214
Rather Not Say/Non-Binary	Low meat-eater (< 50 g/day)	1,832
Rather Not Say/Non-Binary	Pescetarian	1,539
Rather Not Say/Non-Binary	Vegetarian	1,502
Rather Not Say/Non-Binary	Vegan	1,141

5.2 How much do you spend on yourself per year in each category?

We stress on yourself in the question so as to avoid attributing to those who buy for others (children, partners, other relatives) consumption that should be attributed to those others. Emission Factors for purchased goods and services have been adopted from the GHG Protocol Scope 3 Evaluator[17]. The values for CO2 for each category have been adjusted for € spend per item using an exchange rate of €1.12 to the USD$, and an inflation rate of 25% for price increases since 2014.

[17] https://quantis-suite.com/Scope-3-Evaluator/

Table 13: kgCO2eq/€ spend per consumer catagory

Broad Sector of Purchase		Activity Data	Dollar Conversion	*GHG Protocol Scope 3 Evaluator
(Adopted from the GHG Protocol online Scope 3 Evaluator)		(EUR €)	(USD Basic Price)	kg CO2 €
Textiles and Textile Products	Clothes	€1.00	€1.12	0.52
Leather, Leather and Footwear	Leather, shoes etc.	€1.00	€1.12	0.48
Electrical and optical equipment	Electrical Equipment incl large items like white goods	€1.00	€1.12	0.45
Hotels and Restaurants in Ireland	Hotels and Restaurants in Ireland	€1.00	€1.12	0.25
Food, beverages and tobacco	Drinks and Cigarettes	€1.00	€1.12	0.01
Pulp, Paper, Paper , Printing and Publishing	Books, Newspapers and magazines	€1.00	€1.12	0.35
Post and Telecommunications	TV and Mobile Charges	€1.00	€1.12	0.17
Other Community, Social and Personal Services	Personal Services, incl hygene products	€1.00	€1.12	0.35
Health and Social Work	Medicines	€1.00	€1.12	0.14
Education	Education	€1.00	€1.12	0.14
Retail Trade, Except of Motor Vehicles & Motorcycles; Repair of Household Goods	General Goods for home and garden	€1.00	€1.12	0.12
Furniture and other manufactured goods	Furniture and other manufactured goods	€1.00	€1.12	0.26

6 Calculate your waste emissions

We ask users to estimate the level of waste by container type. For general and recycling waste these are assumed and stated on the calculator to be:

- 60L plastic sacks.
- 120L wheelie bins.
- 240 wheelie bins.

For home compost waste this is

- by 2L container

Municipal compost by

- 120L wheelie bins.
- 240 wheelie bins.

For general waste we use the Irish government's 'Climate Toolkit For Business'[18] value of 0.98kg CO2 per kg black bin waste.

According to the EPA the typical weight for 1L of general waste is 0.125kg[19] Therefore we can assume a full 120L general waste bin will hold

120L*0.125kg = 15kg waste.

For recycled waste we use a zero value, as per the Climate Toolkit for Business. We note that the UKs Conversion Factors for 2025[20] attribute *negative* kgCO2/kg recycled waste values. Our more neutral stance reflects the guidance to try to avoid rather than recycle waste.

For organic waste, we assume 1L waste = .5kg. From the UK Conversion factors we calculate that a 1L Organic waste emits .0045 kgCO2eq.

[18] https://www.climatetoolkit4business.gov.ie/wp-content/uploads/2022/11/Climate-Toolkit-4-Business-Calculator-Logic-October-2022.pdf
[19] https://www.epa.ie/publications/monitoring--assessment/waste/national-waste-statistics/Reporting-on-waste-generated-by-on-site-activities.pdf
[20] https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2025

These calculations enable us to assign kgCO2 emissions values for all waste types according to the collection types and frequencies.

Table 14: Waste kgCO2eq/yr by waste tyep, collection type and frequency

Type	How Often	kgCO2eq/yr
Bin Bag General Waste	One Per Month	42.0
Bin Bag General Waste	One Every Two Weeks	91.1
Bin Bag General Waste	One Per Week	182.1
Bin Bag General Waste	Two Per Week	364.3
Bin Bag General Waste	Three Per Week	546.4
Bin Bag General Waste	Four Per Week	728.6
Wheelie Bin General Waste 120L	One Every 2 months	42.0
Wheelie Bin General Waste 120L	One Per Month	84.1
Wheelie Bin General Waste 120L	One Every Two Weeks	182.1
Wheelie Bin General Waste 120L	One Per Week	364.3
Wheelie Bin General Waste 240L	One Every 2 months	84.1
Wheelie Bin General Waste 240L	One Per Month	168.1
Wheelie Bin General Waste 240L	One Every Two Weeks	364.3
Wheelie Bin General Waste 240L	One Per Week	728.6
Bin Bag Recycling Waste	One Per Month	0.0
Bin Bag Recycling Waste	One Every Two Weeks	0.0
Bin Bag Recycling Waste	One Per Week	0.0
Bin Bag Recycling Waste	Two Per Week	0.0
Bin Bag Recycling Waste	Three Per Week	0.0
Bin Bag Recycling Waste	Four Per Week	0.0
Wheelie Bin Recycling Waste 120L	One Every 2 Months	0.0
Wheelie Bin Recycling Waste 120L	One Per Month	0.0
Wheelie Bin Recycling Waste 120L	One Every Two Weeks	0.0
Wheelie Bin Recycling Waste 120L	One Per Week	0.0
Wheelie Bin Recycling Waste 240L	One Every 2 Months	0.0
Wheelie Bin Recycling Waste 240L	One Per Month	0.0
Wheelie Bin Recycling Waste 240L	One Every Two Weeks	0.0
Wheelie Bin Recycling Waste 240L	One Per Week	0.0
Organic Waste Home Compost	2 L per week	0.018
Wheelie Bin Organic Waste 120L	One Every Two Months	3.2
Wheelie Bin Organic Waste 120L	One Per Month	6.4
Wheelie Bin Organic Waste 120L	One Every Two Weeks	14.0
Wheelie Bin Organic Waste 120L	One Per Week	27.9
Wheelie Bin Organic Waste 240L	One Every Two Months	6.4

Wheelie Bin Organic Waste 240L	One Per Month	12.9
Wheelie Bin Organic Waste 240L	One Every Two Weeks	27.9
Wheelie Bin Organic Waste 240L	One Per Week	55.9

6.1 Pets

We draw on values for GHG emissions for cats and dogs in Martens, Su, & Deblomme, (2019)[21]. We take the mid-values for average dog/cat size from the Netherlands examples:

Species (average)	kg CO2/yr/capita
Cat	200
Dog	886.5

The number of cats/dogs reported by the user is simply multiplied by the kg CO2/yr/capita data and divided by the number of adults in the house as reported in Section 3.2.

7 Results

These are broken down by category and presented also with a final simple accumulated result. They are compared to the national averages (where possible to calculate) which are explained in Section 8 below.

Sample Full Results:

8 Averages

The average values are summarised in Section X Table Z below.

8.1 Adults Per Home

From CSO – there are 2,112,121 homes[22]

There are 3,863,820 adults over the age of 18[23].

[21] Martens, P., Su, B., & Deblomme, S. (2019). The Ecological Paw Print of Companion Dogs and Cats. *BioScience*, *69*(6), 467-474. https://doi.org/10.1093/biosci/biz044

[22] https://www.cso.ie/en/releasesandpublications/ep/p-cpp2/censusofpopulation2022profile2-housinginireland/housingstock/

[23] https://www.cso.ie/en/statistics/population/censusofpopulation2022/censusofpopulation2022-summaryresults/

The average persons per home is: 2.44

The average adults per home is: 1.83

8.2 Annual Electricity Use and Cost Per Home

Average electricity use per home is: 4513kWh[24]

This would cost at the mean electricity cost, from SEAI domestic energy costs statistics, €0.326 per kWh, which is €1,471. To this we add the average standing charge of €254.62 (Section 3.3) for a total of €1,725 (rounded)

For the average kgCO2eq/pp/yr, we take the SEAIs reported total domestic electricity energy use and divide by the number of adults in the country (Table 15)

Table 15: Domestic Electricity Use per Adult

	ktoe	MWh	kWh	kgCO2eq
Total Domestic electricity	751.46	8,739,480	8,739,479,800	
Per adult			2,262	511.2

We choose number of adults as opposed to people, as children are not truly decision makers on the energy use of a home.

8.3 Home Heating Energy Use

The total national non-electricity originated CO2 emissions from the home are 8,403,000,000 kgCO2eq. This gives a figure of 2,175kgCO2eq/yr per adult.

Total Average Home Energy Use CO2 emissions per adult: 2,686kgCO2/per adult /yr

8.4 Transport: Cars

We can estimate the average carbon footprint of a car driver using data from the CSO 2019 and the Department of Transport.

Cars in the State	2,174,779[25]
Adults per Car	1.77
Kms per car[26]	16,000

[24] https://www.seai.ie/data-and-insights/seai-statistics/residential

[25] https://www.gov.ie/en/department-of-transport/publications/bulletin-of-vehicle-and-driver-statistics/

[26] https://www.cso.ie/en/releasesandpublications/ep/p-tranom/transportomnibus2019/roadtrafficvolumes/

Kms per person per year	9,006
kg CO2 from car*	2927

Assuming a medium 2011+ car (55% diesel (.312kgCO2/km), 35% petrol (341))

Average emissions per driver: 2,927kgCO2/yr

8.5 Transport: Public, Cycling, Walking or Ferry

We do not provide averages for the CO2 from these activities.

8.6 Flights

We use the data for 2024 from CSO Household Travel Survey - Quarterly Series

HTQ15 - Outbound Travel by Irish Residents[27]. The data does not distinguish between travel to non-EU European countries for the UK and non-UK. However, when comparing the data pre-Brexit, we found that nearly all the 'other Europe' travel in 2024 is in fact likely to be to the UK. We therefore have an estimate of Long Haul, Medium Haul and Short Haul flights by Irish residents in 2024.

Table 16: Flights by Irish Residents in 2024 by destination and 'haul' length

Destination	Number of trips	Haul Type	kgCO2 per trip (return)	Total tCO2 2024
United States, Canada and Other countries	1,379,000	LONG	2000	2,758,000
EU (excl Ireland)	7,808,000	MEDIUM	582	4,544,256
Other Europe*	4,495,000	SHORT	336	1,510,320
Total	13,682,000	-	-	8,812,576

When we divide this total tCO2 for flights in 2024 by the number of adults in Ireland we get **2,281kgCO2/pp/yr**

9 Average Diet

According to Bord bia, for Irish people,

- 70% don't adhere to any particular diet or food lifestyle
- 55% try to follow a balanced diet, but don't stick to a specific diet
- 19% of those surveyed adhere to a flexitarian diet (16% in Ireland)

[27] https://data.cso.ie/table/HTQ15

- 9% adhere to a vegetarian diet (8% in Ireland)
- 2% adhere to a vegan diet (2% in Ireland)

We cannot map these statistics directly to our diet types in Section 5.1. We take the 9% of Vegetarians and 2% vegans leaving a 89% of the population consuming meat. Since the mid point for meat eaters in our scale is an average meat eater with 2,376 kgCO2eq/yr for males, 2,051 kgCO2eq/yr for females and 2,214 kgCO2eq/yr for 'rather not say'. If we apply this to the population as a whole - less the 9% vegetarians and 2% vegans – we get this rough set of, we hope useable, averages :

So if we take the adult population as a whole and apply these percentages along with the CO2 eq emissions values from Section 5.1, we get in Table 17 a value for te average CO2eq emissions for the Irish adult.

Table 17: Diet types and the average kgCO2eq footprint

Diet	Average kgCO2 eq/yr	% Population	Adults	Total tCO2	Average kgCO2 eq/yr
Medium meat-eater (50–99 g/day)	2,214	90%	3477438	7,699,048	
Vegetarian	1,501	8%	309105.6	463,968	
Vegan	1,141	2%	77276.4	88,172	
Total		100%	3863820	8,251,188	**2135.5**

10 Average Good and Services Consumption Footprint

For this we need to see what the average Irish household spends on the products and services that we assess in the calculator discussed in Section 5.2.

The CSO publishes annual figures for consumer spending in its Household Budget Survey – we use the 2022-2023[28] values.

[28] https://www.cso.ie/en/releasesandpublications/ep/p-hbs/householdbudgetsurvey2022-2023/resultsandanalysis/

Product or Service	Average Irish Spend per family per week €uro	Average Spend Per Family Per Year €uro	Average Spend Per Adult[29] per year €uro	kg CO2/yr
Clothes	23.724	1233.648	440.38	227.68
Leather, shoes etc.	15.816	822.432	403.00	192.8355
Electrical Equipment incl large items like white goods	9.71	504.92	207.11	92.27
Hotels and Restaurants in Ireland	30.68	1595.36	654.40	165.56
Drinks and Cigarettes	28.38	1475.76	605.34	6.66
Books, Newspapers and magazines	7.43	386.36	158.48	55.79
TV and Mobile Charges	63.46	3299.92	1,353.59	223.34
Personal Services, incl hygene products	7.94	412.88	1,105.53	383.06
Medicines	27.48	1428.96	586.14	83.82
Education	13.5	702	287.95	39.59
General Goods for home and garden	3.94	204.88	568.44	68.78
Furniture and other manufactured goods	5.36	278.72	174.48	45.10
Total Carbon Footprint per adult				1,584.49

11 Waste

Data is available on waste from the EPA[30]. We use latest (2022) data and combine with the number of adults from the CSO and the emissions values for kg waste from Section: 6.

Table 18:Tonnes waste and kgCO2 per person for each waste stream

Waste Stream	Tonnes	kg per person	kg CO2
Black bin	711,463	184.1346129	85.99933441
Recycle Bin	256,517	66.38947984	0
Organic	197,518	51.11987618	0.457574012
Total	1,165,498	301.6439689	86.5

12 Pets

[29] We use a value of 1.33 adults per household/family as per the Census results.

[30] https://www.epa.ie/our-services/monitoring--assessment/waste/national-waste-statistics/household/

We use CSO data from Pulse Survey May-June 2021 - Life at Home: Snapshot of Results[31]

			total kgCO2
Number of Homes With Dogs	1,506,890	39%	1335857808
Number of Homes With Cats	811,402	21%	162280440
Total	2318292		1498138248
Adults in Ireland	3,863,820		
Average CO2per adult			**387.735**

We can discover how many homes have a cat, dog, or both. While we cannot be certain that some homes have multiples of one or both animals, we do know that there are at least 2,318,292 individual animals, 1,506,890 dogs and 811,402 cats. This allows us to calculate a minimum value of tCO2 from Ireland's pets using the values from Section 6.1. When we divide this total tCO2 by the number of adults in the country we get an average of 388kgCO2 per adult from pets.

[31] https://www.cso.ie/en/releasesandpublications/fp/fp-pslahsr/pulsesurveymay-june2021-lifeathomesnapshotofresults/snapshotofresults/