



IRU Green Compact 2050

Join us to decarbonise commercial road transport

I. INTRODUCTION

Sustainable development is dependent on efficient road transport services. Mobility networks bring people to the places they need to be and supply chains deliver essential goods to those who need them. While all modes of transport have a role to play, even the most basic network cannot function without road transport.

The road transport industry has been exemplary in its efforts to reduce toxic emissions by up to 98%. Our remaining challenge is to effectively reduce CO₂ emissions in commercial transport to net zero by 2050, while maintaining the economic prosperity and social integration that road transport underpins.

To satisfy the increasing need for mobility and logistics services of the ever growing global population, up to 100 million commercial vehicles are expected to be in operation around the world by 2050. Urgent action is therefore needed to mitigate the CO₂ impact of road transport.

The Green Compact is a roadmap to carbon neutrality by 2050. It inspires and guides commitment and collaboration on sustainability challenges in both the private and public sectors and in all areas that impact, and are impacted by, commercial road transport on a local, national, regional and global level.

The Green Compact can be adapted by policy makers and stakeholders to maximise their decarbonisation impact in each region of the world, however, it must not lead to any discrimination of international road transport services.

The Green Compact will allow the road transport industry to be a major decarbonisation driver for green jobs and sustainability. If the Green Compact is implemented to its full potential, the road transport industry could be decarbonised well before 2050.

Ultimately, the successful implementation of the Green Compact is dependent on government support and incentives in order for road transport operators and all related industries to reach the full decarbonisation potential outlined. This historic challenge can only be achieved with broad collaborative action to reach our joint goal:

Make commercial road transport fully carbon neutral by 2050.

The Green Compact is a set of key principles based on IRU's decarbonisation vision, including required action by governments to implement these five decarbonisation pillars:

- 1. Broad implementation of low and zero carbon fuels**
- 2. More efficient logistics with Eco-trucks**
- 3. Increased use of collective passenger transport with buses and coaches**
- 4. More efficient and latest vehicle technologies**
- 5. Improved driving behaviour through training and education**

II. ROADMAP TO CARBON NEUTRALITY BY 2050

1. Low and zero carbon fuels will reduce CO₂ emissions by up to 1 billion tonnes annually

All fuels have different qualities, energy content and density, with a direct impact on vehicle autonomy and the jobs certain vehicles can do. The cost of energy is very volatile and diverse around the world, and the available infrastructure is variable. This means that all alternatives, including biofuels, e-fuels, electricity, CNG, LNG and hydrogen are needed for different reasons in different regions. Alternative fuels are the most impactful pillar to decarbonise road transport with the potential to reduce CO₂ emissions by 40% by 2050.

How to get there:

2030 – replacing at least 300 billion litres of diesel with low and zero carbon fuels (CO₂ savings of up to 320 million tonnes)¹

2040 – replacing at least 450 billion litres of diesel with low and zero carbon fuels (CO₂ savings of up to 670 million tonnes)²

2050 – replacing at least 600 billion litres of diesel with low and zero carbon fuels (CO₂ savings of at least 1 billion tonnes)³

Actions to achieve this:

- The right mix of incentives by governments coupled with investment by transport operators will accelerate the market uptake of low and eventually net zero carbon alternatives, where economically and practically viable.
- CO₂ must be accounted for correctly. Measuring emissions at the tailpipe only (tank-to-wheel) will distort policy action to reduce CO₂ in commercial road transport. The more comprehensive well-to-wheel approach must be used to evaluate the real CO₂ impact of fuels.
- Taxes targeting CO₂ emissions that are more favourable for low carbon fuels need to be introduced in order to make fuels sourced from renewable energy more economically viable.
- The most appropriate low carbon fuel and technology has to be decided in a regional context, taking into account regional specificities, including access to green energy, and operators' needs regarding distances travelled or specific transport use cases.
- Implement global fuel quality standards.

2. More efficient logistics with Eco-trucks will reduce CO₂ emissions by up to 700 million tonnes annually

Road transport companies are obliged to operate their vehicles and equipment in the most efficient way. The size and shape of trucks, as well as the systems that optimise their use, help to reduce CO₂ emissions. One of the easiest, tried and tested solutions to reduce emissions are Eco-trucks. In other words, transport more with less.

Eco-trucks, which carry more goods than standard vehicle combinations, offer a quick and workable solution to reduce CO₂ by up to 35%. Two Eco-trucks carry the cargo of three

¹ Assumption based on: 20% of the estimated total diesel fuel consumption replaced with zero and low carbon fuels.

² Assumption based on: 30% of the estimated total diesel fuel consumption replaced with zero and low carbon fuels.

³ Assumption based on: 40% of estimated total diesel fuel consumption replaced with zero and low carbon fuels.

standard trucks, which will also help to offset the projected increase in market demand by 2050, thereby maintaining the total number of trucks on the road today.

How to get there:

Considering that there may be up to 80 million trucks on the roads worldwide by 2050, replacing just 30% of the global truck fleet involved in regional and long haul operations with Eco-trucks could reduce by up to 20% the total annual CO₂ emissions from heavy goods vehicles.

2030 – at least 6 million standard trucks need to be replaced with Eco-trucks (CO₂ savings of up to 230 million tonnes)⁴

2040 – at least 14 million standard trucks need to be replaced with Eco-trucks (CO₂ savings of up to 470 million tonnes)⁵

2050 – at least 24 million standard trucks need to be replaced with Eco-trucks (CO₂ savings of up to 700 million tonnes)⁶

Actions to achieve this:

- Permitting and harmonising the use of Eco-trucks for national and international operations.
- Lowering road user charges for Eco-trucks.
- Accelerate market uptake on priority corridors.

3. More efficient mobility with collective transport will reduce CO₂ emissions by up to 700 million tonnes annually

There are an estimated 1.4 billion passenger cars around the globe, which is expected to grow to 1.7 billion cars by 2050 if current trends continue and taking into account a global population of nearly 10 billion people. Passenger transport by road is key to avoid a mobility collapse and mitigate CO₂ emissions from passenger cars. As private passenger cars account for 75% of all emissions produced by road transport, at least one third of the global passenger car fleet should be replaced with buses and coaches in order to effectively decarbonise global mobility networks. Just 17 million buses would be needed to replace 500 million cars.

Moving people from their cars to collective means of transport, including public transport, private coach, taxi and ridesharing services will reduce CO₂ emissions by up to 20%.

How to get there:

2030 - replacing at least 170 million private passenger cars with 6 million buses and coaches (CO₂ savings of up to 230 million tonnes)⁷

2040 - replacing at least 340 million private passenger cars with 11 million buses and coaches (CO₂ savings of up to 470 million tonnes)⁸

⁴ Assumption based on: 10% of the estimated total conventional truck fleet replaced with Eco trucks.

⁵ Assumption based on: 20% of the estimated total conventional truck fleet replaced with Eco trucks.

⁶ Assumption based on: 30% of the estimated total conventional truck fleet replaced with Eco trucks.

⁷ Assumption based on: 10% of the estimated total passenger car fleet replaced with buses and coaches.

⁸ Assumption based on: 20% of the estimated total passenger car fleet replaced with buses and coaches.

2050 - replacing at least 500 million private passenger cars with 17 million buses and coaches (CO₂ savings of up to 700 million tonnes)⁹

Actions to achieve this:

- Incentivise collective mobility solutions over private mobility solutions.
- Implement urban vehicle access restrictions (UVARs) favouring bus and coach access over private cars.
- Lower taxes on bus and coach tickets, and implement more favourable road user charges versus private cars.

4. Fleet renewal and more energy efficient vehicle technologies will reduce CO₂ emissions by up to 300 million tonnes annually

Improving vehicle energy efficiency through the uptake and further development of new technologies, including low-rolling resistance tires, aerodynamics, waste-heat recovery or lightweighting materials, will make a significant contribution to decarbonising road transport with a CO₂ emission reduction potential of at least 10%.

One way to accelerate this is to increase fleet renewal rates to ensure that new emission-reducing technologies are deployed as quickly as possible. Transport operators need to be incentivised to invest in and use these technologies by renewing their fleets more frequently. The current global fleet age is 11 years, hampering emission reduction potential.

How to get there:

2030 – reduce the average fleet age to 9 years (CO₂ savings of up to 100 million tonnes)¹⁰

2040 – reduce the average fleet age to 7 years (CO₂ savings of up to 200 million tonnes)¹¹

2050 – reduce the average fleet age to 5 years (CO₂ savings of up to 300 million tonnes)¹²

Actions to achieve this:

- Expedite the penetration of the latest technologies through fleet renewal incentive schemes.

5. Efficient driving behaviour will reduce CO₂ emissions by up to 300 million tonnes annually

Globally, 65 million buses and trucks serve businesses and communities every day. The majority of the drivers of these vehicles, especially in developing countries, have not yet taken any eco-driver training despite the fact that this is one of the simplest and most cost-effective measures to reduce fuel consumption and thus CO₂ emissions. By training drivers to change their behaviour, CO₂ emission reductions of up to 10% are possible. It is estimated that less than half of all countries provide mandatory regular training schemes to stay ahead of regulatory and technological developments.

⁹ Assumption based on: 30% of the estimated total passenger car fleet replaced with buses and coaches.

¹⁰ Assumption based on: the estimated average life span of a commercial vehicle has decreased by 2 years.

¹¹ Assumption based on: the estimated average life span of a commercial vehicle has decreased by 4 years.

¹² Assumption based on: the estimated average life span of a commercial vehicle has decreased by 6 years.

How to get there:

2030 – 50% of all countries have legislation providing for mandatory eco-driver training (CO2 savings of up to 100 million tonnes)

2040 – 70% of all countries have legislation providing for mandatory eco-driver training (CO2 savings of up to 200 million tonnes)

2050 – all countries have legislation providing for mandatory eco-driver training (CO2 savings of up to 300 million tonnes)

Actions to achieve this:

- Eco-driver training and related skills monitoring should be incentivised and made a legal requirement.

III. JOINT ACTION PATHWAYS

The signatories endorse the principles of the Green Compact in achieving carbon neutrality of commercial road transport and commit to the following:

- Work in partnership with the road transport industry to enable it to reach its ambitious decarbonisation targets, while continuing to drive sustainable economic growth and prosperity around the globe.
- Collaborate to develop the detailed methodologies and indicators in order to monitor progress by 2030, 2040 and 2050, in line with each of the five decarbonisation pillars.
- Identify the most effective means to reach full decarbonisation by respecting regional diversity and national ability, involving the views of all relevant stakeholders.
- Participate in sharing feedback, information and progress in driving the Green Compact and its five decarbonisation pillars forward.

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