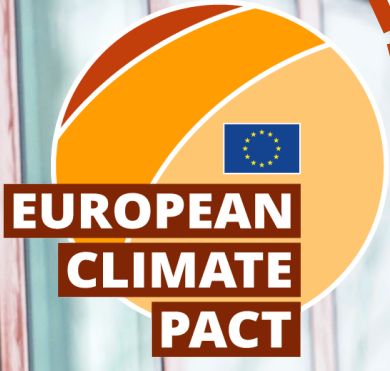


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**How we move and get around.**

**Learning materials for module 1**



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# How we move and get around: short journeys



## Question 1

When it comes to short journeys – whether that’s dashing to the shops, meeting a friend or picking up your children from school – what would encourage you to use your petrol- or diesel-powered car less? How could you be convinced to use public transport or other environmentally friendly options such as walking, cycling or an electric car instead? **Take a look at the options** below, **chat** about them with your group and **rank them** according to the solutions you think are best.

Points	Option
5 points	B
4 points	C
3 points	A
2 points	E
1 point	D

Ballot sample

- A** I should be able to **use my bike safely** in my local area. Cycle paths should be better developed and safer.
- B** I should be able to rely on **cheaper and more convenient public transport** with real-time transport updates.
- C** I should be encouraged to **leave the car at home**. Cities should offer fewer places to park and introduce stricter speed limits in built-up areas (30 km/h).
- D** There should be **more charging stations** where I can charge my electric vehicle, and electric car batteries should be improved to give them greater range.
- E** What **other solutions** can you think of?

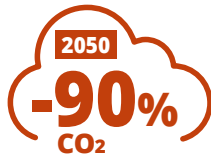


## Context

Although short journeys mostly take place in towns and cities, a lot of people living in rural areas also make regular short trips. Many people moving around towns and cities don't use a car, but choose to walk, cycle or take public transport such as the bus, metro or tram instead.

### Transport accounts for almost a quarter of Europe's greenhouse gas emissions.

More than 70% of transport emissions are caused by road transport, with cars, small vans and trucks accounting for the largest share. Cars are responsible for around 12% of the EU's total CO<sub>2</sub> emissions, and that figure is rising. Transport is also the main cause of air pollution in cities.

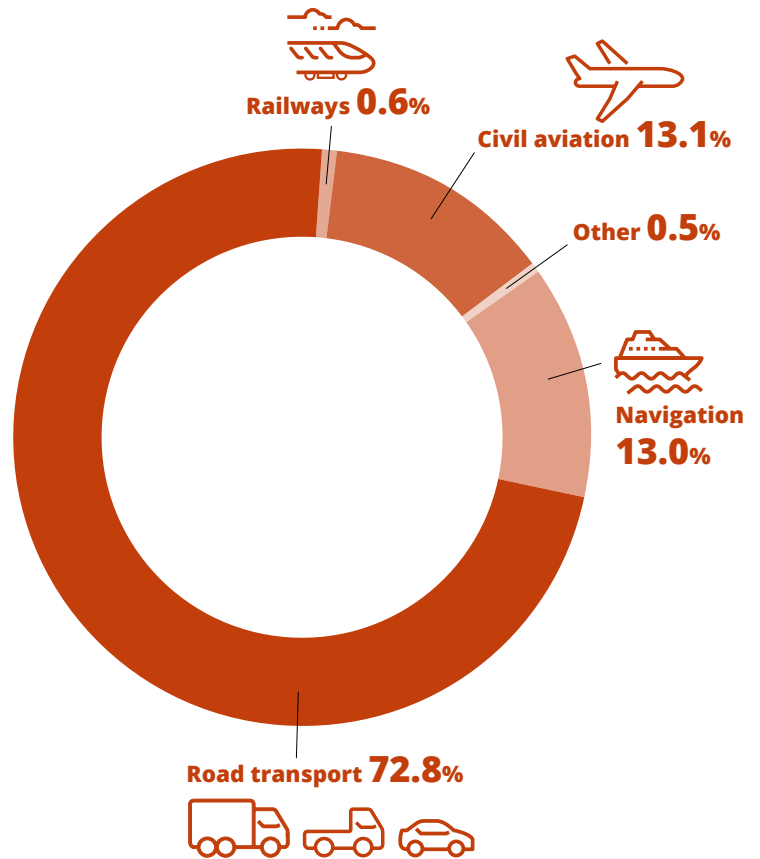


The European Green Deal aims to make Europe climate-neutral by 2050. This means that, by the middle of the century, we must not be generating more carbon than our ecosystems – forests and oceans – can remove from the atmosphere naturally. **To meet this goal, CO<sub>2</sub> emissions from transport need to be reduced by 90%.**

The European Commission has laid the foundation for how Europe's transport system can become smarter and more climate-friendly – for instance, by doubling the number of high-speed trains and developing extra cycle infrastructure over the next 10 years (source).



With the Green Deal proposals and other initiatives, the EU's objective is to encourage people to reduce their use of petrol- or diesel-powered cars and switch to zero- or low-emission vehicles (such as electric cars), or sustainable alternatives, including public transport (especially low-carbon transport such as rail).



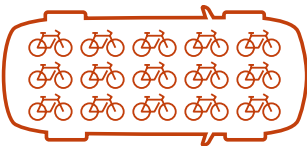
The recent updates to EU climate and energy legislation ('Fit for 55') include more stringent CO<sub>2</sub> emission standards for new cars. They will also introduce **emissions trading for road transport from 2026**, with a view to phasing out traditional combustion engines for new vehicles by 2035. This means that fuel suppliers need to buy certificates allowing them to sell a certain amount of fuel, and then resell some of those certificates if they over-comply. This should reduce emissions, improve air quality, and encourage drivers to consume less in order to save money.



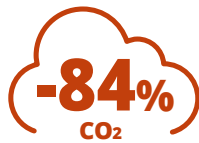
## Cycling



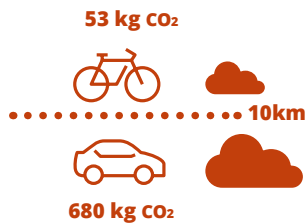
**Cycling is a cost-efficient,** convenient, healthy and environmentally friendly means of transport, especially for the short journeys that account for most urban travel.



Bicycles are also very **space-efficient:** you can fit up to 15 bicycles into the space taken up by just one car. Cycle lanes also need less space than roads or motorways. And if less space is needed, then less land is used, and less soil and water is polluted.



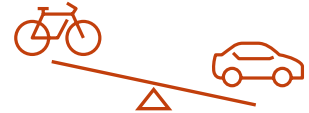
Each year, cyclists in the EU prevent more than 16 million tonnes of CO<sub>2</sub> from being generated. This is equivalent to the total annual CO<sub>2</sub> emissions for a whole country the size of Croatia. Cycling also reduces air and noise pollution. Moreover, **cyclists generate 84% fewer CO<sub>2</sub> emissions than non-cyclists:** the average person who decides to take up cycling instead of driving decreases their emissions by 3.2 kg of CO<sub>2</sub> each day over the course of their lifetime.



**Driving 10 km to work by car** every day for one year produces 680 kg of CO<sub>2</sub>. Cycling to work instead emits 627 kg less. That is roughly the same as three round-trip flights for one passenger from Frankfurt to Barcelona.

### The success of cycle lanes

is determined not only by their design and safety, but by other factors such as the facilities along the routes, how well connected the routes are, and how much publicity and promotion they get.



It takes far **fewer resources to produce a bicycle** than it does to produce a car. The average weight of a car in the EU in 2017 was almost 1 400 kg, whereas a bike rarely weighs more than 20 kg. That's just 1.5% of the weight of a car.



Cycling helps encourage people to take other forms of sustainable transport too. Dutch research shows that 44% of train commuters in the Netherlands cycle from home to the train station. People who travel by a **combination of bike and train** also tend to use their car less.



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## Public transport in towns and cities



Public transport for short trips includes road transport, such as coaches and buses, and rail transport, such as the metro, tram and urban/suburban trains. Public transport is a good way to reduce congestion and harmful emissions in urban areas, especially when it runs on cleaner fuel.

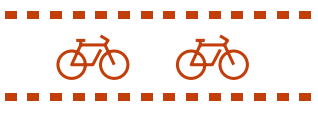
**There are two zero-emission options for bus transport:** battery buses (battery-powered electric vehicles or BEVs) and hydrogen fuel-cell buses (fuel-cell electric vehicles or FCEVs).

The **greening of urban public transport has only just begun.** Frontrunner regions and cities have already started replacing combustion engine buses with emission-free vehicles.

Whether or not people choose to use public transport in towns and cities doesn't just depend on its price, convenience, accessibility and safety, it is also influenced by factors such as the size of the city and how easy it is to walk around it.



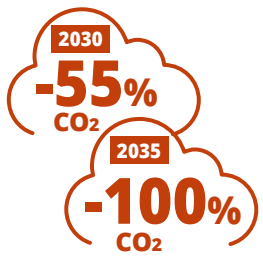
## Car traffic



We can reduce the number of cars on the roads by providing viable and attractive alternatives, ranging from good public transport to more cycle lanes and car share schemes. Introducing congestion charges in towns and cities also helps to discourage people from driving.

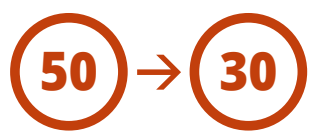


It's becoming more common to **share a car**, and schemes such as station-based, peer-to-peer and free-floating car sharing are helping to make this to happen. In 2018, more than 6.5 million people in Europe belonged to car sharing schemes.



Car traffic is a major source of greenhouse gas emissions in the EU. To tackle the problem, the European Commission is proposing to reduce the average CO<sub>2</sub> emissions generated by new cars by 55% by 2030, and by 100% by 2035. And from 2035, new cars will not generate any harmful emissions, as combustion engines will have been phased out completely.

Cities could provide **fewer parking spaces** in city centres to encourage people to choose public transport. However, this could encourage people to travel to shops on the edge of town more frequently in their car.



It's possible to make travelling by car in towns and cities safer and greener without increasing journey times. This can be done by **reducing speed limits** from 50 km/h to 30 km/h, which has the added benefit of significantly lowering the likelihood of deaths in road accidents. Some countries, including Belgium, the Netherlands and Spain have recently introduced this kind of legislation. Where speed restrictions have been introduced on motorways, there has been a positive reduction in CO<sub>2</sub> emissions.



## E-mobility



There are several types of electric cars. Some use a battery to power the engine (battery-powered electric vehicles or BEVs). Some are hybrid vehicles that combine an electric motor with a gasoline engine (plug-in hybrid electric vehicles or PHEVs). And others use hydrogen fuel cells to produce electricity rather than simply drawing electricity from a battery (fuel-cell electric vehicles or FCEVs).



Interest in electric cars in Europe has been rising fast. In 2020, global sales of these vehicles rose by 43%, partly due to the falling costs of batteries.

Whereas the **battery** pack in a small car would have cost around €25 000 in 2010, the same battery pack costs roughly €3 500 today – a price drop of 86%.



**CO<sub>2</sub> emissions from electric cars are roughly three times lower** than those from petrol or diesel equivalents over the vehicle's lifetime. Although fossil fuels are still used to produce the batteries and generate the electricity that charges the vehicle, this energy is increasingly coming from renewable sources such as solar or wind. It's estimated that, after less than two years of driving, some models of electric cars will be saving more carbon than it took to manufacture them.

What's more, electric cars are much quieter as there is no traditional combustion engine, so they produce less noise pollution too. For local air quality, electric vehicles also offer clear benefits, mainly due to zero exhaust emissions at street level.





# E-mobility



Charging is getting faster too. In early 2021, the first battery capable of providing enough energy to travel 320 km with just a five-minute charge was produced. This makes it possible to charge your electric car in roughly the same amount of time as it takes to fill up a tank with petrol or diesel. **To make sure that drivers can charge or fuel their vehicles across Europe**, the EU is proposing regulations requiring countries to install charging and fuelling points at regular intervals on major roads: every 60 km for electric charging and every 150 km for hydrogen refuelling.

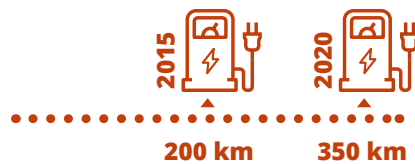


**E-bikes** also have a positive impact on the environment as an alternative to cars. They are typically very efficient, consuming only about 10% of the energy of a small electric car.



Prices have also been falling as a result of government support. Many European governments have increased their subsidy schemes for electric vehicles.

The owners of electric vehicles also stand to benefit from other perks, such as exemption from registration tax in some countries and free parking in others.



The **average driving range of new BEVs has been steadily increasing**. In 2020, the average range for a new battery-powered electric car was about 350 km, up from 200 km in 2015.

# How we move and get around: long-distance journeys



## Question 2

When it comes to longer-distance journeys, what would encourage you to fly less and take the train or bus instead? **Take a look at the options below, chat about them** with your group and **rank them** according to the solutions you think are best.

Points	Option
5 points	B
4 points	C
3 points	A
2 points	E
1 point	D

Ballot sample

- A** I should be discouraged from flying. Plane tickets should be more expensive, which will not only help offset CO2 emissions, but reflect the cost to the climate.
- B** I should be able to buy more **affordable rail tickets** to make train travel more attractive.
- C** **Europe should be better interconnected** by train and long-distance night trains should be readily available. It should be easy to book rail tickets wherever I am in Europe.
- D** Employers and employees should be rewarded for **offering and choosing sustainable transport options**.
- E** What **other solutions** can you think of?

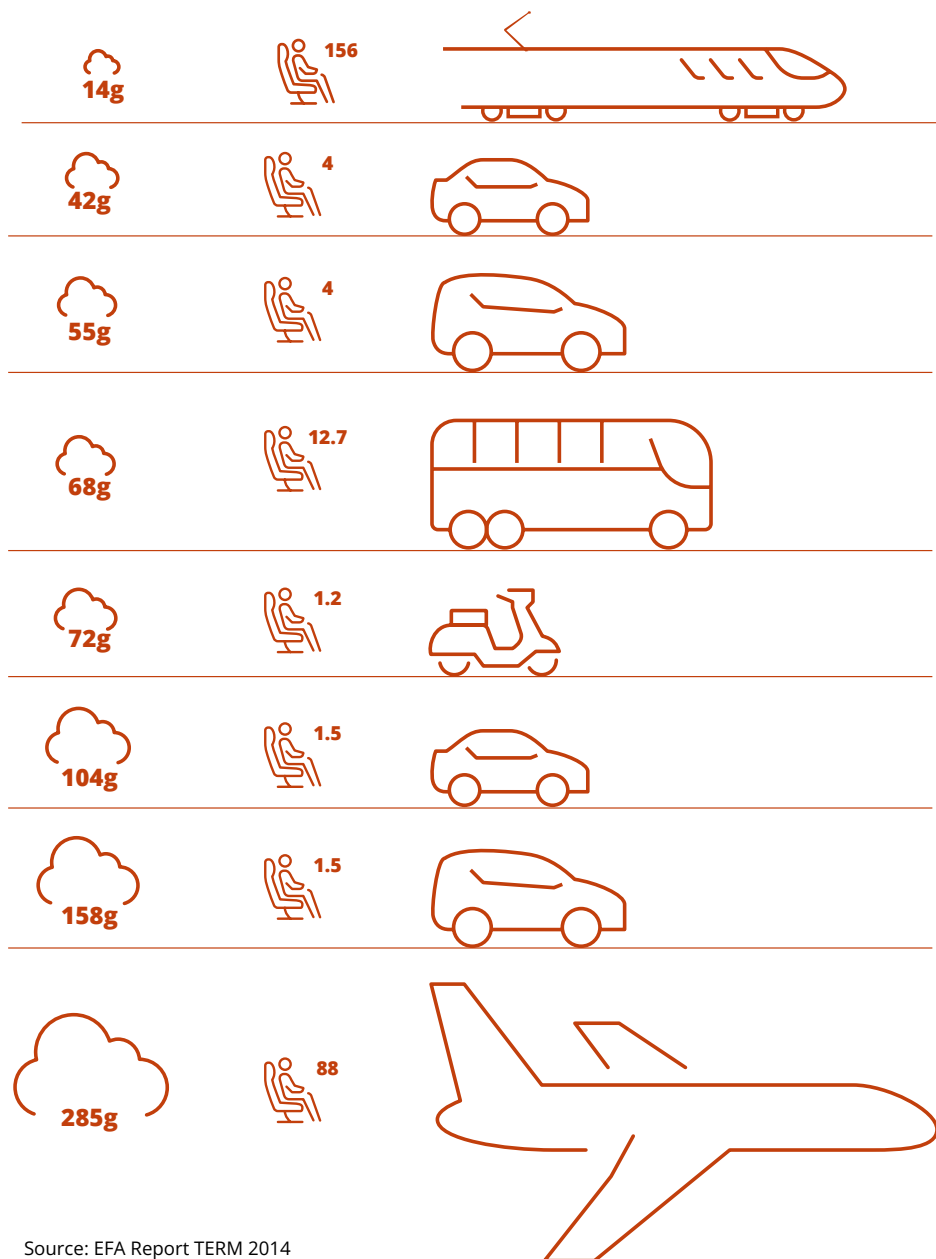


## Context

Although some long-distance journeys are for work, most are for holidays and recreation, and the majority are made either by plane, car, train or bus.

Planes are the least environmentally friendly option, generating almost 300 g of CO<sub>2</sub> emissions per passenger, per kilometre. A bus emits just a quarter of that. Rail is the greenest option. A small car full of passengers produces three times more emissions than a train.

### CO<sub>2</sub> emission from passengers transport (g of CO<sub>2</sub> per passenger km)



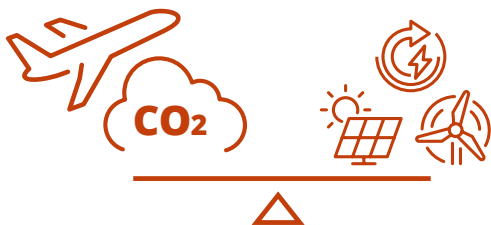
Source: EFA Report TERM 2014  
[eea.europa.eu/transport](http://eea.europa.eu/transport)



## Air travel

The share of greenhouse gas emissions generated by air travel is relatively small, at 14% compared to 72% of emissions from road transport. However, flying is one of the **fastest-growing sources of emissions**. The EU has laws in place to reduce the emissions generated by flights within Europe, and is working with other countries to develop similar measures across the world.

The European Commission's recent Green Deal proposals also include a proposal to **update tax exemptions on the kerosene** used to fuel planes.



As short flights consume more fuel per passenger and per kilometre than long-distance flights (due to high fuel consumption during take-off and landing), there has been some public debate about whether **short flights** should be banned. For instance, the French parliament recently approved a ban on airline routes covering distances that could be travelled by train in less than 2.5 hours. However, it could be argued that this ban is more symbolic than effective, as it will reduce plane emissions by less than 1%.

To reduce the impact that air travel has on the climate, it is possible to 'offset' the greenhouse gas emissions caused by a plane trip. This means you can calculate the amount of carbon that your journey generates, and pay an organisation to either reduce emissions elsewhere or plant more trees. However, critics of carbon offsetting say we must anyway create less carbon in the first place.

According to the European Investment Bank's Climate Survey, 62% of Europeans would support a ban on short flights and 72% of respondents are in favour of a carbon tax on flights.





Train travel is a **low-emission option** for travelling longer distances, especially when trains are powered by green electricity.

Travelling by train can be made more affordable if governments **subsidise rail tickets**, contributing to the running costs to help lower the price for passengers. For example, the German government has recently reduced the VAT rate on rail tickets from 19% to 7% as part of its climate protection programme. As a result, prices for long-distance train tickets have decreased by 10%.

**One obstacle to long-distance train journeys is the difference between the rail networks** in different countries; for example, in the electrification and size (gauge) of the tracks. Nonetheless, there are several international trains operating in Europe, including the InterCityExpress, which connects Germany, the Netherlands, Belgium, France, Denmark, Switzerland and Austria.

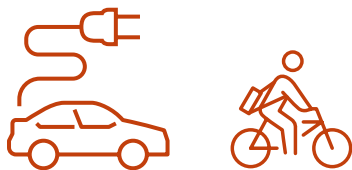
**Overnight European train services are also being revived** to cater to an increasing need for sustainable travel. A partnership between Germany's Deutsche Bahn (DB), Austrian Federal Railways (ÖBB), France's SNCF and Swiss Federal Railways (SBB) has established new nightlines four new nightlines connecting 13 of Europe's largest cities.

The EU is striving to create a Europe-wide network of railway lines, roads, inland waterways, maritime shipping routes, ports, airports and rail terminals, known as the **Trans-European Transport Network (TEN-T)**. It is supported by a programme that aims to establish a European Railway Traffic Management System to replace the more than 20 different national train systems, and will help to create a seamless, Europe-wide railway network.





Employee travel is a huge source of carbon emissions. Most business trips are taken by air and by car – the two most polluting transport options. In addition, the **CO<sub>2</sub> footprints of business and first-class seats** that companies often book are three to four times as high as those in economy. The number of flights taken by employees is also much higher compared to those taken by the average holidaymaker.



**Commuting** is one of the main reasons that people travel every day. In Germany, 27% of the total overall distance that people travel is for work. In Croatia, that figure is 47%. What's more, in Germany, 68% of the workforce use their car to get to work. Compare this to a city such as Copenhagen – one of the most bicycle-friendly cities in Europe – where around 40% of daily commutes are made by bike.

Measures to reduce carbon emissions from business travel include **replacing face-to-face meetings with virtual ones.** Some businesses are also considering **switching to greener modes** of travel (e.g., from air to train, or from individual company cars to shared vehicles), as well as **greening the business fleet** (for example by replacing petrol- or diesel-powered cars with electric vehicles).



Teleworking is another option to reduce emissions, since the COVID-19 many companies have increased their flexibility regarding remote working.



## Do you want to share your opinion on future EU climate policies with people from all over Europe?

- Host a Peer Parliament and submit the results with the **European Climate Pact**. The combined results from across Europe will be shared with EU policymakers.
- Share the results of your Peer Parliament in social media, using the hashtags #EUClimatePact and #PeerParliaments.

How would you like to contribute to a climate-neutral Europe?  
Discuss and get involved!

## How you can contribute to a climate-neutral Europe



### Walk and cycle more

Travel by bike or on foot whenever you can.



### Drive electric

Make your next car a zero-emission vehicle.



### Fly less

Reduce your air travel to cut your carbon footprint dramatically.



### Offset your carbon emissions

if flying is unavoidable.



### Use public transport

rather than your own car (if you have one).

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Interested in hosting a Peer Parliament yourself?

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