

Factsheet – Key emissions source - transport

The transport sector is the largest source of greenhouse gas emissions in Jersey. It produces 44.2% of emissions. As a result, transport is a priority area for action.

The transport sector includes emissions from road transport, domestic aviation and domestic shipping. Domestic aviation and navigation refer to activities that occur within Jersey and between Jersey and the UK. This includes, for example, take off, landing and internal, recreational flights and shipping activity that occurs within Jersey waters. For international aviation and shipping (journeys to and from other countries), the emissions are equally divided between the two countries. However, these statistics are recorded as memo items to the inventory and are not included in the national total.

Road transport was the largest source of emissions from transport in 2018. Road transport includes cars, motorcycles, light duty trucks, heavy duty trucks and buses. Carbon emissions from road transport amount to 118 kt CO₂eq. This is the majority (63%) of the 187 kt CO₂eq of carbon emissions from all transport activities. On-Island policies can help reduce emissions from road transport. Although reducing marine and air transport emissions will require international cooperation there are actions that can be taken at a local level that could also have an impact.

How have Jersey's transport emissions changed over time?

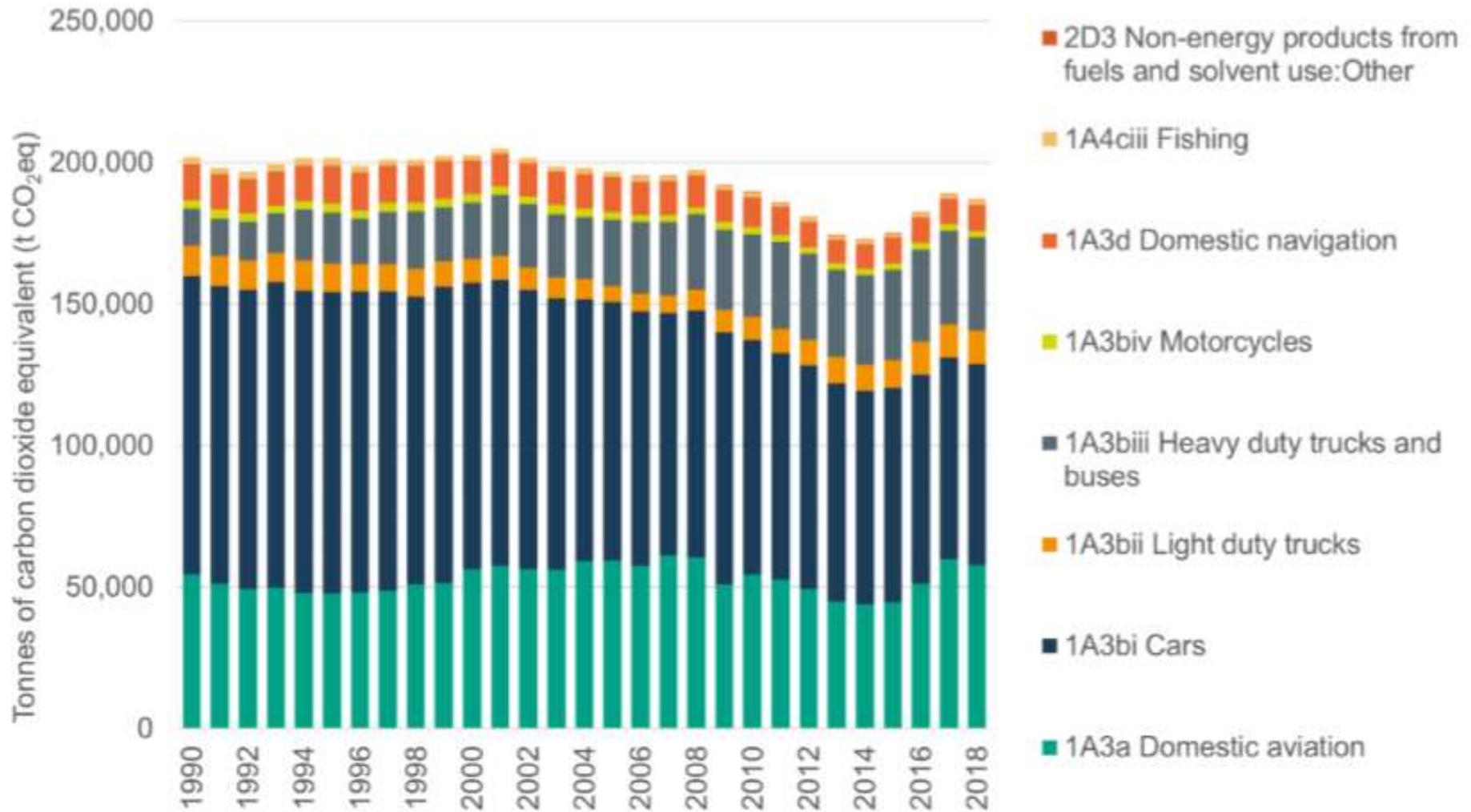
The graph shows that transport sector emissions decreased between 1990 and 2018. They have dropped by 8% from 201,749 to 186,590 tCO₂eq. Transport emissions decreased between 2001 and 2014. This was due to passenger cars becoming more fuel efficient and so using less fuel. Emissions increased from 2015 to 2017, reversing the trend.

Reducing emissions from transport

There are three broad ways in which we can reduce the greenhouse gas emissions associated with transport:

- **Reduce the need to travel**, for example through working at home. There is potential to deliver this at minimal cost.
- **Shift journeys to less carbon intensive forms of travel**, for example through switching from private cars to public transport, or active travel such as cycling and walking.
- **Improve the emissions performance of the vehicles we use**, for example by switching from petrol or diesel cars to electric vehicles or using sustainable fuels such as second-generation renewable diesel (HVO) or hydrogen.

Graph showing the change in transport sector and subsector emissions between 1990 and 2018



Sustainable Transport Policy and Carbon Neutral Strategy

The Sustainable Transport Policy 2020-2030 was adopted by the States Assembly in 2020. The policy sets out broad objectives for improving transport in Jersey. It looks at achieving greenhouse gas reductions and also health and lifestyle improvements.

The Sustainable Transport Policy proposes the development of an Active Travel Plan, a Bus Service Development Plan and a Parking Plan which will all contribute towards the shift away from journeys made by private vehicle to public transport and active journeys. These will include investment in the local transport infrastructure that will make journeys by bus, walking and cycling more convenient and safer. Journeys made by private car will be discouraged by making changes to the availability and pricing of car parking.

The Sustainable Transport Policy was developed alongside the Carbon Neutral Strategy. This considers the third bullet point above - how to reduce the emissions from the private vehicle journeys we will continue to need to make. It considers the potential costs and impact on transport emissions of three key measures:

- 1. Facilitating the uptake of electric vehicles by**
 - escalating existing fuel taxes to discourage the use of petrol and diesel vehicles
 - providing financial incentives for the purchase of electric vehicles, either in the form of a purchase grant, and/or in the form of a scrappage payment for owners of fossil fuel vehicles
- 2. Imposing a ban on the registration of new or second-hand petrol and diesel vehicles**, so that they are gradually replaced by EVs over time
- 3. Facilitating the use of second generation biodiesel (HVO) for all diesel vehicles**, potentially through fuel taxation concessions for such fuels

The impact of COVID-19 on behaviour and future working

The COVID-19 pandemic has meant that non-essential workers have been working from home. As a result, there have been less car journeys.

Flexible ways of working, such as a mix between working from home and in the office, could help reduce the amount of on-island car travel. Flexible working could reduce Jersey's private car use and road transport in general.

Bus ridership has decreased as a result of the pandemic. There has been an increase in cycling (both pedal bikes and electric bikes) and walking.

As we come out of the pandemic there could be changes in how and where people work. Islanders may also make different choices about transport as their daily habits and routines have changed. There is an opportunity to maintain or establish new routines, like cycling and walking.

Transport technology

The world is dominated by petrol and diesel (fossil-fuel) powered vehicles which produce carbon emissions.

Presently the only widely commercially available alternative to petrol or diesel engine vehicles is electric vehicles (EVs) which store energy in a battery and are driven by electric motors. All the global automotive manufacturers now sell passenger EVs.

EVs are classed as low carbon emission vehicles but it is important to remember that the carbon emissions associated with these vehicles depend on the carbon intensity of the electricity supply. In Jersey, where we have a low-carbon electricity supply, replacing petrol and diesel vehicles with electric vehicles results in lower carbon emissions.

Hybrid electric vehicles also exist. These vehicles combine petrol engines with battery technology to reduce carbon emissions, but their emissions are higher than EVs.

Current limitations of EVs:

- Vehicle performance does not directly match that of petrol or diesel technology
- Limitations of battery technology mean that EVs often have a shorter driving range (before they need re-charging)
- Re-charging currently takes more time than filling-up with petrol or diesel
- Existing battery technology is unsuitable for some heavy-duty vehicles
- Current EV batteries are manufactured using rare earth minerals which are limited in availability

For these reasons it is unlikely that the global vehicle fleet will be entirely replaced by EVs. There is an enormous amount of research and technology development effort being put into finding alternative solutions.

We are likely to see other new low-emission vehicle technologies emerging in coming years and decades. There are two major areas of interest:

- Improving battery technology to increase the energy storage capacity of a given size of battery and to be able to charge the batteries much faster
- Hydrogen fuel cell vehicles which would convert hydrogen fuel to electricity to power electric motors. In principle this technology would overcome most of the performance limitations of EVs. Manufacturing hydrogen requires large amounts of electricity which would need to be from low-carbon sources. It also requires very different refueling infra-structure

In the context of Jersey, it is worth noting:

- Existing EV technology performance is good enough for passenger vehicles owing to short journeys and low speed limits
- Not all types of vehicles currently have commercially available EV alternatives. For some heavy-duty vehicles the only viable low-carbon solution is currently second-generation biodiesel
- Transitioning to EVs will require electrical charging infrastructure
- If the UK and/or EU bans the sale of petrol or diesel passenger vehicles, then Jersey will be forced to transition as we import all new vehicles and spare parts and maintenance services for petrol or diesel vehicles will be withdrawn

Read more about Jersey's transport sector:

- More information on travel and transport statistics is available at: <https://www.gov.je/government/jerseyinfigures/traveltransport/Pages/index.aspx>
- Further detail on how transport emissions are calculated is provided in the Guide to Jersey's Greenhouse gas inventory which can be viewed at <https://www.gov.je/government/pages/statesreports.aspx?reportid=5291>
- Sustainable Transport Policy - <https://www.gov.je/government/pages/statesreports.aspx?reportid=5133>
- Carbon Neutral Strategy <https://www.gov.je/SiteCollectionDocuments/Environment%20and%20greener%20living/CNS%20amended%20version%20FINAL.pdf>

Road transport facts and figures

Registered vehicles

- The vehicle register indicates that the total number of cars registered was 90,946 as at 31 December 2020. At that time there were 654 registered electric and 1303 registered hybrid cars
- It should be noted that the total number of cars on the register does not reflect the actual number of cars in existence. Despite it being a legal requirement for registered owners to notify Driver and Vehicle Standards within 7 days of a car being scrapped or exported this does not always happen

Vehicles per household

- In 2011, there were 62,456 cars / vans available for use by private households. This is equivalent to 651 cars / vans per 1,000 population
- There were 1.50 cars / vans per private household. This was higher than in 2001 (1.48) and higher than in the UK (1.2)
- The average number of motorcycles / scooters increased from 0.12 to 0.19 per household between 2001 and 2011

Households without access to a car or van (2011 census)

- one in six (16%) private households did not own or have access to a car or van
- households without a car / van was unchanged from 2001 (16%) and slightly lower than in 1989 (20%)
- the proportion of households without a car / van was lower than in the UK (23%)
- 30% of households living in St Helier did not have a car / van
- around one in five (22%) private households in rural parishes had three or more cars / vans for private use
- two-fifths (40%) of households without access to a car / van were single adults and a quarter (24%) were single pensioners

Travel to work (Jersey opinions and lifestyle survey 2017)

- Excluding those who worked from home, or lived at their place of work, over half (57%) of workers travelled to work by car or van in 2017 (either alone or with other people). 31% walked, 7% cycled, 3% by motorbike or moped and 2% by bus