UNHOOKING EUROPE FROM OIL

10 measures in the transport sector to wean the EU off Russian oil

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Executive Summary

The war in Ukraine is causing unimaginable suffering to the Ukrainian people, and it has exposed how Europe's addiction to fossil fuels for its energy is driving war and conflict, as well as the climate crisis. While European countries have imposed sanctions on Russia, they continue to send almost 200 million Euros to Russia for oil imports every single day - funding Putin's war machine. Oil exports are the biggest source of income for Russia.

As bombs continue to rain down on the schools, hospitals and train stations of Ukraine, Europe must cut ties with Russian oil to stop bankrolling Putin's war. In order to do so, EU leaders must turn their attention to the transport sector: **Almost 70% of all oil in the EU is used for transport**, powering cars, trucks, buses, tractors, planes, shipping vessels and other fossil fuel powered modes of transport. Russia is the largest single supplier of oil to the EU, accounting for around 27% of oil imports in the EU, meaning that about one in every four journeys by car, truck or plane and other means of oil-powered transport are powered by Russian oil. To support peace in Europe and elsewhere, the EU must stop fuelling Russia's war by significantly cutting its oil consumption in the short-term, and accelerate the entire phase-out of any fossil fuels with a history of fuelling conflicts. However, just replacing Russian oil with dirty energy from other sources won't bring security as other sources of oil often come from areas which are no less critical geopolitically or are associated with drastic environmental degradation. Therefore, reducing EU oil consumption is urgent and essential.

Despite the transport sector's obvious role in fuelling the war in Ukraine, European leaders have largely avoided addressing the connection between our mobility choices and the war, and imposing sanctions on oil imports. In its first communication on reducing the EU's dependence on fossil fuel imports, the European Commission completely omitted the transport sector and only proposed measures to cut dependency on Russian gas, despite stating that "phasing out our dependence on fossil fuels from Russia can be done well before 2030".

In this analysis, Greenpeace lays out a plan for Europe to reduce its dependence on Russian oil - and oil in general - with **10 short and mid/long-term measures targeted at the transport sector**, including a ban on short-haul flights, a reduction of speed limits, making public transport more affordable and improving cycling and walking infrastructure.

- By implementing the proposed measures, Europe could cut its oil dependency by 40 million tonnes per year, equivalent to 19.7 billion Euros.
- We have estimated that with five short-term measures, Europe could **wean itself off 28% of Russian oil within a matter of months**. This amount could be achieved through measures on the transport sector alone, which consumes 70% of all oil in the EU. This analysis did not assess other sectors, which consume the remaining 30% of oil in the EU. It can be taken for granted that there is also the potential to reduce oil consumption in other sectors, to add to the measures on transport described in this analysis. Such measures could include more efficient heating and use of warm water, reduction of single-use plastics, increasing plastic recycling or applying more eco-farming methods.
- These measures also **tackle the rising greenhouse gas (GHG) emissions from the EU's transport sector** which is responsible for 25% of the EU's GHG emissions and fuels the climate crisis: by reducing demand for oil in the transport sector, **the EU could reduce GHG emissions by about 144 million tonnes per year,** equivalent to the emissions of 93 million fossil fuel powered cars[1].
- **Almost half of the impact of the proposed measures would come from driving less and more efficiently, around 20% from flying less, while 15% can be saved by public transport, 8% by cycling, and 6% by shifting goods from road to rail. The consumption of fossil fuels by cars could be reduced by 18%, which is made up of 13% through driving less and 5% by driving more efficiently.**

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[1] An average car in the EU is driven 12,000 kms per year, and emits around 125 grams CO_2/km.

Greenpeace calls on European leaders to target the transport sector with measures to free Europe from its addiction to oil, especially from Russia, and to reduce the climate-damaging emissions of the transport sector at the same time.

Introduction

Russia's war in Ukraine has not only exposed the dependency of our transport system on oil which is **bankrolling wars and conflicts**, but has also exposed the **volatility and vulnerability of our fossil fuel powered mobility system**. Since the beginning of the war, skyrocketing fuel prices at the petrol pump have hit consumers in Europe hard, particularly those on low incomes, while fossil fuel companies have raked in extra revenues of about €3 billion from their diesel and petrol sales, as shown by a recent Greenpeace analysis.

At the same time, rising fuel prices as well as blockages in the Black Sea and airspace sanctions have significantly affected the logistics of goods distribution throughout Europe, and even to and from the Middle and Far East. This has led to longer transits, fewer available vessels and rising shipping costs, likely to impact prices for consumers. The transportation of our goods, like all our transport, still relies almost entirely on fossil fuels. Around 77% of all goods in the EU are transported on roads, with only 17% by train and 6% on waterways.

European leaders seek to cut ties with Russian fossil fuels

As European leaders consider their response to Putin's invasion of Ukraine and the rising costs of energy, they risk relying on false solutions that extend our fossil fuel dependency, such as simply seeking alternative oil supplies in Saudi Arabia and elsewhere. In an attempt to cushion consumers from rising fuel prices, several EU governments have announced fuel tax cuts and rebates, which disproportionately benefit the wealthiest in society and extend our transport system's addiction to fossil fuels, exacerbating its negative impacts on the climate.

To wean the EU off its dependency on Russian fossil fuels, the European Commission has made an initial proposal, called REPowerEU. However, this focuses on reducing gas imports through measures in the housing, power and industry sectors, and completely ignores the transport sector which consumes two thirds of the oil in the EU.

The European Commission will come up with a new action plan for REPowerEU by the end of May and European leaders will make decisions on energy and the war during a summit on 30 and 31 May.

Response to Russia's aggression: EU leaders must include the transport sector

As the current transport system is the largest consumer of Europe's oil and is both bankrolling wars and driving the climate crisis, it must be part of the solution for fighting both. Therefore, it is crucial that the EU's new plan to reduce its oil, gas and coal addiction includes transport related measures.

Greenpeace is calling for an immediate embargo on Russian oil as a measure to foster peace and to cut the size of Putin's war chest. The short-term measures in the transport sector described here will enable the EU to reduce oil imports immediately. However, it is clear that this reduction is not enough to free us from our toxic dependence on oil, and just replacing Russian oil with dirty energy from other sources won't bring security as other sources of oil often come from areas which are no less critical geopolitically or are associated with drastic environmental degradation. In the longer term, we also need a restructuring of our oil-dependent mobility system so that it serves the climate and the people. As European leaders seek to cut ties with Russian fossil fuels, they must not resort to simply diversifying their purchasing of oil by buying it from other war-torn regions, but must phase out oil entirely. Research commissioned by Greenpeace Belgium offers a roadmap for decision-makers to decarbonise the European transport sector by 2040, powering it with renewable energy, without relying on biofuels. This roadmap has also informed the five mid- to long-term measures that are proposed in this analysis.

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5 short-term measures to reduce the EU's oil demand

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1. Ban on short-haul flights and reduction of business flights

Greenpeace is demanding an immediate ban on short-haul flights in Europe wherever reasonable train or ferry alternatives exist, and the substitution of business flights with virtual meeting technology wherever possible.

Why?
As a recent Greenpeace report shows, there is a reasonable train alternative for around 80% of all short-haul flights in the EU, the UK, Norway and Switzerland, excluding flights to islands without a railway connection. If train connections where passengers have to change three times or more are included, the percentage of short haul flights that could be replaced goes up to 98%. Flights have the highest climate impact per passenger kilometre of all modes of mass transportation. In the EU, on average, flights emit five times as much GHG emissions as trains. In some countries, where railways already use 100% renewable electricity, such as Austria or the Netherlands, a flight emits up to 80 times more GHGs than its alternative rail connection.

Another effective intervention point to reduce flights is a reduction of corporate travel.[2] Around 20% of all flights are work-related, and according to recent research from the IEA, up to 70% of these could be replaced by virtual meeting technologies.

Who can fix this?
What can national governments do? Governments should immediately ban short-haul flights where there are train alternatives. According to the EU Air Services Regulation[3], EU member states are allowed to ban certain flights for environmental reasons. Governments should also require public institutions to replace business flights with virtual meeting technologies and ask companies to do the same.

What can the EU do?
Greenpeace is calling on the European Commission to come up with a proposal to ban domestic and cross-border short-haul flights across the EU where train alternatives exist.

An immediate ban on short-haul flights would undoubtedly impact employment in the aviation sector. Greenpeace is therefore calling on governments to ensure that the affected workers will get enough financial support to compensate for their individual loss, and even more important, to ensure a just transition of workers to other activities and sectors.

What is the impact of this measure?
By banning short-haul flights in Europe and substituting business flights with virtual technology, around 8 million tonnes of jet fuel (largely made out of crude oil) and 42.9 million tonnes of GHG emissions could be saved[4].

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[2] Corporate travel refers to work-related flights, both for public institutions and private companies.
[3] A key EU regulation that sets e.g. traffic rules, customer rights, the control of EU carriers, granting of licences, price transparency of the European airline market
[4] Calculation for short-haul flights: business trips account for 20%, 30% of business flights can be replaced. Therefore, around 1.4 million tonnes out of the 23.4 million tonnes of GHG emissions (CO_{2e}) and 0.26 million tonnes out of the 4.35 million tonnes of jet fuel are already included in the overall business trip estimation.

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Short-haul flights that already have a rail alternative consume about 4.35 million tonnes[5] of kerosene in a regular pre-pandemic year, and emit the equivalent of 23.4 million tonnes of GHG emissions, as calculated in a recent Greenpeace report. Russia is the largest single supplier of oil to the EU, accounting for around 27% of oil imports to the bloc, therefore one flight in every four is powered by Russian oil. At average market prices for Russian oil, the amount spent on oil-based jet fuel for flights that have a train connection amounts to around 2 billion Euros annually, though the current figure is likely to be even higher given the soaring oil prices.

In 2019 64.7 million tonnes of jet fuel were used in EU-28. Business flights used 20% of this; with a conservative reduction potential of 30%, 3.9 million tonnes of jet fuel could be saved, equivalent to 20.9 million tonnes of GHG emissions (including a factor 1.7 for the non-CO_2 effects).

2. Making public transport affordable and available for all

Public transport consumes the least oil per passenger kilometre and is by far the most climate-friendly means of transportation after walking and cycling. Greenpeace is calling on European leaders to make public transport, meaning long distance trains as well as local and regional transport, affordable and available for all. This can be done by reducing VAT on tickets, providing social tickets and subsidies to users, or direct subsidies for public transport companies. Public transport must become more inclusive and accessible, and the cheapest motorised means of transport, so that no one ever has to opt for a private car for cost reasons. Also, wherever vehicles and necessary staff are available and a demand exists, additional public transport services should be offered. In most places this could be ordered and financed by the governments. As the purchase of new vehicles usually takes years, additional services are dependent on the availability of vehicles. In times of crises, prolonging the lifetime of existing vehicles can be an option to increase the number of services and connections for many transport companies.

Last but not least, governments also should set out immediate measures to increase the average speed of public transport. On the one hand this makes public transport more attractive, and on the other hand it increases capacity (more people can be transported at the same time). Examples of such measures are: pop-up bus lanes, shorter waiting times at red traffic lights and moving private cars to roads not used by public transport to reduce delays.

Why?
Road transport accounts for half of the EU´s oil demand, and more than 60% of this is used by cars. Put differently, around 30% of all oil used in the EU is burnt by cars. Trains in the EU only emit an average of one quarter of the CO_2 emitted by cars per passenger kilometre, while urban buses only emit less than half of the emissions of cars. However, in some regions in Europe, public transport is relatively expensive, forcing many people to use private cars for cost reasons, and in some regions, public transport is not yet sufficiently available.

Who can fix this?
Reducing VAT on tickets for trains and buses, e.g. to 5%[6], is the responsibility of national governments. New subsidies on tickets or for transport companies can be provided either by national, regional or local governments. Governments can order transport companies to increase the number of connections, which, if vehicles are available, can also be done more or less immediately.

A large increase in passenger numbers on public transport could impact the quality of service, therefore governments and transport companies must do everything possible to prevent this, so as not to demotivate new public transport users from using buses and trains. An example of an effective measure would be to introduce more flexible working hours for workers and students to stretch the rush hour traffic.

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[5] 23.4 million tonnes of GHG is equivalent to 13.8 million tonnes of CO_2, considering a factor 1.7 for non-CO_2 effects for short-haul flights. 1 ton of kerosene releases 3.16 tonnes of CO_2 when burned.

[6] As a short-term measure, EU member states are permitted to reduce VAT to the minimum level of 5%. In the long run, the EU should allow member states to cancel VAT on certain eco-friendly services.

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What is the impact of this measure?

Cars in the EU consume around 170 million tonnes of oil[7] annually, accounting for about 537 million tonnes of CO_2. According to the EEA, data on occupancy rates for public transport is difficult to obtain. Data from individual countries or companies shows that public transport definitely has some level of free capacity, and with the measures described above, this capacity can be increased without the time consuming purchase of new vehicles. If only four percent of car trips, equivalent to four percent of driven kilometres or every 25th car trip, could be moved to public transport, the demand for oil would be reduced by around 6.2 million tonnes,[8] equivalent to 19 million tonnes of CO_2.

3. Shift goods from road to rail

In 2019, road freight transport accounted for 76.3% of total inland freight transport in the EU (followed by rail at 17.6%), and has increased slightly since 2012, when the share of road freight was at 73.5% and 19.1% for rail respectively. Greenpeace is calling on European leaders to immediately move freight transport from road back to rail, to use all of its current capacity. Financial incentives are needed to make rail more competitive while the incentives and benefits currently provided for road transport must be phased out. Examples include direct subsidies, reduced taxes and fees for rail transport. An important disincentive for road transport would be to improve law enforcement in the truck sector, from checks on the speed limit and safety controls, to labour law inspections, such as better control of permitted working hours and driving times.

Why?

The transportation of goods by road is almost fully dependent on oil. Electric trucks are only used in pilot projects for low weight and short distances. The European railway system is predominantly powered by electricity, only local lines are not electrified and powered by diesel engines. According to data from the European Environment Agency, CO_2 emissions from road freight are 5.7 times as much as the CO_2 emissions of rail freight per tonne kilometre on average.

Who can fix this?

Measures to make rail more attractive compared to trucks are mainly in the hands of national governments – both financial support for rail freight as well as measures to disincentive road transport. The European Commission can take the lead on improving pan-European freight transport, make recommendations, introduce support measures and facilitate the implementation of subsidies. Less transport of goods by trucks would impact the employment of truck drivers. However, in the short term, this could be less to some extent due to the existing shortage of truck drivers. Furthermore, the increase in public transport would create a demand for additional bus drivers - former truck drivers could transition into these roles. And thirdly, improving working conditions in the trucking sector – such as reducing working hours – could also mitigate the effects on employment.

What is the effect?

Road transport accounts for around half of the EU´s demand for oil, with more than 60% of this used by cars and around 40% by trucks and vans. Put differently, around 20% - 113 million tonnes[9] - of all oil used in the EU is burnt for the transport of goods on roads. Even if only 2% of freight transport on roads could be moved to rail on a short term basis (reverting from the 2019 share of 76.3% road and 17.6% rail freight, to the percentage share of road/rail freight from 2012 - back to 74.8%[10] and 19.1%), the EU could cut the oil demand by **around 2.2 million tonnes[11], equivalent to 7 million tonnes of CO_2.**

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[7] Total oil consumption in EU 2019 (excluding UK) was 566 million tonnes. Around 50% of oil is used in road transport with 60% of that portion used by passenger cars.

[8] 4% of car trips consume around 6.8 million tonnes of oil per year, 8.5% of this amount was deducted to take account of the estimated use of oil for buses and diesel-powered trains.
This assumption is based on data for Germany: 75% of car trips are replaced by electric public transport (train, tram, underground, etc.), 23% by buses and 2% by diesel powered trains. Cars require almost 2.2 times the energy per passenger-km than buses, the same factor was assumed for diesel trains. (Or in other words: buses reduce the demand for oil by 57% compared to cars.) Solid literature data do not exist.

[9] Total oil consumption in EU 2019 (excluding UK) was 566 million tonnes. Around 50% of oil is used in road transport with 60% of that portion used by passenger cars.

[10] 76.3% minus 2% (76.3*0.02) = 74.8%

[11] The savings were reduced by an estimated 5%, since there are still some railway lines in the EU which run on diesel. Most transport of goods by rail are for distances longer than 500 kms and are therefore mainly using the long distance rail network, which is predominantly electrified. Diesel engines therefore are mainly used for the first and last miles of the respective transport. Data on the share of diesel vs. electrified transport of goods on rail does not exist.

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4. Drive less, and more efficiently

Around 30% of oil in the EU is used for cars, which is therefore a huge lever to cut the oil demand. Apart from shifting to public transport and cycling, as described above and below, reducing the number of car trips and more efficient driving, especially lowering the speed, are feasible strategies to bring down the demand for oil and to reduce CO_2 emissions.

The easiest way to drive less is to stop commuting to work and switch to teleworking wherever possible. Commuting is one of the main reasons for daily travel in the EU, which varies between 27% of the overall total distance covered in Germany and 47% in Croatia (data for only 12 EU countries is available). In the wake of the COVID-19 pandemic, many institutions and companies have introduced home working solutions. Greenpeace is calling on employers and governments to continue, reintroduce and/or strengthen home office agreements and regulations. In addition, as the current occupancy rate of cars in EU countries is only at around 1.45 people per car, there is good potential for car sharing, especially for commuting. Employers can support this with more flexible working hours and internal networking organisation tools, for example. European governments can support car-sharing with direct or indirect financial support, and offer certain advantages to carpoolers (e.g. parking and access to bus lanes for fully occupied cars).

The other way to reduce the amount of fuel used by cars is through more efficient driving. While there are dozens of small measures for drivers to save fuel, from turning off the engine at red lights and offloading unnecessary weight to driving in the highest gear possible according to road conditions, reducing the speed of driving has the greatest potential to reduce the oil demand. Fuel consumption per kilometre drastically increases according to the speed, the rate of acceleration and need for braking. Depending on the type of car, fuel consumption increases by around one third between 100km/h and 130km/h, and by two thirds between 100km/h and 160km/h. While governments should promote more efficient driving (via all forms of public information channels), Greenpeace is asking for legal reductions[12] to the speed limits on motorways, country roads and in cities, and an increase in surveillance of those who keep driving too fast - at least temporarily for the duration of the current war and the energy crisis. The revenues from increased surveillance should benefit travellers through investment in public transport and energy savings measures.

Why?
Around 30% of all the oil in the EU is used for cars. Driving less and driving more efficiently are the two key strategies which can be applied on a short term basis to cut the oil demand significantly. In the longer term, phasing out the internal combustion engine in combination with a reduction of the average car size and of the total car fleet is decisive to ending the oil dependency, as will be further explained in the following section. Lower speeds reduce the risk of accidents, and therefore the number of people killed or injured, and their costs. There is also a reduction in other pollutants, like nitrogen oxides, and noise.

Who can fix this?
Almost all relevant driving regulations and related measures for car usage are in the hands of national, regional and/or local governments. However, in the current context, the EU should push for all Member States to lower speed limits.

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[12] All EU countries have legal speed limits on all roads, except Germany on its motorways. Therefore the precise demand for the German government is to "introduce a speed limit on motorways".

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What is the effect?

Working from home: During the COVID-19 pandemic [33.7%](#) of employees in the EU were fully teleworking, with a further 14.2 % partly working from home. A leading research institute has calculated a teleworking potential of [45%](#) for Austria. A recent calculation by [Greenpeace](#) Germany has shown that if 40% of employees continue or restart working from home on two more days per week than before the COVID crisis, fuel consumption would be reduced by 3% in Germany. Comprehensive and comparable data does not exist for the whole EU, however data from 12 EU countries show that Germany has the lowest share of commuting. Therefore the potential for the whole EU is very likely higher than 3%. When the fact that the German car fleet has one of the [highest CO_2](#) emissions per km in the EU is also considered, Greenpeace conservatively estimates **that fuel consumption** in the EU **could be reduced by 3% through teleworking on two more days a week compared to the level before the COVID crisis, amounting to** CO_2 savings of around 16.1 million tonnes – equivalent to **around 5.1 million**[13] **tonnes of fuel.**

Car sharing: If the occupancy rate of around 1.45 people/car were increased by 5% to 1.52, 4,5% of car trips would be reduced. Considering a slight increase in fuel consumption due to the extra weight, fuel consumption could be reduced by around 4%. This amounts to oil savings of 6.8 million tonnes, equivalent to 21.5 million tonnes of CO_2.

Speed limits: In a country like Germany, where a speed limit does not even exist on most motorways, speed limits of 100 km/h on highways and 80 km/h on country roads could reduce total fuel consumption by [4.6%](#). The potential for savings differs between EU member states, since there are significant differences in speed limits, driving styles and car fleets. While there is a lack of proper EU-wide data, Greenpeace conservatively estimates that a reduction of all speed limits by 20 km/h in all EU countries could save around 2% of the fuel consumed and the CO_2 emissions from cars respectively – leading to reductions in CO_2 of around 10.7 million tonnes a year, equivalent to 3.4 million tonnes of fossil fuel.

More efficient driving: According to the German car drivers association [ADAC](#) efficient car driving can save up to 20% of fuel. This saving does not include savings from driving more slowly. Data on the total saving potential is not available. Greenpeace believes that at least 3% of fuel can be saved by more efficient driving. This would lead to a reduction in demand for oil of 5.1 million tonnes per year, equivalent to 16.1 million tonnes of CO_2.

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[13] This is 3% of 170 million tonnes fuel consumption for cars.

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5. Improving the infrastructure for cycling and walking – more space for people, less space for cars

Cycling and walking are the greenest ways to get around, especially in cities, and are completely independent from oil.[14] The infrastructure of most cities in Europe is centred around cars, and is not attractive for walking and cycling. While a full transformation of cities will take decades, there are many measures that could re-allocate the space that is currently dedicated to motor vehicles to walking and cycling, which could be implemented with an immediate effect. During the COVID crisis many cities have already proven that new bike lanes can be installed quickly, the same is true for other infrastructure for cyclists, like more and safer parking spaces for bikes. Changes in the timing of traffic lights, to give preference to walkers and cyclists, can have a positive effect too. The safety of non-motorized mobility can be significantly improved with lower speed limits or setting up car and truck-free zones. A lower speed limit also has a positive impact on the demand for oil demand, as described in the section above.

Why?
Walking and cycling are the greenest means of transport with zero CO_2 emissions. More walking and more cycling also means that spaces for cars can be used for people - to meet, recreate, play sports etc. Less motorised vehicles lead to less air pollutants such as fine dust and nitrogen oxides, and less noise in cities. And last but not least, walking and cycling also have an added value for public health.

Who can fix this?
Usually local governments and mayors are responsible for urban planning and mobility measures. The EU and national governments can promote and increase funding for alternative forms of transport.

What is the effect?
The short-term effects of these measures on demand for oil and CO_2 emissions are difficult to estimate. In most opinion polls, safety and bad infrastructure are among the top reasons why people do not use bikes - however it is unclear how many people would actually change from car to bike if infrastructure were to be improved. Copenhagen, as one of the cities with the best cycling infrastructure in Europe, has 41% bike use and 26% car use. On the other hand, Paris and Budapest have only 2% bike usage, which shows the future potential of bike use in these cities. Greenpeace Germany has calculated that fuel demand for cars in Germany would decline by 2.9% if all Germans cycled as much as the Dutch. Considering that the existing German cycling infrastructure is above the EU average, a conservative estimate is that around 2% of the distances travelled by car could be replaced by walking and cycling in the EU on a short term basis. With the average annual mileage of passenger cars in the EU at around 12,000 kilometres, 240 kilometres per car need to be moved to bicycles or walking. Reducing car journeys by 2% would save 3.4 million tonnes of oil, equivalent to 10.7 million tonnes of CO_2 annually.

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[14] The use of crude oil for the production of plastic bike and shoe parts is not considered relevant here.

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Summary of the effects of these five measures

Measure	Potential GHG / CO$_2$ reductions annually (in million tonnes)	Potential fuel savings (in million tonnes, per year) and share of the 5 measures
Ban on short-haul flights and reduction of business flights	23.4 million tonnes (ban of short haul flights) 20.9 million tonnes (reduction of business flights). Both measures combined: 42.9 million tonnes	4.3 million tonnes 3.9 million tonnes Both measures combined: 8 million tonnes 20% of all 5 measures
Make public transport affordable and available for all	19 million tonnes	6.2 million tonnes 15% of all 5 measures
Shift goods from road to rail	7 million tonnes	2.2 million tonnes 6% of all 5 measures
Drive less, and more efficiently	Work from home: 16.1 million tonnes Car sharing: 21.5 million tonnes Lower speed: 10.7 million tonnes Efficient driving: 16.1 million tonnes	5.1 million tonnes (13%) 6.8 million tonnes (17%) 3.4 million tonnes (8%) 5.1 million tonnes (13%) 51% of all measures
Improving the infrastructure for cycling and walking	10.7 million tonnes	3.4 million tonnes 8% of all measures
Total:	144 million tonnes	40 million tonnes (7.1% of all total oil demand = 28.4% of Russian oil)
Value in EUR (calculated for Russian oil, April 2022 price[15])		19.7 billion EUR/year 54 million EUR/day

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[15] The Ural crude oil price for 19.4. is 72.13 USD/barrel, exchange rate 0.923 USD/EUR. One barrel crude oil is equivalent to around 0.136 metric tonnes.

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5 measures for a mid and long-term phase-out of fossil fuels in the transport sector

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While greenhouse gas emissions (GHG) from other sources have been slowing or dropping, emissions from transport have continued to climb in the EU. Transport-related emissions were 29% higher in 2019 than in 1990. Transport alone was responsible for 26% of EU emissions the same year.

To tackle the rising emissions in the transport sector, Greenpeace has developed a roadmap for decision-makers to decarbonise the European transport sector by 2040, powering it with renewable energy, without relying on biofuels. The analysis describes how Europe can swiftly revolutionise the way people and goods move and deliver a fair EU contribution to limiting global warming to 1.5 °C.

Based on this "Transport Roadmap 2040", Greenpeace calls on European leaders to introduce the following mid and long-term measures to cut Europe's dependence on oil for transport entirely by 2040:

1. Phase out new ICE vehicles by 2028 at the latest

Greenpeace is calling on European leaders to phase out the sale of new cars and vans with internal combustion engines (ICEs) by 2028 at the latest across the EU. The current European Commission proposal to introduce 100% zero-emission vehicles by 2035 is not soon enough. In order to achieve the EU's contribution to the Paris climate agreement, the European transport sector must be fully decarbonized by 2040; considering that vehicles have a lifetime of around ten years, 2028 is the latest possible deadline.

Companies can massively contribute to speeding up the shift from ICEs to electric vehicles by electrifying their car fleets. Almost 60% of all new cars in the EU are registered by companies, which therefore represents a larger leverage on the market than individual consumers.

The phase-out of ICEs must be accompanied by three measures:
- The electricity supply for all vehicles must come fully from renewable and sustainable sources.
- A reduction of the car fleet and an increase of the occupancy rate. The Greenpeace Transport Roadmap 2040 has calculated a reduction of the light vehicle fleet size by 27% by 2030 and by 47% by 2040, compared to 2015 levels, as well as an increase of the occupancy and utilisation rate for all remaining passenger transport by 25%.
- Promoting lighter cars and taking heavy and highly polluting cars off the road

Why?
In the EU, 30% of all oil is used by cars, the single largest users of oil within the transport sector, which in turn consumes two thirds of the oil in the EU. The technological solution in the form of electric cars is already well-developed and available on a large scale. The main problem remaining is the production and recycling of batteries, which needs to be urgently solved.

Who can fix this?
The European Parliament and the EU Council of Environment Ministers have the power to accelerate the phase out of new ICE vehicles already proposed for 2035 by the European Commission, to bring it forward to 2028 at the latest. They must also strengthen the CO_2 emissions thresholds between now and 2028. In addition, member states can also ban the sale of ICE cars in their own territory.

The electrification of road vehicles needs to be implemented as part of a package of various measures. Besides the ban on ICE cars, the development of infrastructure for electric vehicles, especially the production of sustainable and renewable electricity and a dense network of functional charging stations, needs to be speeded up, together with measures to promote car sharing and a shift from cars to public transport, walking and cycling wherever possible. The phase-out of the ICE will also have a social dimension, as an increasing number of jobs in fuel production and distribution will become obsolete. Greenpeace is calling on governments to ensure a just transition for affected workers, with the priority on

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support measures to relocate them to other more sustainable transport activities and sectors such as renewable energy generation and distribution.

What is the effect?
Phasing-out ICE vehicles is one of the most important steps to decarbonize the transport sector, since almost half of the oil consumption in the EU is due to road transport, and within the transport sector, roads account for around 70% of greenhouse gas emissions. A quick decision to phase-out new ICE vehicles by 2028 would begin to have measurable impacts from 2023 onwards, deterring carmakers from developing new ICE platforms (the key part of a car which new models are based on) and cars. By introducing this measure, the EU could cut its annual fuel demand by 800.000 tonnes in 2023, which would reach 4.5 million tonnes by 2028, equivalent to 2.5 million tonnes of CO_2 and 14 million tonnes respectively. Fuel savings and CO_2 reductions will accumulate over the years. Compared to the Commission's 2035 proposal, a phase-out of ICEs by 2028 will save a total of approximately 470 million tonnes of fuel and reduce CO_2 emissions by 1.5 Gt.

2. Reduction of flights

In order to decarbonise the European transport sector, by 2040 the total passenger kilometres flown in the EU will need to drop by 33% compared to 2019, based on calculations from Greenpeace's "Transport Roadmap 2040", which assumes that there will be sufficient production of synthetic aircraft fuel based on sustainable and renewable electricity available at a commercial scale by then. However, "E-fuels" such as electric and hydrogen-powered aircrafts are a long way from being available at a commercial scale, meaning passenger air travel would very likely have to decrease much further.

The quickest way to reduce the number of flights is a ban on short-haul flights, when a train or ferry alternative is available. As proposed in the section on short-term measures, around 80% of all short-haul flights in Europe can currently be replaced by a reasonable train alternative. However, in the long term, the reduction target for passenger kilometres in aviation can only be achieved when mid and long haul flights are also reduced. Business flights offer a good opportunity for reduction with advanced online communication tools.

Why?
Aviation is the most polluting and energy intensive means of transport per passenger kilometre. Even with the most climate-friendly fuels, aviation's energy consumption will always be much higher than that of rail. In addition, the total climate impact of flying is bigger than just CO_2 and the non-CO_2 effects have to be considered too. Aviation is the fastest growing source of emissions in the EU (+29% between 2009 and 2019). In 2018, aviation accounted for 9% of the EU´s oil consumption, and for around 4% of all the EU´s GHG gas emissions, equivalent to around 150 million tonnes of GHG annually.

Who can fix this?
The ongoing review of the EU Air Services Regulation – a key EU regulation that sets out a number of measures including: traffic rules, customer rights, the control of EU carriers, granting of licences, and price transparency of the European airline market – offers an opportunity to implement a ban on short-haul flights in all EU countries. For this to happen, the European Commission has to include a ban in its upcoming legislative proposal, and the EU Council and Parliament have to agree. Under the current version of the Air Services Regulation, EU member states already have the right to ban certain short-haul flights based on environmental concerns. However, this option is only being used by France to ban a few ultra-short haul domestic flights without a significant effect on the climate impacts of flights. In order to cover as many flights as possible where a train alternative exists, the European railway system needs to be massively improved, as it will be shown in the next section.

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A reduction of business flights is mainly in the hands of large corporations and public institutions which have the largest numbers of staff flying as part of their jobs. Typical sectors with many business flights are international consultants and the whole finance sector. EU, national and regional leaders can directly ask their public institutions to reduce business flights.

A ban of short-haul flights as well as a reduction of the overall number of flights will undoubtedly have negative effects on employment in the aviation sector. Greenpeace is therefore calling on governments to ensure that the affected workers will get enough financial support to compensate for their individual loss, and even more important, to ensure a just transition of workers to other sectors. The rail and public transport sector in particular will have an increased demand for qualified staff and could offer good opportunities for many aviation workers.

What is the effect?
The two short-term measures, banning short-haul flights and replacing business flights, could cut greenhouse gas emissions by around 36.6 million tonnes annually - which is a bit less than a quarter of all aviation emissions in the EU including international flights (around 152 million tonnes). The remaining more than 115 million tonnes of greenhouse gas emissions from flying in the EU have to be steadily brought down to zero over the next 20 years. This can be partly achieved by moving to rail following improvements in the infrastructure of currently slow or non-existent rail connections, further reducing the need to travel by air. The remaining flights would only be possible if they could be powered by non-fossil fuels, such as e-fuel made from renewable electricity.

3. Boost rail and public transport

Railways and other railbound vehicles are the most climate-friendly motorised means of transport. According to the Greenpeace Transport Roadmap 2040, a massive shift from road and air transport to rail is essential, both for the transport of passengers as well as for freight. This scenario assumes that between 2020 and 2040, private vehicle use could decrease from an average of 62% to 42% in large urban areas (with city centres falling far below this figure) and from 79% to 68% in non-urban areas. The share of freight going by rail needs to increase from 15% to 36% by 2040.

In addition, the general need for transport of goods has to be reduced, e.g. by bringing supply chains for goods as close as possible to the final market, by promoting local markets, by prolonging the life-time of products and by keeping goods recycled and reused within population centres.

A comprehensive package of measures is essential to boost rail and public transport. Since 2021, the European Commission has intensified its work on improving rail, as outlined in their presentation of its ambitious "action plan to boost cross-border rail connections". There are a wide range of proposed measures, from investments in rolling stock and infrastructure, the introduction of new day and night train connections, a united ticketing system, to a legal and technical harmonisation of the various railway systems in Europe. While the plan so far looks promising, all these measures need to be implemented through legislation and/or binding plans agreed between the railway companies and EU member states.

Greenpeace calls for further public investment into rolling stock and rail infrastructure, and prioritisation for the improvement of existing lines above large investments in new high-speed rail networks. Improvements to existing lines will lead to faster results, and on the other hand, the construction of brand-new routes is often linked with severe nature and biodiversity destruction.

In addition to all possible practical improvements in the railway and public transport sectors, leaders also need to fundamentally change the tax and fee systems for transport, which are currently a long way from being fair and do not reflect the true costs. Details will be explained in the following section.

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Why?

Railways and other railbound vehicles such as trams are currently the most eco-friendly means of motorised transport. Their CO_2 emissions per passenger kilometre (pkm) are by far the lowest of all motorised transport. In the EU, on average, rail is responsible for 30 grams of CO_{2e}/pkm, cars 142 and flights 160. Railway companies in some countries have already changed to 100% renewable electricity: for example, in Austria the specific direct emissions from rail are as low as 4.4 gram CO_2/pkm.

The average EU emissions for rail freight are 82% less than road, with 137 grams of CO_2 per tonne-kilometre (tkm) for road transport and 24 grams for rail, based on the average EU electricity mix. In countries where railways use 100% renewable electricity, such as Austria, this figure is reduced to 1.8 gram CO_2/tkm.

On average, buses in the EU emit 80 g CO_{2e}/pkm, which is 44% less than cars. This figure depends a lot on the age of the bus fleet, the occupancy rate and the share of electric buses (battery and trolley) and can therefore vary widely in the EU. Apart from the CO_2 savings, buses have major advantages especially for the liveability of urban areas, due to the clearly reduced need for space, less noise and the lower risk of accidents compared to cars.

Who can fix this?

The European Commission needs to continue taking the lead in boosting cross-border rail connectivity in Europe and ensure the implementation and expansion of the action plan on cross-border rail, which was published in December 2021. Many measures can be directly implemented by the EU Commission (e.g. the purchasing of new rolling stock), other measures require a legislative agreement with the European Parliament and Council (e.g. a ticketing system, or technical harmonisation), and some measures will need to be implemented by EU member states or through regional cooperation of member states (e.g. new railway lines).

Boosting local and regional public transport is mainly in the hands of urban and regional administrations according to funding agreements with their national governments. Better public transport connections between different regions is always the responsibility of national governments.

More investment in rail has to go hand in hand with stopping all new fossil-fuel based infrastructure such as new major roads and the expansion of airports, as the existing infrastructure is enough to support reduced demand in the future, and otherwise there will not be enough resources available for rail. There is also the risk that the necessary shift away from fossil-fuel based transport will fail because new roads will make cars and road freight quicker and cheaper.

What is the effect?

While this measure is difficult to quantify individually, in the Greenpeace Transport Roadmap it is considered to be the main contribution to decarbonising the European mobility system by 2040. A real boost in rail and public transport will enable more people to switch from polluting road and air transport to rail, and thus initiate the necessary shift in the transport sector.

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4. A quota for green fuels based on sustainable and renewable electricity, for remaining aviation and shipping

In a future mobility system, fit for achieving the Paris Climate Agreement, sustainable and renewable electricity will be the main form of energy. Fuels made from waste will only have a small niche function due to the limited availability of waste and the need for a circular economy. Neither biofuels nor nuclear energy will ever be a suitable replacement for fossil fuels in the transport sector, due to their harmfulness and the threats they pose to the environment and the climate. While electricity-based technology for land transport is already widely available (trains, tramways, trolley buses, e-cars…) or relatively close to becoming mainstream (e.g. vans, freight), alternative technologies do not yet exist at large scale for air and waterborne transport.

Electric batteries or direct supply of electricity do not seem to be options for large ships and aircraft. Therefore, the best solution for the decarbonisation of aviation and shipping will be reduction, and for the few remaining flights and ships the challenge will be to develop and produce wind power for ships and burnable fuels from renewable electricity, e.g. synthetic e-kerosene or green hydrogen. From today's point of view, e-kerosene is considered as the most likely non-fossil fuel for aviation, while green hydrogen and ammonia are likely to be the main fuels for shipping. Since these fuels will never be available to cover today´s aviation demand – and even if they can be produced at a large scale they will always be more expensive than fossil fuels – the change in fuel type can only ever be additional measures subsequent to a significant reduction of the need for air transport, as outlined in the previous chapters.

Since these types of fuels do not yet exist at a commercial scale, and will not do so for many years to come, aviation and shipping industries have to be mandated to invest in the development and use of these fuels through a binding fuel mandate in combination with a reduction in transport needs for aviation and the development of clean alternatives (e.g wind assisted shipping). The quotas could start at a low level, but need to increase exponentially to reach 100% by 2040 at the latest. The legislation required must exclude false solutions, which will be outlined later in this analysis.

Why?

There is little indication that the aviation and shipping sectors will achieve decarbonisation through voluntary measures. While many of the leading airlines have pledged to become carbon-neutral by 2050, the measures they propose to back this up are insufficient or non-existent. Firstly, achieving carbon-neutrality by 2050 will be at least 10 years too late to keep global heating below 1.5 °C. The European transport sector has to be decarbonized by 2040. Secondly, carbon-neutrality is something entirely different from decarbonisation: instead of reducing flights and phasing out fossil fuels, most airlines claim to aim at reducing emissions by buying carbon offsetting certificates or betting on environmentally-damaging agrofuels. Therefore, political action is needed to focus on the reduction of flights, and to introduce binding quotas for solutions based on sustainable and renewable electricity, leading to an obligatory full phase-out of fossil fuels by 2040 at the latest.

Who can fix this?

Such quota systems can be implemented at the level of the European Commission. The EU Commission has made a proposal, and the European Parliament and Council will have to agree in the usual legislative process.

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What is the effect?

The effects of this measure will unfold over time. Greenpeace's Transport Roadmap 2040 calculates a linear uptake of renewable e-fuels in aviation from 2030 onwards. By increasing the efficiency of fuel by 30% up to 2050 and reducing passenger kilometres by 33% up to 2040[16], the EU could cut its GHG emissions by a further 69 million tonnes by 2035 and 114 million tonnes till 2040.[17] But these measures would have to be combined with phasing-out short-haul flights and replacing a large part of business flights with virtual technology. The emissions reduction by 2040 would mean a full decarbonization of the aviation sector compared to 2019 emissions.

In 2019, maritime transport was responsible for 144 million tonnes of GHG. Replacing 10% of fossil fuels with green hydrogen by 2030 would save 14.4 million tonnes of GHG per year, and a projected 50% share by 2035 would save 72 million tonnes of GHG annually, according to the Greenpeace Transport Roadmap.

5. Rebuild urban infrastructure

The mobility infrastructure of most European cities needs to be fundamentally replanned and changed from the current car-centred approach to a people-centred approach. In the future, walking and cycling will be the preferred choice for short urban distances, and public transport powered with sustainable and renewable electricity for longer urban distances. The use of private cars, including electric vehicles, needs to be significantly reduced and should be limited to those who cannot use bikes or public transport. In some cases, such as for emergency reasons, the transportation of goods, work tools, or large luggage, where public transport is not available, electric vehicles would be viable alternatives. City centres should become car-free zones, with only a very few exemptions.

Why?
About 75% of the EU´s population lives in urban areas, and this trend is increasing. More walking and more cycling also means that spaces for cars can be used for people - to meet, to recreate, to do sports and so on. On average, cars are unused for more than 90% of the time, and are only used for 1.45 people. Therefore cars, in the way they are used currently, are a very inefficient way of using steel and space. In addition to reductions in GHG, less motorised vehicles lead to less air pollutants such as fine dust and nitrogen oxides, and less noise in cities. And last but not least, walking and cycling also have an added value for public health.

Who can fix this?
The European Commission should make sustainable urban mobility plans (SUMPs) that are in line with the 1.5°C goal of the Paris Agreement and include mandatory car use reduction measures for cities across Europe. In line with this, it must only grant access to EU funds to member states for the implementation of mobility plans if they are in line with the SUMPs. In most cases, in member states the mayors and/or city councils are responsible for the implementation of urban plans.

What is the effect?
While this measure is difficult to quantify individually, in the Greenpeace Transport Roadmap it is considered to be the main contribution to decarbonising the European mobility system by 2040. It can be asserted that urban infrastructure which prioritises people over cars will enable a shift away from fossil fuels in the transport sector.

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[16] These assumptions were used in the Greenpeace Transport Roadmap 2040.
[17] In 2019, the EU's greenhouse gas emissions from aviation were around 152 million tonnes.

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Social and financial principles for implementing oil reduction measures

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Stop oil companies from crisis profiteering by introducing windfall taxes

As Europe's oil-addiction continues to fuel Russia's war in Ukraine, the oil industry is profiting from the war and the energy crisis: oil companies have made at least €3 billion in crisis profits through the sale of diesel and petrol in Europe since the beginning of Russia's invasion of Ukraine, as new research commissioned by Greenpeace CEE shows. People were hit by soaring prices at the petrol pump as a result of the oil industry ramping up their prices.

Europe's heads of state and national governments have to stop oil companies from war profiteering by taxing their excessive crisis profits. The funds raised should be used for social compensation payments to help households with limited means meet their short-term energy and transportation needs, and to accelerate the transformation of the oil-dependent transportation sector into a mobility system that serves the people and the planet.

In a reaction to Russia's invasion of Ukraine, the European Commission has already confirmed in its REPowerEU Communication that member states can consider taxing the windfall profits of the whole energy sector. At the same time, the heads of state and governments have clearly stated that the EU must reduce its dependence on coal, gas and oil.

Despite this clear commitment, the European Commission has so far largely ignored the oil sector. Even the Commission's guidance on how member states could establish windfall profits, which can be found in the annex to the Re Power EU program, refers only to the taxation of electricity suppliers, ignoring the massive windfall profits that the oil industry has raked up.

Only a few member states have made use of the opportunity to impose windfall taxes and unsurprisingly have focused mostly on the additional profits of the gas and electricity market. Greenpeace therefore calls on the European Commission to extend its guidance to Member States on how to impose windfall taxes on the profits of the oil sector to cover this part of the energy sector as well.

Greenpeace is calling on EU leaders to rapidly reorder Europe's energy systems with large investments in energy savings, accelerate the deployment of sustainable and renewable energy, and phase out fossil-powered transport to cut Europe's reliance on all fossil fuels regardless of their origin.

Fair and green taxes

The European tax system as currently applied to transport does not reflect the environmental and climate costs of the sector. For example, rail pays taxes on energy whereas its polluting competitors, such as airlines, are exempt. Road freight does not necessarily pay fees for the use of the conventional road infrastructure, while rail freight pays fees for the use of every kilometre of infrastructure. The environmental and climate impact of road transport (cars, trucks, etc.) is far from covered by current fuel taxes. Improving the existing taxes while creating new tax schemes based on the true costs to the climate of fossil fuels will be key in driving the transition in the transport sector. However, because many private and professional users are dependent on their current means of transport, the implementation of taxes must be fair and progressive. This can be done via the reallocation of tax revenues to solutions that benefit them, through tax rebates and compensation schemes for those with limited means and in the context of broader fiscal reforms that really serve the people and the planet.

Without a strict application of both the user-pay and polluter-pay principles, fair competition will not be possible between transport modes, and the necessary reduction of the most polluting transport modes will not be achieved.

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Fair support for households suffering from high energy bills

In response to rising fuel prices and energy costs, EU governments have announced [fuel tax cuts](). Curbs on fuel prices and VAT reductions on petrol and diesel seem to make sense on the surface, but upon closer inspection they are driving us deeper into fossil fuel dependency. These measures have a devastating impact on the climate and exacerbate social inequalities. General VAT reductions disproportionately benefit the wealthiest households, because those who drive larger cars or have more than one car consume more fuel.

Instead of extending our addiction to fossil fuels through VAT reductions, governments must introduce measures to reduce our oil consumption, and tax the energy companies which are now making windfall profits from rising oil prices. The revenue from these taxes should alleviate the cost for households with limited means and be invested to boost the rail and public transport system, as well as the development of alternative fuels made from renewable electricity for aviation.

As a temporary short-term measure to cushion rising energy bills for low-income households, Greenpeace is calling for targeted support for those who are dependent on their cars for commuting, education or to meet family and friends. The most beneficial way to help them would be a 'social and climate' support payment to cushion rising energy costs - either in the form of a direct transfer payment, or for people with access to public transport, in the form of subsidies to make tickets more affordable. In general, governments must take measures to make public transport cheaper for all - e.g. by way of VAT-free tickets, or direct or increased subsidies for public transport.

Ensuring support and a just transition for affected workers

New and additional support is necessary for the reskilling of workers employed in transport sectors which are heavily dependent on fossil fuels and therefore are bound to shrink. The reduction of car sales and in levels of air traffic that are absolutely necessary to reach climate goals will lead to the destruction of jobs. The EU and national governments should anticipate these impacts and provide just transition plans and funds for the affected sectors and workers. Sustainable sectors such as renewable electricity generation and public transport are job intensive. With the right level of public investment, they could offer unprecedented levels of new job opportunities for workers. Workers and their representatives must be involved at every step to ensure that their social rights and their security (income, health) are protected in the short and the long term, and that they can gain access to decent jobs.

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False solutions for reducing Europe's oil consumption

As European leaders seek a response to Russia's invasion of Ukraine and rising energy costs, they must not be taken in by the following false solutions:

1. Replacing Russian oil with oil from elsewhere

As EU governments consider oil sanctions in response to Russia's invasion of Ukraine, they eye up Saudi Arabia's absolute monarchy, and Nigeria as alternative suppliers. But simply switching from Russian oil to oil from elsewhere cannot and must not be the solution as it only extends our oil-addiction and the climate crisis, and shifts our dependency to other autocracies and conflict zones. It has been estimated that between one-quarter and one-half of all interstate wars since 1973 have been linked to oil, and that oil-producing countries are 50% more likely to have civil wars. Fossil fuels have a history of being connected with conflict and war – wherever they come from. Therefore governments must phase them out as quickly as possible, instead of looking for new suppliers. The key priority now has to be a reduction of the demand for oil in the EU through measures such as the ones described above.

Apart from the connection between fossil fuels and war, new oil exploration projects create high risks for the environment – even if they are conducted in democratic countries. Oil drilling and exploration has a devastating history of destroying the environment, harming vulnerable ecosystems and causing human rights infringements. The long history of oil spills around the world has made one thing clear: the only way to prevent an oil spill and the other harmful consequences of oil exploration is to keep oil in the ground. Furthermore, using tar sands as an oil source, as done in Canada, causes dramatic landscape destruction. Fracking is linked with use of toxic chemicals, and the production of fracked fossil fuels creates huge amounts of additional greenhouse gases.

2. New oil exploration in the EU

The EU currently produces only 3% of its demand for crude oil domestically, the remaining 97% is imported. The single largest supplier is Russia, followed by Iraq and Nigeria. While some politicians are entertaining renewed fantasies of oil exploration in the EU, this cannot and must not be the response to our oil addiction. For one, oil drilling and exploration have a devastating history of destroying the environment, harming vulnerable ecosystems and causing human rights infringements. The long history of oil spills around the world has made one thing clear: the only way to prevent an oil spill and other harmful consequences of oil exploration is to keep oil in the ground. New oil drilling would take years until the delivery of any results and is not a feasible short-term solution to reduce the EU's dependency on oil. It also requires a lot of investment, which should be better used to boost alternative renewable and truly sustainable energy and/or to support measures to reduce the demand for oil. Instead of drilling for new oil, the EU must reduce its oil consumption starting with the proposed short-term measures.

3. Reducing regular taxes on fuel

In response to Russia's invasion of Ukraine, several EU governments have suggested or introduced fuel price curbs and the reduction or the suspension of VAT. On the surface, this seems to make sense – making petrol available more cheaply will unburden the customer at the petrol pump. Unfortunately, this measure will only backfire and drive all of us more deeply into fossil fuel dependency and the climate crisis. At a closer look, this measure also disproportionately benefits richer households, since richer people on average drive larger cars consuming more fuel and they are also often driving more.

Instead of extending our addiction to fossil fuels through VAT reductions, governments must introduce measures to reduce our oil consumption, and tax the energy companies which are now making windfall profits from rising oil prices. The revenue from these taxes should be used to provide financial assistance to alleviate increased poverty in the short term and invested to boost the rail and public transport system.

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4. Agrofuels and other unsustainable alternative fuels

In an attempt to free the EU from Russian fossil fuels, some politicians and industry representatives consider biofuels an alternative to replace crude oil. Several conservative members of the European parliament have already [called for a removal of certain restrictions on crop-based biofuels](). However, crop-based biofuels or so-called agrofuels made from food and feed crops are associated with climate and environmental destruction, human rights infringements and a risk of global food shortages. The [war in Ukraine]() is leading to a massive reduction of grain and plant oil exports from Ukraine, which used to be a leading export nation for these commodities. Biofuels are not only unsuitable as a substitute for fossil fuels for ecological reasons. The agricultural raw materials are needed now more than ever to produce food and save people from starvation. Therefore, the addition of biofuels to diesel and gasoline should be stopped immediately.

In particular, the use of palm oil, globally the most popular and widely used oil for agrofuels, is highly problematic for the climate and the environment. Palm oil is mainly produced on plantations in tropical rainforest areas such as Indonesia and Malaysia which are associated with [deforestation]() and devastating impacts on biodiversity, as well as food security, human rights, and access to drinking water. Palm oil is by far the worst agrofuel in terms of environmental destruction, but similar problems are linked with soy oil from the Amazon. However, even the production of European oilseed is associated with negative ecological impacts, mainly because its production consumes a lot of energy, including fertilisers made from fossil fuel, and entails a high demand for agricultural land that could otherwise be used to produce food for people. The land use for domestically produced agrofuel will therefore lead to displacement of food production and expansion of farmland globally, often associated with deforestation. Greenpeace therefore opposes the production of biofuels from food and feed crops.

In addition to agrofuels, many politicians promote hydrogen as an alternative fuel. While green hydrogen made from renewable electricity may play a small but beneficial part in our future mobility system, hydrogen made from gas or using nuclear energy is clearly a false solution.

The only acceptable alternative fuels are the ones which are made from truly sustainable and renewable electricity. However, they will [never be available]() to cover today's demand, or in time to combat climate heating. Also, direct use of electricity is far more efficient than converting it to a liquid or gaseous chemical fuel. Fuels made from waste will also always remain as a small niche, and must not compete with the principles of waste reduction and the circular economy.

Products such as tall-oil or other by-products from the paper industry are also proposed as alternative fuels, especially in northern Europe. All these materials are unsustainable, since the forestry methods used such as monoculture planting and clear-cuts are unsustainable, and the proposed fuels can often have a better use as a substitute for fossil sources in textiles, batteries and other products.

The EU must ban the use of food and feed crops for any forms of bioenergy and put all subsidies and incentives for it (e.g. blending obligations) on hold. The [EU's renewable energy directive]() must be reviewed to stop counting crop-based biofuels and biogas, including that produced from oilseed rape, sunflower and maize, and forest biomass taken directly out of the forest for energy use (primary woody biomass) as contributions to reaching the EU's renewable energy targets.

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5. Unconditional bailouts for transport and energy industries

As the costs of energy surge across Europe, transport and energy companies have been significantly affected. Some industries have made renewed calls for bailouts. However, at the same time, energy companies have made record crisis profits by driving up prices for energy, such as fuel at the petrol station.

During the COVID pandemic, airlines across Europe received more than 40 billion Euros in bailouts, given as loans, state aid, loan guarantee or recapitalisation. While these bailouts ensured the survival of most airlines, with the exception of Alitalia, they did not prevent a massive reduction in airline staff and did not lead to relevant improvements in the environmental and social performance of the companies.

Greenpeace is therefore very sceptical of new bailouts for transport companies. If any new bailouts need to be given in the light of the Ukraine war, they need to have strong environmental and social criteria attached to them. The key environmental criteria is a binding plan for how the company will achieve full decarbonisation by 2040 at the latest, and the plan needs to include binding targets and measures for each year. All climate reduction targets need to be defined as absolute GHG emission reduction targets, and exclude harmful agrofuels and offsetting.

From a social perspective, key criteria must relate to a just transition for workers and improvements in working conditions, such as less temporary contracts, binding collective agreements for all staff, reduction of pay gaps for gender, age and hierarchy and more and better inclusion measures.

Intention and methodology of the calculations

The intention of the calculations in this analysis was to get a rough estimate of the quantity of oil that could be saved in the EU within a matter of months, and in the long-term. The basis for all the long-term measures is the Greenpeace [Transport Roadmap 2040](#), which was published in 2020.

The proposed short-term measures focus on those transport sectors which consume most oil: passenger cars, trucks and aviation. All proposed short-term measures could be implemented within a few months - with those not requiring legislation even within days or weeks. The measures are ambitious but feasible as long as politicians, companies and the public have the will to make them happen.

The calculations were made to the best of our knowledge, and in consultation with the best experts inside the organisation. Greenpeace has only used data from official and/or reliable sources, such as the European Environment Agency, Eurostat, the European Commission, the International Energy Agency or recognized independent research institutes. However, data on oil and oil product demands and import-export flows and the share of GHG among sectors is particularly variable even among these sources. During this research Greenpeace also discovered certain data gaps, such as the usual clustering of emissions from trucks and buses into one category, the lack of specific data for car usage for most EU countries, or reliable data for the share of business flights vs. leisure flights. For this reason, Greenpeace has had to work with certain assumptions and estimations, and has taken a conservative approach, so that the calculated results are relatively lower than the real potential that could be achieved. The method of calculation and sources of data are explained in the various sections on each of the measures, mostly in the form of footnotes.

Greenpeace has used the latest available data, however, when it comes to full year data, we have mostly used 2019 as the last ´normal year´ for the transport sector. Both 2020 and 2021 were very atypical years due to the COVID crises, with a very high temporary decline in aviation, a strong decline in general mobility, and a temporary move from public transport to cars.

The following factors were not considered in the research, since they would have a lesser impact on the results than the uncertainties in the key data and the assumptions and estimations used:

- We did not differentiate between petrol and diesel.
- We have used the same factor for calculating kg CO_2 from kg fuel for all fuel types.
- We did not consider losses at oil refineries during the cracking process of crude oil - which are mainly the removal of non-burnable parts of the crude oil and the energy demand of the process itself. Losses in refineries are around 2-3% of the crude oil input.
- We did not consider the current use of agro-fuels as part of the consumption data. On average, fuels in the EU contain around 3% of agrofuels. Therefore, the use of agrofuels balances the losses in refineries, and both factors together do not have a relevant impact on the overall results.
- We did not consider CO_2 emissions for the production of new vehicles and or new infrastructure such as new bike lanes and purchase of new public transport vehicles.
- Our calculations assumed a constant fuel consumption for cars per driven kilometre (ignoring the fact that cars consume more fuel per km in the first few kilometres when the engine is cold, or more when driving in cities.
- We used a constant factor of 1.7 for the non-CO_2 effects of aviation (ignoring the fact that short-haul flights have a lower factor than long-haul flights).

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