
How can the driving school industry contribute to Germany's climate neutrality in 2045?

According to the latest Eurobarometer survey, European citizens are very concerned about global climate change. "More than nine out of ten respondents consider climate change to be a serious problem (93 per cent), with almost eight out of ten (78 per cent) considering it to be very serious. This is in line with figures from the same Eurobarometer survey conducted in 2019 " (Eurobarometer). The concerns of EU citizens are being taken on board. The European Union now wants to become the first climate-neutral continent. The EU Commission writes: "Climate change and environmental degradation are an existential threat to Europe and the world. To overcome these challenges, the European Green Deal will transform the EU into a modern, resource-efficient and competitive economy, ensuring:

- no net emissions of greenhouse gases by 2050
- economic growth decoupled from resource use
- no person and no place left behind." (European Commission).

The European Green Deal is a response to the challenges posed by the changing climate and aims to decouple economic growth from resource use and make Europe a greenhouse gas (GHG) neutral continent. It presents an initial overview of the key policies and measures needed to achieve this ambitious goal. The Green Deal has put forward a plan to further cut emissions by at least 55% by 2030. By 2050, Europe aims to become the world's first climate-neutral continent. Alongside reducing greenhouse gas emissions, the EU is also taking action to adapt to the impacts of climate change.

The focus is on greening and digitalizing the entire system. In addition to agriculture, energy and industry, mobility, among other things, must be largely rethought. " Today, transport emissions represent around 25% of the EU's total greenhouse gas emissions, and these emissions have increased over recent years. Our goal of being the first climate-neutral continent by 2050 requires ambitious changes in transport." (European Commission/ Transport).

What does it mean for Germany?

The issue of climate protection is also particularly important to German citizens. A Forsa survey conducted at the end of 2020 concluded that the topic of environmental and climate protection plays an important role for 65 percent of Germans, despite Corona. "Respondents see a need for action above all in energy, agriculture and transport." (BMU). Recently, the German government announced that Germany should become greenhouse gas neutral by 2045. These ambitious climate protection goals can only be achieved with climate-friendly mobility. In Germany, transport-related emissions cause about 20% of the total greenhouse gases (GHG). The figure below shows the reduction of GHG emissions by sector over the years. As can be seen in the following figure, the current rate of reduction is unfortunately not sufficient to make Germany climate neutral in 2045.

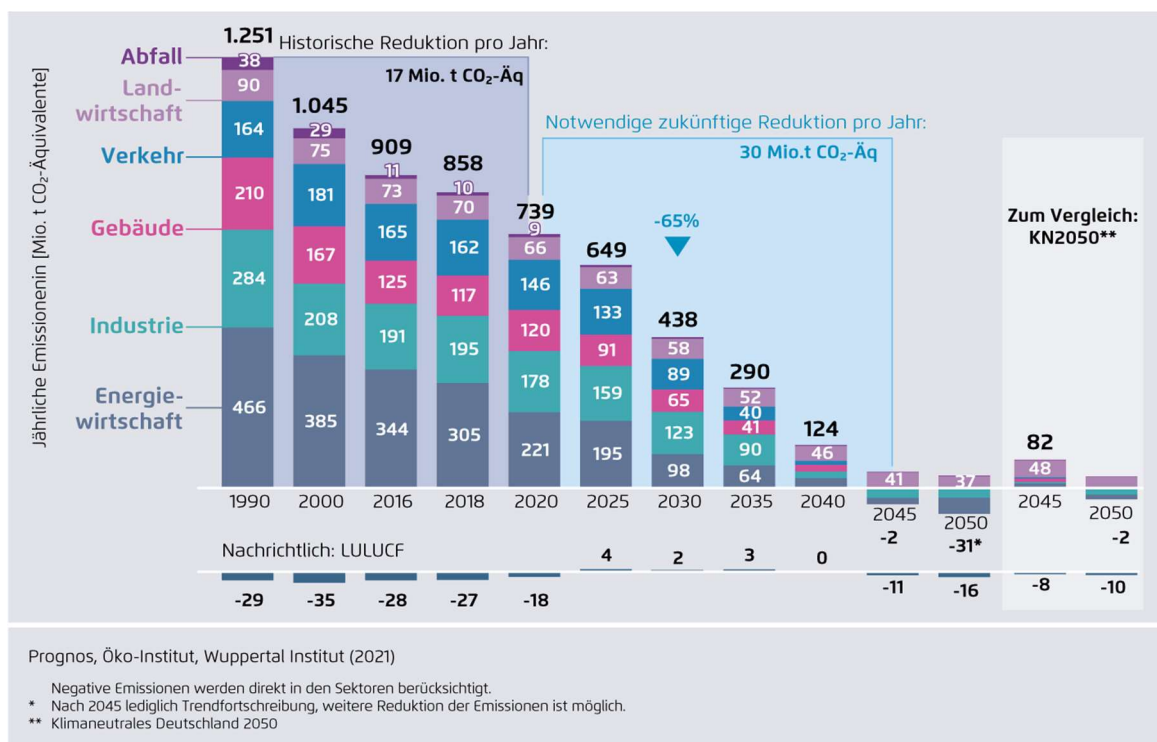


Figure 1: Publication - Climate Neutral Germany 2045

In the transport sector, the federal government has so far concentrated on making electromobility more attractive through, among other things, environmental bonuses,

advancing the charging station infrastructure, accelerating the expansion of cycle paths, railways and local public transport, and modernizing inland navigation.

With our proposals, we would like to largely support the federal government in the project "Climate Neutral Germany by 2045". In doing so, we focus on human behavior and we show how every individual can contribute to reducing greenhouse gases on the roads. Both private motorized transport and commercial transport can contribute to reducing transport emissions to 0 by 2045. In order to be able to reach all these road users, the driving school industry with its driving schools and training centers offers the first point of contact for the masses. Driving schools are institutions that can offer more than just explaining road signs and teaching how to drive.

Within the framework of classic car and motorbike training, young novice drivers can be reached and sensitized. In addition, driving schools could intensively familiarize or comprehensively train the numerous professional drivers in the truck and bus sector ("Amazon delivery drivers", "DHL drivers" or bus drivers) with the topic of sustainability.

In the following, MOVING presents its proposals for reducing CO2 emissions and supporting the Green Deal goals:

- Electromobility
- Eco-drive
- Use of simulators
- Further training/ lifelong learning

Electromobility is one of the ways to be able to reduce emissions in the transport sector, among others. Driving schools, which are an important component of road safety, can make a major contribution to the realization of Vision Zero and climate protection. The drivers of tomorrow will be sensitized to topics such as sustainability, environmental awareness and climate protection through their first contact with electric mobility in driving schools. In addition, it is expected that this will increase the acceptance of unconventional forms of propulsion in society as a whole. In addition to purchase premiums, tax benefits or driving bans, driving schools can contribute to achieving the federal government's goal of between seven and ten million registered

electric vehicles in Germany by 2030. For this, the driving schools need corresponding support and assurance from the legislator. However, the incentive to purchase electric vehicles poses an additional problem, especially for novice drivers. The current share of electric vehicles in Germany is 0,64%. The usually low financial reserves of younger learner drivers make it almost impossible for them to get involved in the new form of mobility (alternative drives) directly after their driving training. This means that in most cases (62%) hardly more than 2.500 € is invested in the first car of one's own (Online-Survey - 10/2020, made by YouGov). Inevitably, the old, used combustion engines benefit by keeping their useful life and poor climate balance alive. A targeted subsidy/premium would be necessary to support new driving license holders in integrating more climate-neutral mobility on Germany's roads.

Eco-drive, or fuel-saving driving, is very suitable for the implementation of climate protection programs and is already practiced in several European countries. In Germany, there are only a few initiatives with this approach. We need driving schools in order to be able to offer Eco Drive courses throughout the country, both for novice drivers and for older license holders. Eco-Drive means combining technical innovations and individual driving behavior to achieve a fuel-saving driving style. Various sensors and assistance systems, such as the start/stop function, help the driver to assess his or her own driving behavior depending on the situation and to adjust it in favor of a more ecological, fuel-saving driving style. This reduces the emission of greenhouse gases and can help considerably to reduce CO₂ and other pollutants in traffic as a whole. According to the Austrian organization "klimaaktiv", fuel consumption can be reduced by up to 25% through the driving behavior learned in Eco-Drive training courses. In addition, there are a number of other positive effects, such as lower costs, less noise and cleaner air.

According with the IRU -International Road Union- "Efficient driving behavior will reduce CO₂ emissions by up to 300 million tons annually". Eco-driver could be one of the simplest and most cost-effective measures to reduce fuel consumption and thus CO₂ emissions. Actions to achieve eco-driver and related skills monitoring should be incentivized and made a legal requirement for professional and normal drivers.

The use of driving simulators in driving license and professional driver training and further education is another important point that MOVING would like to initiate. In 2016, the Institute for Automotive Economics at the University of Applied Sciences in Geislingen scientifically examined the use of driving simulators in driving schools. It was proven that the use of simulators leads to a positive effect on driving school marketing, more contribution margin per pupil in training and an increase in capacity with the same personnel costs. This is a cost advantage that can benefit the learner drivers. But especially the eco-balance of the simulators is extremely positive. If one takes as a basis the 415,000 Class B simulator hours already driven voluntarily in addition to regular lessons in 2018, the result is a saving of around 276,666 real driving hours. An average practice drive of 25km results in CO² emissions of 2675gr (cf. Volkswagen.at). A common simulator consumes 187gr CO² per simulator hour (in a standard energy mix) (cf. Energieagentur.nrw). The simulator hour thus produces 14 times less CO² than a comparable driving lesson in a driving school car. In Germany alone, more than 688 tons of CO² were saved in 2018. The savings for replaced truck or bus driving hours would also be many times higher. MOVING assumes that allowing a defined number of simulator hours in initial and further driver training as equal to practical driving hours would lead to a higher demand for simulator hours, ergo a reduction in CO² emissions.

Our recommendations on fuel-saving driving can be found in the final report „Professional support for the implementation of the "Action Program Climate Protection 2020" - Measures "Fuel-efficient driving" and "Mobility of the Federal Administration" of the Federal Environment Agency, see below.

"In addition, the use of modern simulators in conjunction with a close interlocking of theoretical and practical training enables optimized and efficient training of learner drivers. Simulators enable learner drivers to repeat standard driving situations to consolidate the fuel-efficient driving they have learned. The simulator can thus make an important contribution to learning and consolidating a fuel-efficient driving style and can also replace real driving lessons to a limited extent. According to a study commissioned by MOVING, the number of substitutable hours is around 4 hours per learner driver in driving school training." (UBA/Final Report).

MOVING supports the introduction of simulators in driving training for the different categories of driving licenses. In our opinion the preferential usage of simulators over a real training vehicle might help to reduce fuel emissions.

Within the framework of further education/ lifelong learning, driving schools can also play an important role. In a Communication from the EU Commission (2001/678), lifelong learning is defined as: "all learning undertaken throughout life for the purpose of improving knowledge, skills and competence, and within a personal, civic, social or employment-related perspective" (European Commission Lifelong Learning). Learning or acquiring knowledge and skills does not end with obtaining a driving license. Regardless of age, driving license holders should regularly inform themselves about changes in road traffic law, the introduction of new assistance systems or climate-friendly technologies or driving styles, among other things. Buyers of new cars in Germany, i.e. potential electric vehicle customers, are on average 52.7 years old (T-Online). Instruction by the car salesman is usually only rudimentary, because his responsibility ends as soon as the vehicle leaves the yard. In addition to the rather unfamiliar handling of automatic vehicles, various new assistance systems are also a challenge that should not be neglected. Here, driving schools can support new car buyers before the purchase and after the purchase.

As MOVING we are willing to contribute to achieve carbon neutral in road transport and mobility by 2045 in Germany and 2050 in the whole Europe. Our members want to do their part and they fully support the aims of the Green Deal. However, addressing the challenges ahead of us, we consider that the way to achieve carbon neutrality is a joint responsibility. In our field, and in our opinion, it will represent the necessity of a holistic education and training approach based on electric mobility, eco-drive, use of simulators and lifelong learning.

Literature:

BMU: [Trotz Corona: Umwelt- und Klimaschutz bleibt für die Deutschen ein Top-Thema | Pressemitteilung | BMU](#)

Eurobarometer: [Eurobarometer: Europäerinnen und Europäer halten den Klimawandel für das derzeit größte globale Problem | Deutschland \(europa.eu\)](#)

European Commission: [A European Green Deal | European Commission \(europa.eu\)](#)

European Commission Lifelong Learning - [EU COM/2001/678](#)

European Commission for Transport: [Transport and the Green Deal | European Commission \(europa.eu\)](#)

IRU- [International Road Union-. Green Compact 2050. May 2021](#)

UBA/Final Report:

https://www.umweltbundesamt.de/sites/default/files/medien/479/publikationen/texte_105-2020_fachliche_unterstuetzung_der_umsetzung_des_aktionsprogramm_klimaschutz_2020.pdf

T-Online: https://www.t-online.de/auto/neuvorstellungen/id_90380070/dudenhoefferspricht-von-methusalem-effekt-so-alt-sind-neuwagenkaeufer.html

Figure1: [Publikation - Klimaneutrales Deutschland 2045 \(agora-energiewende.de\)](#)