

06 March 2020

FREEDOM OF INFORMATION (FOI) REQUEST

Thank you for your enquiry, received on 07 February 2020. As your request relates to environmental data we have responded under the Environmental Information Regulations ('EIR').

Specifically you requested:

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This request for information asks if the UK has any awareness of the size of carbon emissions due to what it consumes and causes as a result of:

- its usage of vehicles and vessels and the manufacture of these vehicles and vessels
 - vehicles and vessels,
 - trains
 - road vehicles
 - aircraft
 - ships
 - bicycles
- the construction and maintenance of the infrastructure which these vehicles and vessels depend on.

Please supply me with annual estimates for the total number of megatonnes of CO2 emitted due to UK consumption for each mode of transport listed above, and all transport modes combined.

Please then do the following.

For each of these modes of transport, please break these estimates down for infrastructure construction including material production needed for this construction, vehicle manufacture, vehicle operation, and infrastructure maintenance including material production needed for this maintenance.

- Supply the total number of kilometres traveled for each listed mode of transport.
- Supply carbon emissions for overall consumption in the UK covering all sectors including transport.

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Our response

The Committee on Climate Change does not hold the information requested. Using publicly available sources, we have provided the information that you have requested where it is available.

Part one: Greenhouse gas emissions

Part 1a) 2018 Greenhouse gas emissions – from vehicle operations only (not manufacturing or infrastructure).

Data source: <https://www.gov.uk/government/statistics/final-uk-greenhouse-gas-emissions-national-statistics-1990-to-2018>

- **Railways = 1.79 MtCO₂e/yr**

Note: Emissions listed here are from gas oil used to power trains and the consumption of coal to power steam trains. Most of the electricity used by the railways for electric traction is supplied by the public distribution system so emissions arising from its generation are reported under a different category – ‘Public Electricity’.

- **Road vehicles:**

Emissions from road vehicles are reported in the following categories:

Passenger cars = 68.47 MtCO₂e/yr

Light duty vehicles (vans) = 19.43 MtCO₂e/yr

Buses = 3.17 MtCO₂e/yr

HGVs = 20.73 MtCO₂e/yr

Mopeds and Motorcycles = 0.52 MtCO₂e/yr

Road vehicle LPG and biofuel use (all vehicles) = 0.33 MtCO₂e/yr

Note: Emissions listed here are from exhausts only. CO₂ emissions from the consumption of biofuels are not included in UK totals.

Incidental lubricant combustion in road engines = 0.22 MtCO₂e/yr

Urea use in abatement technology = 0.06 MtCO₂e/yr

Total emissions from road vehicles in 2018 = 112.92 MtCO₂e/yr

An additional category should be included when considering total emissions from domestic transport – aircraft support vehicles = 0.59 MtCO₂e/yr

Therefore the total emissions from domestic transport usage in 2018 were 124.35 MtCO₂e/yr.

- **Aviation**

Aviation domestic = 1.50 MtCO₂e/yr

Aviation military = 1.12 MtCO₂e/yr

Aviation international = 36.67 MtCO₂e/yr

- **Shipping**

Shipping domestic = 5.93 MtCO₂e/yr

Shipping military = 0.50 MtCO₂e/yr

Shipping international = 7.90 MtCO₂e/yr

Part 1b) 2018 Greenhouse gas emissions – from vehicle manufacturing

Data source:

<https://www.ons.gov.uk/economy/environmentalaccounts/datasets/ukenvironmentalaccountsatmosphericemissionsgreenhousegasemissionsbyeconomicsectorandgasunitedkingdom>

The ONS environmental accounts statistics offer the most disaggregated estimates of UK territorial emissions and includes relevant categories for this request: Manufacture of motor vehicles, trailers and semi-trailers; and construction.

Part two:

Part 2a) Total number of kilometres travelled for each listed mode of transport.

- **2018/19 total distance travelled – rail**

Data sources: <https://www.gov.uk/government/statistical-data-sets/rai01-length-of-route-distance-travelled-age-of-stock>

<https://www.gov.uk/government/statistical-data-sets/rai04-rail-freight>

Passenger km travelled 2018/19 – 67.0 bn km

Passenger train km 2018/19 – 529.3 million km.

Freight tonne km moved 2018/19 – 17.4 bn tonne-km

- **2018 – total distance travelled – road**

Data source: <https://www.gov.uk/government/statistical-data-sets/road-traffic-statistics-tra>

Cars and taxis – 410.4 bn km

Light commercial vehicles (vans) = 82.0 bn km

Heavy Goods Vehicles = 27.5 bn km

Motorcycles = 4.4 bn km

Buses and coaches = 3.7 bn km.

Total from all motor vehicles = 528.0 bn km.

Pedal cycle = 5.36 bn km

- **2018 total distance travelled – aviation**

Data source: AVI0102a, <https://www.gov.uk/government/statistical-data-sets/aviation-statistics-data-tables-avi> – note that data is for “UK registered airlines” only – data for foreign airlines is not available).

Aviation domestic passengers = 9.4 Billion passenger-km

Aviation domestic freight = 0.021 Billion tonne-km

Aviation international passengers = 388 Billion passenger-km

Aviation international freight = 7.4 Billion tonne-km

- **2018 total distance travelled – shipping**

Data sources SPAS0101, <https://www.gov.uk/government/statistical-data-sets/tsqb05-maritime#uk-international-short-sea-long-sea-and-cruise-passenger-movements>. Kilometre data not available for passenger shipping.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/826446/port-freight-statistics-2018.pdf and PORT0102 <https://www.gov.uk/government/statistical-data-sets/tsqb05-maritime> Kilometre data not available for international shipping.

Shipping domestic passengers = 19.6 Million passengers

Shipping international passengers = 21.8 Million passengers

Shipping domestic freight = 24.2 Billion tonne-km for 94 Million tonnes

Shipping international freight = 390 Million tonnes

Part 2b) Carbon emissions for overall consumption in the UK covering all sectors including transport.

The Committee on Climate Change 2019 Progress Report to Parliament included an estimate that the UK's consumption emissions were 784 MtCO₂e in 2016. This can be found on page 28 and is available to download at <https://www.theccc.org.uk/wp-content/uploads/2019/07/CCC-2019-Progress-in-reducing-UK-emissions.pdf>

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If you are dissatisfied with the handling of your request, you have the right to ask for an internal review. If you are not content with the outcome of the review, you may apply directly to the Information Commissioner for a decision.

In keeping with our transparency policy, the information released to you will be published on www.theccc.org.uk. Please note that this publication will not include your personal data.

Kind regards,

Committee on Climate Change