

**The German Ecolabel**

**BLUE ANGEL**



**Car Sharing**

**DE-UZ 100**

**Basic Award Criteria**  
**Edition July 2025**  
**Version 1**

## The Environmental Label is supported by the following four institutions:



Federal Ministry  
for the Environment, Climate Action,  
Nature Conservation and Nuclear Safety

The Federal Ministry for the Environment is the owner of the label, defines the fundamental guidelines for the award of the Blue Angel ecolabel and appoints the Environmental Label Jury.



The German Environment Agency with its specialist department for "Ecodesign, Eco-Labeling and Environmentally friendly Procurement" acts as the office of the Blue Angel ecolabel. It develops the technical criteria including the required compliance verifications in cooperation with relevant interest groups.



The Environmental Label Jury is the independent, decision-making body for the Blue Angel and includes representatives from environmental and consumer associations, trade unions, industry, the trade, crafts, local authorities, academia, churches, young people and the German federal states.



RAL gGmbH is the awarding body for the environmental label. It examines the applications submitted by companies for the use of the Blue Angel ecolabel and concludes the "Contracts on the Use of the Environmental Label". It also monitors correct use of the ecolabel.

Please use the following format when adding citations:

German Environment Agency (2025): Blue Angel ecolabel – Car Sharing (DE-UZ 100). Edition July 2025, Version 1. RAL gGmbH (Publisher). Bonn. Available online at: [www.blauer-engel.de/uz100](http://www.blauer-engel.de/uz100) (accessed on x/y/20xy).

If you require further information please contact:

RAL gGmbH

**RAL UMWELT**

Fränkische Straße 7

53229 Bonn

Tel: +49 (0) 228 / 6 88 95 - 190

E-Mail: [umweltzeichen@ral.de](mailto:umweltzeichen@ral.de)

[www.blauer-engel.de](http://www.blauer-engel.de)

## Table of contents

1	Introduction.....	4
1.1	Preface .....	4
1.2	Background .....	4
1.3	Objectives of the environmental label .....	7
1.4	Definitions.....	8
1.5	Compliance with legal requirements.....	9
2	Scope .....	10
3	Requirements .....	10
3.1	General requirements .....	10
3.1.1	Eligibility to participate.....	10
3.1.2	Minimum level of performance .....	10
3.1.3	Provision of mobility data .....	11
3.2	Technical requirements for the car sharing vehicles and fleet.....	11
3.2.1	Ensuring the traffic and operational safety of the vehicles .....	11
3.2.2	Limit on nitrogen oxide emissions (NO <sub>x</sub> ) from vehicles with a diesel engine .....	12
3.2.3	Limit on particulate emissions (PN) from vehicles with a petrol engine .....	13
3.2.4	Minimum proportion of purely electric-drive vehicles in the car sharing fleet .....	13
3.2.5	Use of electricity from renewable energies.....	14
3.2.6	Use of resource-conserving and space-saving vehicles .....	14
3.2.7	Use of passenger cars with low CO <sub>2</sub> emissions .....	15
3.2.8	Emission requirements for vehicles with hybrid drives.....	16
3.2.9	Scope of validity of the technical requirements for the car sharing vehicles and fleet .....	16
3.3	Evaluation of the traffic-reducing effect of the car sharing scheme .....	17
3.4	Use of the ecolabel in combination with the name or logo of the car sharing operator or car sharing scheme.....	18
3.5	Outlook.....	18
4	Applicants and parties involved .....	19
5	Use of the environmental label.....	19
Anhang A	Quoted laws and standards, literature.....	20

# **1 Introduction**

## **1.1 Preface**

In cooperation with the Federal Ministry for the Environment, Climate Action, Nature Conservation and Nuclear Safety, the German Environment Agency and considering the results of the expert hearings conducted by RAL gGmbH, the Environmental Label Jury has set up these Basic Criteria for the Award of the Environmental Label. RAL gGmbH has been tasked with awarding the Environmental Label.

Upon application to RAL gGmbH and on the basis of a Contract on the Use of the Environmental Label to be concluded with RAL gGmbH, the permission to use the Environmental Label may be granted to all products, provided that they comply with the requirements as specified hereinafter.

The product must comply with all the legal requirements in the country in which it is to be marketed. The applicant shall declare that the product meets these conditions.

## **1.2 Background**

Being mobile is an important and essential part of everyday life for most people in Germany who take various journeys almost every day – whether its commuting to work or taking business trips, travelling to a training facility, going shopping, completing other errands or taking part in leisure activities (Follmer, 2025, P. 10-11, 22-23; Nobis & Kuhnimhof, 2018, P. 3-7, 25-31, 61-67). The majority of people use their own or a privately owned vehicle (passenger car) for these journeys and only a much smaller number of trips and a significantly smaller proportion of all journeys are taken using other means of transport, such as by bus or train (public transport) or by bike or foot (Follmer, 2025, P. 12-19; Nobis & Kuhnimhof, 2018, P. 45-54). The chosen means of transport not only has to appropriately satisfy the mobility needs of each person but is also highly problematic from an environmental, resource and health perspective because car travel is associated with especially large negative impacts on the environment, resources and health (Allekotte et al., 2020, P. 121-159).

It is for this reason that strategies and measures to develop environmentally friendly mobility solutions focus above all on reducing the use of passenger cars in favour of other means of transport, i.e. shifting the modal split away from car travel to the so-called “environmental alliance” of public transport, pedestrian and bicycle traffic and car sharing (Rohs et al., 2023, P. 223-238; Allekotte et al., 2020, P. 159-206). In future, the aim is to encourage people – especially those in urban areas, who account for more than three quarters of the German population (World Bank, 2024) – to complete the vast majority of their journeys by foot, bike or public transport (German Environment Agency, 2017).

To ensure that this switch from cars to bikes, buses and trains is successful, however, people will still – paradoxically – need a car now and again. Cars will be still needed, for example, to transport bulky and heavy goods that cannot be taken on a bike, bus or train. There are also many destinations that are still impossible to reach by bus or train or too far to travel by bike and other journeys that have to be completed at times when buses or trains have stopped

running. If people need to use a car, they should use a car sharing vehicle<sup>1</sup> (German Environment Agency, 2017) because by combining car sharing (which is still a relatively new form of auto-mobility) with other means of transport in the environmental alliance it can help to significantly reduce the number of cars and also the proportion of journeys that are taken by car overall and offers associated benefits for the protection of the environment, resources and health (Follmer, 2025, P. 20-21; Nobis & Kuhnimhof, 2018, P. 83, 87; German Environment Agency, 2017, P. 32-33).

There are a wide variety of mechanisms that can be used to ensure that car sharing makes a positive contribution to environmentally friendly, resource-conserving and health-promoting mobility and the interrelationships and connections to other transport systems are especially important (Esfandabadi et al., 2020). On the one hand, it can be assumed that the availability of car sharing schemes will enable people to give up their own car and not to purchase a new one (Ceccato & Diana, 2021; Jain et al., 2022). This would significantly reduce the number of vehicles that are usually not being driven but spend most of the time parked (Nobis & Kuhnimhof, 2018, P. 76) and would free up a lot of space for other purposes, especially in cities (German Environment Agency, 2017). Less vehicles would be manufactured as a result and the car sharing vehicles that are produced would be used more efficiently. This would save resources and mitigate the negative impacts on the environment and health (Yoshizawa et al., 2023; Vélez, 2024, P. 639-646). On the other hand, there is some good evidence that car sharing schemes help people who have predominantly only used their own car up to now (i.e. monomodal travellers) to switch over to using bikes and public transport and only occasionally using a (car sharing) vehicle (i.e. becoming multimodal travellers) (Ceccato & Diana, 2021; Rohs et al., 2023, P. 76-78) and thus significantly reduce the number of journeys taken by car overall (Vejchodská et al., 2024).

However, these mechanisms do not necessarily occur automatically based on the latest evidence. Empirical studies have shown that the situation is much more nuanced. Although car sharing tends to have a positive environmental benefit overall, there are some indications that it can also have adverse effects in certain contexts and forms (Jain et al., 2020; Göddeke et al., 2022; Vélez, 2024). The extent to which car sharing schemes can reduce the use of private passenger cars is, according to the current state of knowledge, dependent on many factors such as the traffic situation in the local region (Jain et al., 2022), the socio-demographic profile of users (Witte et al., 2024) and also other aspects (Xu et al., 2024). The same applies to the question of to what extent car sharing can contribute to greater use of the environmental alliance, such as bikes and public transport (Göddeke et al., 2022; Vélez, 2024, P. 639-646). The latest research has identified significant differences in the impact that different basic types of car sharing schemes can have with respect to, in particular, people giving up their own car and not purchasing a new one and to a reduction in the number of journeys taken by car (Liao et al., 2020; Jain et al., 2022; Chicco et al., 2022): According to this research, the positive environmental impact of so-called "free-floating" car sharing – in which a vehicle is rented within a large defined area and can be parked anywhere within the same area afterwards – tend to be significantly less pronounced than station-based car sharing in which the vehicle is always collected from a

---

<sup>1</sup> The German Car Sharing Law (CsgG, kein Datum) defines a car sharing vehicle as a motor vehicle that can be offered for use, independently reserved and used by an undefined number of drivers on the basis of a framework agreement and at an hourly or kilometre rate that includes the energy costs, or using mixed forms of such tariffs (§ 2 No. 1 CsgG).

permanent station and also has to be returned there. If a station-based service is combined with a free-floating service, however, a stronger positive impact has been measured (ibid.).

There are also other factors that can influence the type and extent of the positive impact of car sharing on the environment, resources and health. These factors include above all the precise composition of the car sharing fleet with respect to the size of the vehicles and their engines (Esfandabadi et al., 2020; Yoshizawa et al., 2023; Kurisu et al., 2023; Vélez, 2024, P. 939-946): larger vehicles tend to require the use of more materials during their production and are also heavier, which means they consume more energy; diesel and petrol vehicles emit large amounts of environmentally damaging carbon dioxide (CO<sub>2</sub>) especially during their usage phase and they also cause other emissions that are damaging to the environment and health, while electric vehicles generate significantly less emissions during use (as long as the electricity consumed is not sourced from fossil fuels). In summary, it is clear that the design of the car sharing scheme and the type and manner of its use are crucial for determining the actual contribution that car sharing makes overall to environmentally and climate friendly mobility and thus to protecting the environment, resources and health.

According to the latest figures from the Federal Association of Car Sharing Operators (bcs – Bundesverband Carsharing), the current situation with respect to car sharing in Germany is as follows (bcs, 2025a): As of January 2025, there were almost 300 car sharing operators active in around 1,400 communities and more than 45,000 vehicles in total across all of these fleets. If we compare this to similar figures from the past, it is clear that huge progress has been made in the car sharing sector in Germany: The car sharing fleet in 2015 comprised only around one third of the vehicles (approx. 15,000 vehicles), while there were only around 2,600 car sharing vehicles in 2005 and 1,100 in 1997 (bcs, 2025b).

According to the bcs, it is much harder to measure the number of car sharing users than it is to collect data on the number of operators and vehicles. Although there is data available on the number of eligible drivers registered with each of the car sharing operators, it is not possible to know based on this data whether and to what extent they are actually (still) using the service. It is also reasonable to assume that a significant proportion of customers are registered with more than one operator (bcs, 2025a). Nevertheless, figures published by the bcs (ibid.) indicate that there are currently 875,000 eligible drivers for station-based car sharing schemes and approx. 4.5 million eligible drivers for free-floating car sharing schemes. Other figures published by the bcs (ibid.) show that car sharing is currently (still) primarily a phenomenon found in large cities and metropolitan areas. For example, there is at least one car sharing scheme in almost 93% of cities with more than 100,000 inhabitants but this is only true in around three quarters of cities with between 50,000 and 99,999 inhabitants and in a little over half of cities with between 20,000 and 49,999 inhabitants, while less than 10% of smaller towns and communities have access to a car sharing scheme (ibid.).

Figures from the last two major surveys "Mobility in Germany – MiD" from 2017 (Nobis & Kuhnimhof, 2018) and 2023 (Follmer, 2025) indicate that car sharing – despite its relatively widespread availability especially in major cities – is still currently used by comparatively few people but that the change in the behaviour of these people with respect to sustainable mobility has stabilised: According to the results of MiD 2023, the number of households with a car sharing membership has increased significantly from 5% in 2017 to 9% in 2023 (Follmer, 2025, P. 20-

21). This is an average value for the whole of Germany and is much higher in larger cities (metropolitan areas) (ibid.). For example, 20 percent of households in Hamburg already had a car sharing membership in 2017 (Nobis & Kuhnimhof, 2018, P. 36). MiD 2017 also showed that a higher proportion of households without their own passenger car had a car sharing membership (ibid.). The actual number of users of car sharing schemes are often low and a large proportion of people who have the option of using car sharing schemes use other means of transport within the environmental alliance in their normal everyday lives (ibid., P. 86-87). The proportion of car sharing members who used a car sharing vehicle on at least a weekly basis fell from 30% in 2017 to 22% in 2023 (Follmer, 2025, P. 20-21). This study also indicated that the proportion of households with a car sharing membership who do not own their own car had also fallen. This means that car sharing vehicles are now being used as a second or third vehicle by many households. However, the authors of MiD 2017 emphasise that it is not possible to evaluate the importance of car sharing based on this study and its indirect effects cannot be verified in this way (Nobis & Kuhnimhof, 2018, P. 87); Follmer (2025) also stated in the MiD 2023 study that "it remains unclear whether and when these services [*in this context the authors were referring not only to car sharing but also other sharing services such as for scooters and also on-demand transport services*] will achieve the potential attributed to them and will be able to replace significant proportions of car traffic" (ibid., P. 21).

### 1.3 Objectives of the environmental label

Against the background described in Paragraph 1.2, this ecolabel aims to certify car sharing schemes that are designed in such a way that they have the most positive impact possible on the protection of the environment, climate, resources and health and at the same time offer their potential users an easily accessible and highly attractive service. As a result, the first set of requirements in Paragraph 3 focus on the eligibility to participate in the scheme and the level of performance offered to users of the car sharing scheme (Paragraph 3.1). This is followed by a large number of technical requirements placed on the vehicles and the composition of the fleet (Paragraph 3.2). Finally, the data collection and reporting requirements introduced in Paragraph 3.3 are designed to make it easier to make a more informed assessment of the effects of car sharing on the mobility patterns of its users and will thus help to optimise car sharing schemes in future so that they can make an even bigger contribution to promoting environmentally friendly mobility.

The explanatory box states:



[www.blauer-engel.de/uz100](https://www.blauer-engel.de/uz100)

- eco-friendly mobility service
- low-emission vehicle fleets

## 1.4 Definitions

The most important terms found in these Basic Award Criteria are defined as follows. The main terms were either taken directly from the Car Sharing Law (CsgG – Carsharinggesetz, no year) or are based on it (in this case marked with an asterisk [\*]). No guarantee is given for the correctness of the definitions taken from the CsgG; please refer to the legal text published in the Federal Law Gazette for the definitive definitions.

**Car sharing vehicle<sup>\*, 2, 3</sup>:** A motor vehicle that can be offered for use, independently reserved and used by an undefined number of drivers on the basis of a framework agreement and at an hourly or kilometre rate that includes the energy costs, or using mixed forms of such tariffs.

**Car sharing operator<sup>\*, 4</sup>:** A company irrespective of its legal form that provides free-floating or station-based car sharing vehicles for use by an undefined number of customers (synonyms: users, participants) in accordance with general criteria, whereby mixed forms of different service models are possible. Only the car sharing operator of the respective car sharing scheme for which an application is submitted can be the applicant in the sense of these Basic Award Criteria. The term “car sharing operator” and “applicant” are thus considered synonyms in these Basic Award Criteria.

**Free-floating car sharing<sup>\*, 5</sup>:** A service model in which the use of the vehicle can begin and end without the need for defining fixed stations in advance for the collection and return of the vehicles.

**Station-based car sharing<sup>\*, 6</sup>:** A service model based on vehicles that are reserved in advance and collected or returned at previously defined fixed stations.

**Combined car sharing:** A service model that covers both station-based and free-floating car sharing.

**Car sharing fleet:** The total number of car sharing vehicles owned by the car sharing operator that are made available to car sharing users as part of a particular car sharing scheme. Any other vehicles or fleets operated by a car sharing operator, which are not available to the users of the respective car sharing scheme, must be clearly distinguishable from the car sharing vehicles to an outsider. This applies both to the appearance of the vehicles and all other descriptions and media about the vehicles that the car sharing operator uses to publicly present and advertise their car sharing scheme and other services.

**Cars sharing scheme:** A technical and organisation unit comprising a specific car sharing fleet owned by a car sharing operator that are offered for rental within a particular car sharing service model in a particular geographical area to a particular group of users and which are operated and demarcated in every respect from any other car sharing fleets owned by the same car sharing operator in other car sharing service models operated in other geographical regions for other groups of users. All of the vehicles within a car sharing scheme that can be rented by its users must belong to the same fleet.

---

<sup>2</sup> “Carsharing” is written as one word in German in the CsgG but the commonly accepted English spelling is “car sharing”. The English version of these Basic Award Criteria will use the term “car sharing”.

<sup>3</sup> pursuant to § 2 (1) No. 1 CsgG

<sup>4</sup> pursuant to § 2 (1) No. 2 CsgG

<sup>5</sup> pursuant to § 2 (1) No. 3 CsgG

<sup>6</sup> pursuant to § 2 (1) No. 4 CsgG

**Purely electric-drive vehicle:** A motor vehicle with a drive system whose energy converters are exclusively electric drive units and whose energy storage systems can be recharged from outside the vehicle.

**Energy converter:** The components of the drive unit in a motor vehicle that permanently or temporarily convert energy from one form into another form that is then used to propel the vehicle.

**Energy storage systems:** The components of the drive unit in a motor vehicle that store the relevant forms of energy that are used to propel the motor vehicle.

**Passenger car (vehicle class M1):** A vehicle designed for transporting passengers and their luggage with a maximum of eight seats in addition to the driver's seat.

**Light commercial vehicle (vehicle class N1):** A vehicle for transporting goods with a total mass of less than 3.5 tonnes.

**KBA segment:** A group of vehicles with the same or very similar optical, technical and market-based characteristics. The Federal Motor Transport Authority (KBA) assigns vehicles to KBA segments in cooperation with representatives from the automobile industry. However, the approval documents for a vehicle model do not indicate which KBA segment it belongs to.

**Vehicle model/ model series:** A sales term used to designate a type of vehicle or a type group for a brand on the market. It generally corresponds to the lettering on the vehicle. The assignment of a vehicle to a model series is made based on the model key entered for the type approval within the vehicle identification number (VIN).

## 1.5 Compliance with legal requirements

**Car Sharing Law (CsgG – Carsharinggesetz):** The Car Sharing Law (CsgG) came into force on 1 September 2017 and enabled the introduction of “measures to prioritise car sharing” (§ 1 CsgG). Alongside definitions (§ 2), the Car Sharing Law contains rules for prioritising car sharing vehicles and their users with respect to parking on public roads and streets and any associated fees (§ 3), as well as rules for the special use of public road spaces (§ 5), including with respect to, in particular, the provision of special parking spaces for car sharing vehicles in public road spaces. In this context, the CsgG also defines “General requirements for the car sharing schemes and the vehicle fleets” offered by car sharing operators (Part 1 of the Annex to § 5 (4) sentence 3) and they must be complied with in order to qualify for the prioritisation measures and special uses. The same Annex also describes how the car sharing operators can verify their compliance with the defined requirements (Part 2).

**EU Regulation 2018/858 (EU type approval):** Regulation (EU) 2018/858 of the European Parliament and of the Council of 30 May 2018 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (EU Regulation 2018/858, no year) lays down the technical requirements for the type approval and placing on the market of all new vehicles (Article 1, (1) EU Regulation 2018/858). It is directly linked to Regulation (EC) No. 715/2007, which lays down the requirements for the type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6).

**EC Regulation 715/2007 (EC emission classes):** Regulation (EC) No 715/2007 of the European Parliament and of the Council of 20 June 2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) (EC

Regulation 715/2007, no year) lays down the technical requirements with respect to various pollutant emissions (e.g. nitrogen oxide and particulate matter) including limit values, the measurement process and the technical equipment in the passenger and light commercial vehicles, whereby the requirement levels are defined in classes "Euro [No.]".

## **2 Scope**

These Basic Award Criteria apply to car sharing schemes offered by car sharing operators (according to the definitions in Paragraph 1.4).

## **3 Requirements**

Car sharing schemes offered by car sharing operators can be labelled with the ecolabel illustrated on the first page of these Basic Award Criteria if they fulfil the following requirements.

### **3.1 General requirements**

The requirements defined below are based on the requirements in Part 1 of the Annex to § 5 (4) sentence 3 of the Car Sharing Law (CsgG, no year), although they do deviate from them slightly in some cases in order to set higher standards with respect to the positive environmental impact and fitness for use and user-friendliness of the car sharing scheme in line with the aims of this ecolabel (see Paragraph 1.3).

#### **3.1.1 Eligibility to participate**

The car sharing operator must grant every person of legal age eligibility to participate in the car sharing scheme within the available capacities. This does not affect any restrictions with respect to possession of a driver's licence and the creditworthiness of the respective person in accordance with the general terms and conditions issued by the car sharing operator.

#### ***Compliance verification***

*The car sharing operator shall submit documents (e.g. the general terms and conditions) in Annex 2 verifying how people become eligible to participate in the operator's car sharing scheme.*

#### **3.1.2 Minimum level of performance**

The car sharing operator guarantees participants in the car sharing scheme the following minimum level of performance:

- Use of the car sharing vehicle is possible on a daily basis, 24 hours a day, without the need for personal contact with the car sharing operator (e.g. by booking them by telephone, online or via a smartphone app and then providing access to the vehicle via app, online or using a key card or key box).
- Regular care and maintenance of the car sharing vehicles in accordance with the manufacturer's recommendations.

- The car sharing operator must take appropriate measures to guarantee a high level of availability and cleanliness of the vehicles. This can include requests for cooperation by all participants in the car sharing scheme and the provision of appropriate instructions.
- The car sharing operator must inform the participants in an appropriate manner about the possibilities and benefits of environmentally/climate friendly and low-noise driving behaviour. Furthermore, the car sharing operator can inform participants about the availability of training in environmentally/climate friendly and low-noise driving behaviour (i.e. provided by driving schools or other service providers).
- The participants must never be offered free journeys. Exceptions are only permitted when it involves trips to fill the fuel tank or charge the battery, for maintenance and care of the vehicle or as a one-off offer to new customers (first time participating in the car sharing scheme).

### **Compliance verification**

*The car sharing operator shall verify compliance with the requirements by submitting suitable documentation (e.g. contractual conditions, tariffs, self-declaration, information for participants and offers of training in environmentally friendly and low-noise driving behaviour) in Annex 3.*

### **3.1.3 Provision of mobility data**

The car sharing operator undertakes to make mobility data publicly available in order to provide digital information to end users of multimodal public mobility platforms and to planners at a local authority or community level. This includes information on the location of car sharing parking spaces or business areas, information on the sizes of vehicles available and information on their current availability/bookability. The operator can use licence agreements or registration obligations to control the use of this data and define whether it can be passed on to other digital data services or competitors.

### **Compliance verification**

*The car sharing operator shall confirm in Annex 1 how it makes the mobility data about the locations of its car sharing parking spaces or business areas, information on the sizes of vehicles available and information on their current availability/bookability, as well as any other mobility data for public mobility platforms, available.*

## **3.2 Technical requirements for the car sharing vehicles and fleet**

### **3.2.1 Ensuring the traffic and operational safety of the vehicles**

All of the vehicles in the car sharing operator's fleet must comply with all of the requirements prescribed by legislators for traffic and operational safety.

### **Compliance verification**

*The car sharing operator shall declare compliance with the requirement in Paragraph 3.2.1 and submit a valid Registration Certificate Part 1 (Zulassungsbescheinigung Teil 1) for each of the*

vehicles in the car sharing fleet in an appropriate manner in Annex 4. If field C 1.1 of Registration Certificate Part 1 contains a different name to that of the applicant, the applicant shall submit corresponding documentation to verify that they are the registered keeper of the vehicle, which confirms the contractual transfer of the vehicle by the owner, and shall also submit confirmation of insurance in the name of the car sharing operator from a liability insurance company.

### **3.2.2 Limit on nitrogen oxide emissions (NO<sub>x</sub>) from vehicles with a diesel engine**

All of the diesel vehicles in class M1 with less than eight seats in the car sharing fleet must comply with at least the nitrogen oxide (NO<sub>x</sub>) emission limits according to EC emission class Euro 6d. All of the diesel vehicles in class M1 with eight or more seats and all of the diesel vehicles in class N1 in the car sharing fleet must comply with at least the nitrogen oxide (NO<sub>x</sub>) emission limits according to EC emission class Euro 6d-TEMP before 31 December 2026 and with at least the nitrogen oxide (NO<sub>x</sub>) emission limits according to EC emission class Euro 6d from 31 December 2026 onwards.

#### **Compliance verification**

*In the case of applications submitted before 31 December 2026, the car sharing operator shall verify when submitting the application that all of the diesel vehicles in class M1 with less than eight seats in the car sharing fleet comply with the nitrogen oxide (NO<sub>x</sub>) emission limits according to EC emission class Euro 6d (or better) and that all of the diesel vehicles of class M1 with eight or more seats and all of the diesel vehicles in class N1 in the car sharing fleet comply with the nitrogen oxide (NO<sub>x</sub>) emission limits according to EC emission class Euro 6d-TEMP (or better) (Variant 1). In the case of applications submitted from 31 December 2026 onwards, the car sharing operator shall verify when submitting the application that all of the diesel vehicles in the car sharing fleet comply with the nitrogen oxide (NO<sub>x</sub>) emission limits according to EC emission class Euro 6d (or better) (Variant 2).*

*If the car sharing operator submitted their initial application before the 31 December 2026 (Variant 1), he/she shall verify by 31 March 2027 at the latest for all of the diesel vehicles in the car sharing fleet and then on an annual basis by 31 March of the respective year for all of the diesel vehicles newly added to the car sharing fleet by 31 December of the previous year that they comply with the nitrogen oxide (NO<sub>x</sub>) emission limits according to EC emission class Euro 6d (or better). If the car sharing operator submitted their initial application from 31 December 2026 onwards (Variant 2), he/she shall verify on an annual basis (beginning in 2028) by 31 March of the respective year at the latest that all of the diesel vehicles newly added to the car sharing fleet by 31 December of the previous year comply with the nitrogen oxide (NO<sub>x</sub>) emission limits according to EC emission class Euro 6d (or better). The applicant shall submit a valid Registration Certificate Part 1 (Zulassungsbescheinigung Teil 1) for every diesel vehicle (for Variant 2 with the initial application and for Variant 1 with the initial application and then again by 31 March 2027 at the latest) and also for every diesel vehicle newly added to the fleet in the previous year (on an annual basis by 31 March of the respective year) in a suitable form as Annex 1 (also see verifications for the requirement in Paragraph 3.2.1) in order to verify compliance with EC emission class Euro 6d or better (Variants 1 and 2) or with Euro 6d-TEMP or better (only Variant 1).*

### **3.2.3 Limit on particulate emissions (PN) from vehicles with a petrol engine**

All petrol vehicles in classes M1 and N1 in the car sharing fleet must comply with at least the particulate (PN) emission limits according to EC emission class Euro 6c before 31 December 2026 and with at least the particulate (PN) emission limits according to EC emission class Euro 6d-TEMP from 31 December 2026 onwards.

#### **Compliance verification**

*In the case of applications submitted before 31 December 2026, the car sharing operator shall verify that all of the petrol vehicles in the car sharing fleet comply with the particulate (PN) emission limits according to EC emission class Euro 6c (or better) (Variant 1). In the case of applications submitted from 31 December 2026 onwards, the car sharing operator shall verify that all of the petrol vehicles in the car sharing fleet comply with the particulate (PN) emission limits according to EC emission class Euro 6d-TEMP (or better) (Variant 2).*

*If the car sharing operator submitted their initial application before the 31 December 2026 (Variant 1), he/she shall verify by 31 March 2027 at the latest for all of the petrol vehicles in the car sharing fleet and then on an annual basis by 31 March of the respective year for all of the petrol vehicles newly added to the car sharing fleet by 31 December of the previous year that they comply with the particulate (PN) emission limits according to EC emission class Euro 6d-TEMP (or better). If the car sharing operator submitted their initial application from 31 December 2026 onwards (Variant 2), he/she shall verify on an annual basis (beginning in 2028) by 31 March of the respective year at the latest that all of the petrol vehicles newly added to the car sharing fleet by 31 December of the previous year comply with the particulate (PN) emission limits according to EC emission class Euro 6d-TEMP (or better). The applicant shall submit a valid Registration Certificate Part 1 (Zulassungsbescheinigung Teil 1) for every petrol vehicle (for Variant 2 with the initial application and for Variant 1 with the initial application and then again by 31 March 2027 at the latest) and also for every petrol vehicle newly added to the fleet in the previous year (on an annual basis by 31 March of the respective year) in a suitable form as Annex 1 (also see verifications for the requirement in Paragraph 3.2.1) in order to verify compliance with EC emission class Euro 6d-TEMP or better (Variants 1 and 2) or with Euro 6c or better (only Variant 1).*

### **3.2.4 Minimum proportion of purely electric-drive vehicles in the car sharing fleet**

The applicant must verify that the car sharing fleet complies with the minimum proportions of purely electric vehicles stated below for the first time when submitting the application and then on an annual basis at the latest by 31 March of the respective year for the composition in the previous year (reporting date: 31 December):

- for 2025: 5%
- for 2026: 8%
- for 2027: 11%
- for 2028: 14%
- for 2029: 18%

- for 2030<sup>7</sup>: 25%

### **Compliance verification**

*The car sharing operator shall verify the composition of his/her car sharing fleet for the first time when submitting the application and then on an annual basis at the latest by 31 March of the respective year for the composition in the previous year (reporting date: 31 December). The applicant shall enter all of the vehicles in the fleet in the table in Annex 1 and enter the type of drive (type of engine/fuel: combustion engines [diesel, petrol, natural gas] or electric engines [electrical energy]). In addition, the applicant shall submit a valid Registration Certificate Part 1 in an appropriate form for every single vehicle (also see the verifications for Paragraph 3.2.1).*

### **3.2.5 Use of electricity from renewable energies**

All of the charging points for the car sharing scheme operated by the car sharing operator themselves or as part of a partnership between the car sharing operator and an energy supply company or another third party must only use electricity from renewable energy sources.

### **Compliance verification**

*The car sharing operator shall verify that all of the charging points at the parking spaces for the car sharing vehicles in its car sharing fleet are supplied with electricity from renewable energy sources by entering the electricity label (100% electricity from renewable energy sources) for the electricity tariff used by the operator in Annex 5. If the car sharing operator generates and uses their own renewable electricity, he/she shall submit a corresponding declaration of compliance.*

### **3.2.6 Use of resource-conserving and space-saving vehicles**

The following requirements apply to the car sharing fleet owned by the car sharing operator:

- At least 70% of the vehicles must be from the KBA segments mini, small compact cars, van/minivans, utility;
- At least 40% of the vehicles must be from the KBA segments mini and small cars;
- The fleet may not contain any vehicles in the KBA segments sports cars and luxury class.

Vehicles in the car sharing operator's fleet with type approval as light commercial vehicles (N1) or as passenger cars (M1) with eight or more seats are exempt from these requirements (i.e. they should not be taken into account when calculating the proportions of the car sharing fleet), whereby the proportion of these vehicles (N1 or M1 with eight or more seats) may not exceed 30% of the car sharing operator's entire vehicle fleet.

---

<sup>7</sup> Applies in the event that these Basic Award Criteria are extended in combination with an extension of the associated contracts on the use of the environmental label (see Paragraph 5).

### Compliance verification

The car sharing operator shall verify the use of resource-conserving and space-saving vehicles when submitting the application and then on an annual basis at the latest by 31 March of the respective year for the composition of the fleet in the previous year (reporting date: 31 December). For this purpose, the applicant shall enter corresponding information on the KBA segments and the number of approved seats for each vehicle in the entire vehicle fleet in the table in Annex 1 and submit a valid Registration Certificate Part 1 in an appropriate form for every single vehicle (also see the verifications for Paragraph 3.2.1).

#### 3.2.7 Use of passenger cars with low CO<sub>2</sub> emissions

All of the cars (M1) newly added to the car sharing fleet after submission of the application (irrespective of their fuel or drive system) must have nominal CO<sub>2</sub> emissions among the best 50 percent of the vehicles in their respective KBA segment. The vehicles must comply with the CO<sub>2</sub> emission values (see Table 1) for the KBA segments mini, small cars, compact cars, mid-range cars, upper mid-range cars, utility, SUV, off-road, mini vans and large vans for passenger vehicles with petrol or diesel engines that were approved for the first time in 2023. Passenger cars (M1) with eight or more seats and vehicles in the KBA segment "Camper vans" are excluded from this requirement.

Table 1: Maximum permissible nominal CO<sub>2</sub> emissions for each KBA segment

Mini	Small cars	Compact cars	Mid-range cars	Utility	Upper mid-range cars	SUV	Off-road	Mini vans	Large vans
Maximum nominal CO <sub>2</sub> emissions in gCO <sub>2</sub> /km									
117	126	131	143	195	155	139	168	145	151

### Compliance verification

The car sharing operator shall verify every year by 31 March at the latest that the vehicles newly added to the car sharing fleet since the submission of the application or since the submission of the last verification in the previous year (reporting date: 31 December) comply with the respective nominal CO<sub>2</sub> emissions. For this purpose, the applicant shall enter all of the vehicles newly added to the fleet in the table in Annex 1 and enter the nominal CO<sub>2</sub> emissions stated in the valid Registration Certificate Part 1 for every single vehicle. The Registration Certificate Part 1 must also be submitted in a suitable form (also see the verifications for Paragraph 3.2.1).

If the maximum permissible CO<sub>2</sub> emissions in Table 1 are exceeded (i.e. the values stated in the submitted Registration Certificate Part 1 exceed the limit value for the respective vehicle segment), the car sharing operator shall either verify that the vehicle in question was already ordered before the publication of these Basic Award Criteria or shall submit suitable verifications (e.g. the energy label, list of quotes from the vehicle dealer or manufacturer) that the nominal CO<sub>2</sub> emissions promised in writing by the vehicle dealer or manufacturer at the time of the order were below the CO<sub>2</sub> emission limits defined here for the vehicle configuration selected by the car sharing operator. If the car sharing operator is not responsible for exceeding these limits because

*the vehicle dealer or manufacturer did not supply vehicles that satisfied the promised emission values, criterion 3.2.7 is considered to be fulfilled.*

### **3.2.8 Emission requirements for vehicles with hybrid drives**

Hybrid vehicles (except for plug-in hybrid vehicles) are subject to all of the requirements in these Basic Award Criteria for diesel or petrol vehicles (depending on whether the hybrid vehicle has a diesel or petrol engine). All plug-in hybrid vehicles that are newly added to the car sharing fleet after the submission of the application must comply with the requirements for EC emission class Euro 6e or better.

#### ***Compliance verification***

*In the case of all hybrid vehicles that are not plug-in hybrids, the applicant shall submit the verifications required in these Basic Award Criteria for diesel or petrol vehicles (depending on whether the hybrid vehicle has a diesel or petrol engine). For any plug-in hybrid vehicles that have been newly added to the car sharing fleet since the submission of the application or since the submission of the last verification up to the reporting date of 31 December of the previous year, the car sharing operator shall verify every year by 31 March at the latest that these newly added vehicles comply with EC emission class Euro 6e (or better). For this purpose, the applicant shall enter the new plug-in hybrid vehicles in the table in Annex 1 and verify that they comply with EC emission class Euro 6e (or better) by submitting a valid Registration Certificate Part 1 in an appropriate form for every single plug-in hybrid vehicle (also see the verifications for Paragraph 3.2.1).*

### **3.2.9 Scope of validity of the technical requirements for the car sharing vehicles and fleet**

The requirements in Paragraphs 3.2.1 to 3.2.8 placed on the car sharing vehicles and car sharing fleet owned by the car sharing operator apply without exception to the entire car sharing fleet for the respective car sharing scheme offered by the car sharing operator for which an application has been submitted or the ecolabel has been awarded. Exceptions are only made for service vehicles that are exclusively used by employees of the car sharing operator for service purposes or vehicles and fleets within other services offered by the car sharing operator (e.g. vehicles within a car rental service), although these vehicles must be clearly distinguishable to an outsider from the car sharing vehicles and the car sharing fleet – and from the entire car sharing scheme – owned by the car sharing operator for which an application has been submitted or the ecolabel has been awarded. This applies both to the appearance of the vehicles and all other descriptions and media about the vehicles that the car sharing operator uses to publicly present and advertise their services. It is not permissible within the same car sharing scheme to split the fleet into two or more partial car sharing fleets where one or more of the partial car sharing fleets does not comply with the requirements in Paragraphs 3.2.1 to 3.2.8 either in full or in part.

### **Compliance verification**

*The applicant shall declare in Annex 1 for the first time when submitting the application and then on an annual basis by 31 March of the respective year at the latest whether he/she offers other services on the market aside from the car sharing scheme for which an application has been submitted or the ecolabel has been awarded. The applicant must name and describe any other services it offers. In particular, the applicant must describe which target groups, which regions and which vehicles are addressed with these other services and how they ensure that these other services are clearly distinguishable to an outsider from the car sharing scheme for which an application has been submitted or the ecolabel has been awarded.*

### **3.3 Evaluation of the traffic-reducing effect of the car sharing scheme**

At the latest in the second calendar year after approval of the initial application for the ecolabel, the car sharing operator must measure the traffic-reducing effect of the car sharing scheme for the first time in accordance with the latest version<sup>8</sup> of the evaluation standard from the Federal Association of Car Sharing Operators (bcs, 2025c)<sup>9</sup> and submit the results by 31 March of the following year at the latest (i.e. in the third calendar year after approval of the initial application at the latest); this evaluation and the submission of the evaluation results must be repeated at least every four years (Variant 1). If the applicant has already measured the traffic-reducing effect of his/her car sharing scheme in accordance with the latest version of the evaluation standard from the Federal Association of Car Sharing Operators (bcs, 2025c) within a maximum of 24 months before submission of the initial application for the ecolabel and submits the evaluation results together with his/her initial application, the four year cycle for the repeat evaluation(s) for these car sharing operators begins from the date of this last evaluation before the initial application (Variant 2). The area investigated in this evaluation must be the same as the business area (city, community, district) in which the car sharing scheme, for which an application has been submitted or the ecolabel has been awarded, is offered.

### **Compliance verification**

*The applicant/label holder shall measure the traffic-reducing effect of his/her car sharing scheme in accordance with the latest version of the evaluation standard from the Federal Association of Car Sharing Operators (bcs, 2025c) and submit confirmation from the Federal Association of Car Sharing Operators that the evaluation and presentation of the results conforms with the*

---

<sup>8</sup> At the editorial deadline for this version of the Basic Award Criteria, the latest edition of the evaluation standard from the Federal Association of Car Sharing Operators was Version 1.2.1 from April 2025: Bundesverband Carsharing (2025c): Verkehrsentslastende Wirkung von Carsharing messen – Evaluationsstandard (Federal Association of Car Sharing Operators (2025c.): Measuring the traffic-reducing effect of car sharing – evaluation standard). The document can be downloaded in PDF form here: [https://www.carsharing.de/sites/default/files/download/2025-04/Evaluationsstandard%20Verkehrsentslastende%20Wirkung%20von%20Carsharing%20messen\\_2025\\_V1.2.1\\_0.pdf](https://www.carsharing.de/sites/default/files/download/2025-04/Evaluationsstandard%20Verkehrsentslastende%20Wirkung%20von%20Carsharing%20messen_2025_V1.2.1_0.pdf) [last accessed on: 07/07/2025].

<sup>9</sup> The evaluation standard "Measuring the traffic-reducing effect of car sharing" (Verkehrsentslastende Wirkung von Carsharing messen – bcs 2025c) is published by the Federal Association of Car Sharing Operators and describes a science-based evaluation method that delivers empirical evidence on, for example, whether and to what extent a particular car sharing scheme has reduced the ownership and use of (private) cars among the participants in the car sharing scheme and to what extent the car sharing scheme has promoted the use of other environmentally friendly forms of mobility such as public transport, bikes or walking.

*guidelines in the evaluation standard itself. The evaluation report and the confirmation from the Federal Association of Car Sharing Operators shall be submitted in writing to RAL GmbH by 31 March of the third, seventh, etc. year since approval of the initial application for the ecolabel at the latest (Variant 1) or together with the initial application and then by 31 March of the fifth, ninth, etc. year since the completion of the last evaluation at the latest (Variant 2).*

### **3.4 Use of the ecolabel in combination with the name or logo of the car sharing operator or car sharing scheme**

The applicant undertakes to *only depict the ecolabel in combination* with his/her name or logo as a car sharing operator or with the name or logo of the car sharing scheme on the car sharing stations, printed materials, other advertising materials and in digital media (for or referring to the car sharing scheme), as well as on the car sharing vehicles. It is the *car sharing scheme* itself that has been certified with the ecolabel and not the car sharing vehicles or the car sharing operator as a company on their own or as a whole. The car sharing operator must ensure that the ecolabel is only depicted or mentioned on those vehicles, stations, printed materials, websites or app interfaces and other media that are directly associated with the certified car sharing scheme. Furthermore, the ecolabel must *always be depicted next to* the brand name or logo of the car sharing operator or the certified car sharing scheme. The ecolabel must not give participants in the car sharing scheme or outsiders the impression that it has been awarded to the vehicle itself or to the car sharing operator or to other (car sharing) services offered by the car sharing operator that do not comply in full with the requirements in these Basic Award Criteria and are thus not part of the certified car sharing scheme.

### **Compliance verification**

*The applicant shall declare compliance with this requirement in Annex 1 and verify all uses of the ecolabel in Annex 6 with the aid of photos or images when submitting the application and then on an annual basis by 31 March of the respective year at the latest. If and as soon as the applicant offers other services aside from the car sharing scheme for which an application has been submitted or the ecolabel has been awarded, the applicant shall submit examples of the design of the vehicles and the media used to communicate these other services (e.g. signs, printed matter, websites, other digital documents and app interfaces) in Annex 7. It is recommended that the applicant contacts RAL GmbH about the planned introduction of other services in advance if they have already submitted an application or been awarded the ecolabel for his/her car sharing scheme. This will enable the applicant to determine in advance whether and how the ecolabel can be used in compliance with these Basic Award Criteria.*

### **3.5 Outlook**

The pace of change in the mobility sector is expected to intensify over the next few years. In light of the political targets with respect to climate change in combination with associated investment and the technical advances being made in parallel in this area, it is likely that the e-mobility sector, in particular, will look very different in 2030 than it does today. However, it is currently not possible to predict what developments will occur and at what speed, which is why it will only be possible to carry out corresponding analyses and evaluations at the time of the next revision of these Basic Award Criteria. Nevertheless, it is already apparent that the

proportions of electric-drive vehicles in the car sharing fleet defined in Paragraph 3.2.4 will have to be increased in future in order to continue to promote ambitious growth in the number of electric vehicles. In addition, it will be necessary to examine whether and in what way criteria for evaluating the extent to which car sharing schemes have strengthened the environmental alliance and helped to reduce car traffic can be defined and how corresponding requirements for especially environmentally friendly car sharing schemes could be defined. Finally, social issues such as the working conditions of employees at the car sharing company and their downstream service providers will also be examined during the next revision of these Basic Award Criteria and corresponding criteria will be developed where possible.

#### **4 Applicants and parties involved**

Applicants are car sharing operators who offer car sharing schemes in accordance with Paragraphs 1.4, 2 and 3 of these Basic Award Criteria.

Parties involved in the award process are:

- RAL gGmbH to award the Blue Angel environmental label,
- the federal state being home to the applicant's production site,
- Umweltbundesamt, (German Environment Agency) which after the signing of the contract receives all data and documents submitted in application for the Blue Angel in order to be able to further develop the Basic Award Criteria.

#### **5 Use of the environmental label**

The use of the environmental label by the applicant is governed by a Contract on the Use of the Environmental Label concluded with RAL gGmbH.

Within the scope of such contract, the applicant undertakes to comply with the requirements under Paragraph 3 while using the Environmental Label.

Contracts on the Use of the Environmental Label are concluded to fix the terms for the certification of products under Paragraph 2. Such contracts shall run until 31 December 2030.

They shall be extended by periods of one year each, unless terminated in writing by 31 March 2030 or 31 March of the respective year of extension.

After the expiry of the contract, the Environmental Label may neither be used for labelling nor for advertising purposes. This regulation shall not affect products being still in the market.

The applicant shall be entitled to apply to RAL gGmbH for an extension of the right to use the ecolabel on the product entitled to the label if it is to be marketed under another brand/trade name and/or other marketing organizations.

The Contract on the Use of the Environmental Label shall specify:

- Applicant ({manufacturer}{manufacturer/distributor})
- Brand/trade name, product description
- Distributor (Label User), i.e. the marketing organization.

## Anhang A Quoted laws and standards, literature

- Allekotte, M., F. Bergk, Ki. Biemann, C. Deregowski, W. Knörr, H.-J. Althaus, D. Sutter, T. Bergmann, 2020. Ökologische Bewertung von Verkehrsarten - Abschlussbericht (FKZ: 3716581060) [UBA TEXTE 156/2020], Dessau-Roßlau: Umweltbundesamt (Environmental assessment of modes of transport – final report (FKZ: 3716581060) [UBA TEXTS 156/2020], Dessau-Roßlau: German Environment Agency).
- bcs, Bundesverband Carsharing, 2025a. Carsharing Statistik (bcs. Federal Association of Car Sharing Operators, 2025a. Car sharing statistics). [Web-site] URL: <https://carsharing.de/carsharing-statistik> [accessed on 12/03/2025].
- bcs, Bundesverband Carsharing, 2025b. Statistics over time (bcs. Federal Association of Car Sharing Operators, 2025b. ) [PDF document]. Download: [https://carsharing.de/sites/default/files/download/2025-03/bcs\\_CS-Statistik%20Zeitreihe%202025\\_0.pdf](https://carsharing.de/sites/default/files/download/2025-03/bcs_CS-Statistik%20Zeitreihe%202025_0.pdf) [accessed on 12/03/2025]
- bcs, Bundesverband Carsharing (Hrsg.), 2025c. Verkehrsentlastende Wirkung von Carsharing messen – Evaluationsstandard (bcs. Federal Association of Car Sharing Operators (Publisher), 2025c. Measuring the traffic-reducing effect of car sharing – evaluation standard) (Version 1.2.1, April 2025) [PDF document]. Download: [https://www.carsharing.de/sites/default/files/download/2025-04/Evaluationsstandard%20Verkehrsentlastende%20Wirkung%20von%20Carsharing%20messen\\_2025\\_V1.2.1\\_0.pdf](https://www.carsharing.de/sites/default/files/download/2025-04/Evaluationsstandard%20Verkehrsentlastende%20Wirkung%20von%20Carsharing%20messen_2025_V1.2.1_0.pdf) [accessed on 07/07/2025]
- Ceccato, R. & Diana, M., 2021. Substitution and complementarity patterns between traditional transport means and car sharing: a person and trip level analysis. *Transportation*, Vol. 48, P. 1523-1540.
- Chicco, A., Diana, M., Loose, W. & Nehrke, G., 2022. Comparing car ownership reduction patterns among members of different car sharing schemes operating in three German inner-city areas. *Transportation Research Part A*, Vol. 163, P. 370-385.
- CsgG, Car Sharing Law [no year]. Law to prioritise car sharing (Car Sharing Law of 5 July 2017 [BGBl. I P. 2230], which was last amended by Article 4 of the law from 12 July 2021 [BGBl. I P. 3091]).
- EC Regulation 715/2007, [no year]. Regulation (EC) No 715/2007 of the European Parliament and of the Council of 20 June 2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6). (OJ L 171 from 29/06/2007, P. 1).
- Esfandabadi, Z. S., Ravina, M., Diana, M. & Zanetti, M. C., 2020. Conceptualizing environmental effects of carsharing services: A system thinking approach. *Science of the Total Environment*, Vol. 745, P. 141129.
- EU Regulation 2018/858, [no year]. Regulation (EU) 2018/858 of the European Parliament and of the Council of 30 May 2018 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, amending Regulations (EC) No 715/2007 and (EC) No 595/2009 and repealing Directive 2007/46/EC (OJ L 151 from 14/06/2018, P. 1).

- Follmer, R., 2025. Mobilität in Deutschland – MiD, Kurzbericht (Studie von infas, DLR, IVT und infas 360 im Auftrag des Bundesministers für Digitales und Verkehr [FE-Nr. VB600001]), Bonn, Berlin (Mobility in Germany – MiD, Short Report (Study carried out by infas, DLR, IVT and infas 360 on behalf of the Federal Minister for Digital and Transport [FE No. VB600001]), Bonn, Berlin).
- Göddecke, D., Krauss, K. & Gnann, T., 2022. What is the role of carsharing toward a more sustainable transport behavior? Analysis of data from 80 major German cities. *International Journal of Sustainable Transportation*, Vol. 16(9), P. 861-873.
- Jain, T., Johnson, M. & Rose, G., 2020. Exploring the process of travel behaviour change and mobility trajectories associated with car share adoption. *Travel Behaviour and Society*, Vol. 18, SP. 117-131.
- Jain, T., Rose, G. & Johnson, M., 2022. Changes in private car ownership associated with car sharing: gauging differences by residential location and car share typology. *Transportation*, Vol. 49, P. 503-527.
- Kurisu, K., Tsuji, K., Nakatani, J. & Moriguchi, Y., 2023. What are important factors to determine CO<sub>2</sub> reduction by car sharing? Simulation of car-sharing impact in cities with different car dependencies considering variable uncertainty. *Resources, Conservation & Recycling*, Vol. 193, P. 106967.
- Liao, F., Molin, E., Timmermans, H. & van Wee, B., 2020. Carsharing: the impact of system characteristics on its potential to replace private car trips and reduce car ownership. *Transportation*, Vol. 47, P. 935-970.
- Nobis, C. & Kuhnimhof, T., 2018. Mobilität in Deutschland – MiD, Ergebnisbericht (Studie von infas, DLR, IVT und infas 360 im Auftrag des Bundesministers für Verkehr und digitale Infrastruktur [FE-Nr. 70.904/15]), Bonn, Berlin (Mobility in Germany – MiD, Report on the Findings (Study carried out by infas, DLR, IVT and infas 360 on behalf of the Federal Minister for Digital and Transport [FE No. 70.904/15]), Bonn, Berlin).
- Rohs, M., Flore, G., Schubert, M. & Schäfer, P. K., 2023. Mobilitätskonzepte für einen nachhaltigen Stadtverkehr 2050: Metaanalyse, Maßnahmen und Strategien – Abschlussbericht AP 1 - AP 4 (FKZ: 3717581030) [UBA TEXTE 12/2023], Dessau-Roßlau: Umweltbundesamt (Mobility concepts for sustainable urban traffic in 2050: Metaanalysis, measures and strategies – final report AP 1 - AP 4 (FKZ: 3717581030) [UBA TEXTS 12/2023], Dessau-Roßlau: German Environment Agency).
- Umweltbundesamt, 2017. Die Stadt für Morgen: Umweltschonend mobil – lärmarm – grün – kompakt – durchmischt [2. Auflage], Dessau-Roßlau: Umweltbundesamt (German Environment Agency, 2017: Environmentally friendly mobility – low noise – green – kompakt – mixed [2nd Edition], Dessau-Roßlau: German Environment Agency).
- Vejchodská, E., Foltýnová, H. B. & Rybičková, A., 2024. Carsharing users' behaviour and attitudes. The role of car availability in households. *Transportation*, Vol. 51, P. 1785-1807.
- Vélez, A. M. A., 2024. Environmental impacts of shared mobility: a systematic literature review of life-cycle assessments focusing on car sharing, carpooling, bikesharing, scooters and moped sharing. *Transport Reviews*, Vol. 44(3), P. 634-658.

- Witte, J.-J. et al., 2024. Car sharing user groups and their changes in car ownership: A latent cluster analysis. *Journal of Cleaner Production*, Vol. 484, P. 144334.
- World Bank, 2024. Urbanisierungsgrad in Deutschland von 1990 bis 2023 (Anteil der Stadtbe-  
wohner an der Gesamtbevölkerung) (Level of urbanisation in Germany from 1990 to 2023  
(proportion of city dwellers in the total population)) [Graph, 28/06/2024], [Website]  
<https://de.statista.com/statistik/daten/studie/662560/umfrage/urbanisierung-in-deutschland/> [accessed on 12/03/2025]: Statista.
- Xu, J., van Lierop, D. & Ettema, D., 2024. Dynamics in residential relocation, car ownership, and carsharing adoption in neighborhoods with a high prevalence of carsharing. *Cities*, Vol. 146, P. 104770.
- Yoshizawa, D., Nakamoto, Y. & Kagawa, S., 2023. Reduction of life-cycle CO<sub>2</sub> emissions by expanding car-sharing services: A case study on Japan. *Journal of Environmental Management*, Vol. 344, P. 118637.