



Foto Ömer Köksal

Staying on track in a climate-neutral way

Decarbonisation is possible on several levels. The mobility sector shows that there are various levers that can be used to reduce the sources of emissions.

Urban mobility and city transport are responsible for 40 percent of all CO₂ emissions in road transport and 70 percent of all other pollutant emissions in the transport sector. Tons of CO₂ emissions must be saved so that the EU's climate targets can be achieved by 2050. The idea is simple in theory, but complex and lengthy. People rightly regard mobility, whether for private or professional purposes, as a basic need. Nobody wants their rights to be restricted.

According to the Federal Environment Agency ("Umweltbundesamt"), more than three quarters of private households in Germany had at least one car at the beginning of 2020. The car will continue to symbolize freedom and social status for the foreseeable future. Due to the spirit of the times and the congestion of transport networks, it is becoming more of an option than the first choice when it comes to finding the right form of mobility for road users.

The transport infrastructures of German cities are strongly adapted to the needs of motorized private transport. The result: chaos and stress caused by traffic congestion, which not only has a negative impact on personal time management. In addition, more and more space is being allocated for roads and car parks. As a result, there is a lack of living space and green areas in urban centres. So what can be done? The good news is that there are already low-emission mobility concepts that can be used to counteract this development.

Mobility in the living space of tomorrow

In order to make mobility in the city socially acceptable and climate-friendly, it is not enough to impose speed limits in city centres or a ban on new registrations of combustion engines. Green, compact, low-noise and mixed forms of mobility are needed to counter restrictive measures.

The automotive industry shows how this can be realized in reality. The Hyundai Motor Group ("HMG"), for example, has designed the master model of the "HMG Smart City". The concept - inspired by a honeycomb pattern - is based on reducing the gross area built up by people in the city centre to a minimum. The entire transport network is laid out underground.

Determining future mobility

A radical shift away from cars in favour of a low-emission transport system is not very realistic. Individuals are reluctant to give up their habits or leave their comfort zone. Instead of pursuing an "either-or" strategy, a "both-and" approach is recommended. The "Avoid-Shift-Improve-Model" developed in the 1990s can also be used to derive future measures to reduce the environmental impact of the transport sector. The model is based on the following three parameters:

→ Avoiding traffic (Avoid): for example through compact urban planning - living, working, relaxation and

shopping within a minimum radius (the 15-minute city concept in Paris or the superblocks in Barcelona)

→ Shifting traffic (Shift): for example through a flexible public transport system

→ Improving current means of transport and technologies (Improve): for example, more efficient vehicles and e-mobility.

A package of measures that combines aspects from all three groups is required to ensure that awareness of the transport transition and the necessary changes get and stay on track.

Requirements for future mobility

Sustainable mobility services must be geared towards people's needs and be safe, barrier-free, affordable and easy to use in order to be accepted. This is the only way to ensure that society has equal access to employment, education, health services and social and cultural activities.

Climate-friendly mobility requires a multimodal mix of different modes of transport. This ensures that energy consumption in the transport sector is significantly reduced, while mobility remains unrestricted or ideally even improves. Incentives must be created for the acceptance of sharing models or increased use of public transport.

Companies that provide their employees with a mobility budget that they can use for various forms of mobility (car sharing, public transport, micro-mobility solutions such as scooters or bicycles) as an alternative to commuting by car are incentivising company mobility.

Digitalisation opens up further prospects for designing mobility services in urban areas in an environmentally friendly way to meet actual needs. Concrete measures could include better integration of motorised and non-motorised transport and the use of connected vehicles and autonomous shuttles. Autonomous shuttles are already in use on certain routes in closed areas (airports, exhibitions, etc.) and test routes in public transport as well as fully automated underground trains. Every electric vehicle reduces the ecological footprint. In addition to using vehicles with alternative or electric drives, there are other opportunities to reduce CO₂ emissions. Alternative drive systems do not just mean electric or hydrogen, but also include ot-

her types of energy such as LPG, natural gas, LPG or plug-in hybrids.

Transport policy-makers and urban planners have a responsibility to resolve the tension between climate change and freedom of mobility and to develop prerequisites and solutions for the mobility transition. At the same time, all transport users and companies can show responsibility by literally "switching" to environmentally friendly means and models of transport. Anyone who only thinks of decarbonisation in terms of switching from fuel-powered engines to electric and hybrid vehicles is not fully exploiting the potential of the transport sector and mobility. Particularly in view of the fact that the majority of registered vehicles will continue to participate in traffic for some years to come with conventional engines, further existing decarbonization measures should be considered.

This allows companies with a large fleet to optimise their mobility requirements and subsequently their company fleet via professional mobility providers. If better utilisation is achieved, the number of vehicles can be reduced. Analysis and reporting tools record requirements and driver profiles, increase the efficiency of mobility utilisation and influence resource consumption. If transport and mobility are climate-neutral, this ultimately has a positive impact on all factors that influence quality of life, in particular health, prosperity and social integration.

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