FIT FOR FUTURE Platform Opinion

Topic title	Revision of the end-of-life vehicles directive and the directive on the type-approval of motor vehicles
	AWP 2022
	Directive 2000/53/EU on end-of-life vehicles and Directive 2005/64/EC on "3R type-approval" *Legal reference*
Date of adoption	05 December 2022
Opinion reference	2022/SBGR2/05
Policy cycle reference	☑ Contribution to ongoing legislative process
	CWP 2022, Annex II, revision of the end-of-life vehicles Directive and the Directive on the type approval of motor vehicles *Commission work programme reference*
	The revision will promote a more circular approach by linking design issues to end-of-life treatment, considering rules on mandatory recycled content for certain materials of components and improving recycling efficiency. The merging of the two Directives into a single instrument, covering the whole life-cycle of the automotive sector, would provide legal clarity to economic operators and administrations, compared to the current situation which relies on a fragmented approach: cars are covered by Directive 2005/64/EC when they are put on the market, while end-of-life cars are covered by Directive 2000/53/EC. A move to online tools and the use of digital solutions would help to reduce avoidable administrative burden, notably related to the reporting obligations or other procedures, e.g. vehicle (de-) registration and notification systems. In this regard, the revision of the Directive will aim to improve the operational feasibility and implementation of the Directive, and optimize administrative burden through better use of digital solutions and coherence with other sectoral policies and legislation based on a life-cycle approach. Planned adoption: Q2, 2023
	Contribution to the (ongoing) evaluation process

	☐	- *Title of the (ongoing) evaluation* No
	☐	Included in Annex VI of the Task force for subsidiarity and proportionality No
	☐	Other No
Have your say: Simplify!	*No relevant suggestions on this topic have been received from the public.*	
Commission follow up	REFIT Scoreboard: Have your say portal: Annual Burden Survey:	End-of-life vehicles End-of-life vehicles – revision of EU rules The EU's efforts to simplify legislation (2022)

SUGGESTIONS SUMMARY

Suggestion 1:	Consider a digital vehicle passport including details on used materials
Suggestion 2:	Refine the definitions for end-of-life vehicles and used vehicles/ parts of vehicles
Suggestion 3:	Consider full digitalisation of the registration system and (2) installation of a central registration system and/or interoperable systems or ensuring the compatibility and coordination of the registration systems across and within Member States
Suggestion 4:	Enforce the certificate of destruction (COD) necessary for deregistration and implement a systemic differentiation between temporary and permanent deregistration
Suggestion 5:	Improve implementability of the ELV-Directive's requirements through a reward system for deregistration and/or dismantling
Suggestion 6:	Ensure coherence with other legislation, e.g., the Batteries Directive 2006/66/EC and the REACH Regulation
Suggestion 7:	Improve compliance and enforcement possibilities through more realistic targets, common methodologies, and increased producer responsibility

SHORT DESCRIPTION OF THE LEGISLATION ANALYSED

The Directive 2000/53/EU on end-of life vehicles (ELV) aims to prevent waste from vehicles and at the reuse, recycle end-of life vehicles and their components to reduce the disposal of waste and the improvement in the environmental performance of all of the economic operators involved in the life cycle of vehicles. While harmonising environmental requirements, the Directive also seeks to ensure the smooth operation of the internal market and to avoid distortions of competition in the EU through an EU-wide framework in order to ensure coherence between national approaches. Since its adoption in 2000, the Directive has not undergone any substantial revision.

Directive 2005/64/EC on the type-approval of motor vehicles is the main piece of EU legislation linking the design of new vehicles and their reusability, recyclability and recoverability. It lays down administrative and technical rules to ensure that a vehicle's parts and materials may ultimately be reused, recycled and recovered as much as possible. It makes sure that the reused components do not cause any safety or environmental risks. This legislation applies to new models and models already being produced of cars and light commercial vans to be placed on the EU market. It requires that manufacturers recommend strategies in place to properly manage the reusability, recyclability and recoverability requirements of the legislation.

Further sources of evidence:

Have your Say entry page

Legislative framework website

Public consultation

Evaluation SWD of the on end-of-life vehicles directive SWD(2021) 60 final

RegHub consultation on the implementation of the end-of-life vehicles Directive

PROBLEM DESCRIPTION

Existing evidence suggests the following issues:

The production of vehicles has undergone significant changes since the adoption of the Directive 20 years ago. These transformations have been influenced by the increasing use of new technologies and components in cars, such as plastics, carbon fibre or electronics, causing specific challenges for their recovery and recycling from ELVs.

Based on stakeholders' consultation[1], the evaluation reports that with regard to regulatory burdens or complexities, the most common response[2] on this point concerned **the overlaps between the ELV Directive and Batteries Directive**, as collection and recycling of batteries is already regulated by the latter. **Burdensome reporting** was another issue highlighted by some Authorised Treatment Facilities (ATF) due to the existing duplicated reporting obligations at the national level.

Respondents also specifically asked **to simplify the reporting obligations deriving from the ELV Directive by using online tools**.

Secondly, changes were also proposed in **the vehicle (de-) registration and notification systems,** with the suggestion that vehicle registrations could be cancelled directly by authorised dismantlers, which would reduce the workload for authorities and represent an effective measure to reduce the number of untracked exports and unregulated ELVs.

Findings of the survey on the administrative specific costs contribute also to the overall assessment of the administrative burden[3]. Although the responses received vary between Member States and should be treated with caution, the data collected show the tendency that companies, e.g., recyclers and ATFs, on average spend more resources on technical compliance than other stakeholder types. It also appears that public authorities seem to have higher costs across most categories, but particularly for data collection, and technical compliance.

The digitalisation of procedures linked to the implementation of the ELV Directive can potentially contribute to reducing administrative burden. However, regarding the other aspects, there is no clear evidence that the ELV Directive leads to unnecessary administrative burden or complex procedures for stakeholders, including private sector and public authorities.

Regarding coherence, **there are also fairly numerous of discrepancies between the ELV Directive and other pieces of legislation**. For example, the definitions of the terms "reuse" and "recycling" are different in the ELV Directive and in the Waste Framework Directive

[1] End-of-life vehicles - evaluating the EU rules (europa.eu)

[2] It should be noted however that the majority of stakeholders who were consulted in the course of the evaluation did not know (52%), with a relatively even split between yes (35%) and no (33%);

[3] Stakeholders were asked to provide information on their hours and costs necessary to administer ELV Directive issues, including data collection, reporting, monitoring and technical compliance issues;

(WFD). The Waste Shipment Regulation establishes the rules governing the transboundary movement of waste vehicles, which are classified as "hazardous waste" for shipments inside and outside the EU. There is however a difficulty in distinguishing between a "used vehicle" and an "ELV" for export purposes. This is not specifically defined by the legal instruments, but guidance documents, such as the Waste Correspondents' Guidelines No 9 on waste vehicles, have been developed. **These guidelines have however proven difficult to use in practice**. Another guidance document on the end-of-life vehicles provides the general rule on clarifying the links of the ELV Directive with the Directive on Waste Electrical and Electronic Equipment (WEEE) and the RoHS Directive on restriction of the use of certain hazardous substances in electrical and electronic equipment: "if the ELV Directives applies, the WEEE and RoHS Directives are not applicable". Clearer distinction on defining which components are under the scope of the ELV Directive and which are under the scope of the RoHS/WEEE Directives would facilitate an ELV operator in attributing devices or parts of them to the correct waste stream.

In some instances, **the wording used in the Directive 2005/64/EC on the type-approval of motor vehicles with regard to their reusability, recyclability and recoverability lacks precision and leaves room for interpretation**.

(**Source**: ELV Evaluation)

While embracing the objectives of the ELV Directive, the respondents **to the RegHub consultation consider an update necessary**, due to, e.g., changes in vehicle production (e.g., the use of new technologies and components), the **increased production and use of electric vehicles**, **remaining unsolved problems like the handling of the certificate of destruction (COD)** or a **de facto absence of an extended producer responsibility for car manufacturers** in many Member States. In line with the evaluation's findings, **missing vehicles and illegal dismantling in unauthorised treatment facilities are a persistent problem and still constitute a major issue for the development and competitiveness of the authorised waste treatment sector** and require new solutions to enable high-quality recycling.

Many respondents agree that **the current ELV does not reflect sufficiently the importance of manufacturing components and materials in a way that they are easier to dismantle, reuse, recycle, and recover, and further to limit the use of non-recoverable components and hazardous substances**. Only if design requirements ensure that the respective components can be removed, recycled, and/or reinstalled (in particular regarding **electronics currently being blocked**), can ATFs effectively work and increase their revenue and viability. The creation of recovery/disposal value chains is another prerequisite.

The large majority of respondents to the RegHub consultation expect a revision of Directive 2005/64/EC (3R type approval) and Directive 2000/53/EC on end-of-life vehicles to **clarify definitions of reusability, recyclability, and recoverability** and align them with the ELV Directive and eventually increase legal certainty, transparency and avoid misinterpretation of provisions.

The **absence of reliable and comparable data** is seen as a major hurdle to appropriately determine both targets i.e., for recycling and recovery, and measures to counteract the phenomenon of missing vehicles and illegal export and dismantling. A common EU methodology for the calculation of the reuse and recycling targets is therefore largely supported, because it can avoid misinterpretation and create more reliable and realistic benchmarks and processes. According to the respondents, the **current regulation by Decision 2005/293/EC is not precise enough, manipulatable, and would need to be transposed into a reviewed ELV Directive**.

Most respondents would further support the Commission's proposal for direct cancellations of vehicle registrations by ATFs, given a solution is found for temporary deregistered vehicles' verifiable whereabouts, for which the last holder/owner should remain responsible. Moreover, **only if final de-registrations are linked to an obligation to hand over to an ATF, direct cancellation makes sense** (finally deregistered vehicle = waste). Another caveat is made with regard to vehicles deregistered for export: here, ATFs are not involved and some respondents argue, that therefore the final deregistration should remain with the vehicle registration authority.

Most respondents support a harmonised and **fully digitalised deregistration process to simplify the flow of information** and eventually lead to a creation of a European database that makes vehicle tracking possible and thereby tackling the issue of missing vehicles. They further advocate a harmonisation and digitalisation of CODs in order to increase their enforcement and make illegal dismantling more difficult across the EU.

Regarding the coordination with other legislation, the respondents underline the need to harmonise limit values and definitions in order to prevent contradictions, delineate responsibilities for market authorities, facilitate controls and enforcement, and simplify waste assessment.

Beyond the aforementioned levers to lift administrative burden and facilitate the implementation of the ELV, the RegHub respondents have made suggestions on how **an updated ELV Directive could be better aligned with core environmental principles such as the polluter-pays principle and the principle of waste hierarchy**. These measures are believed to address market and regulatory failures, increase the overall implementability of the Directive, better support the objectives of a circular economy, increase the viability of ATFs, adapt to new (technological challenges), and decrease burden in the long run:

- Adapt recycling and recovery targets to actual recoverability, and introduce material-specific targets – both taking into account new vehicle types and technologies;
- Introduce a European harmonised Extended Producer Responsibility (EPR);
- Privilege the use of materials in the vehicle design that increase the recyclability and durability of vehicles.

(**Source**: RegHub consultation**)**

The Fit for Future Platform has acknowledged the issues raised by the legislation concerned as follows:

Despite an overall positive assessment of the ELV Directive's objectives and implementation after more than 20 years, it is considered not to be future proof and therefore requiring an update in line with technological change, economic and environmental requirements, as well as in alignment with sectoral legislation.

The current Directive, guideline and practices do not sufficiently provide for clarity, transparency and comparability regarding definitions, targets, and methodologies. Moreover, the harmonisation and digitalisation of tools and processes, such as vehicle (de-)registration, and exchange of information between waste management operators and licensing authorities, including on certificates of destruction, is not complete, which makes the management of end-of-life vehicles burdensome. Insufficient information by vehicle manufacturers about materials and components used in vehicles contributes to the economic unviability of authorised treatment facilities. Current obligations to include recyclability and durability criteria in vehicle design and production are also not conducive to achieving ELV objectives and improve recyclability, recoverability and reusability of end-of-life vehicles.

The focus of the review should therefore be on the clarification, harmonisation and extension of existing definitions, targets and methodologies across Member States and in alignment with sectoral legislation. It should provide more clarity and transparency about vehicle composition and recyclability, in particular for waste management operators and authorities. Likewise, such clarity and transparency are needed for the deregistration of end-of-life vehicles, in order to be able to tackle the problem of missing vehicles and illegal dismantling. The inclusion of reviewed and new recycling and recovery targets, as well as an incentive system to improve waste reduction and recovery along the life cycle of a vehicle, from design to production to recovery, should be aimed at to effectively address new challenges.

The merge of Directive 2005/64/EC (3R type approval) and Directive 2000/53/EC on end-of-life vehicles was announced in the Commission Work Programme 2022 with a public consultation having taken place in summer/autumn 2021. While this opinion makes suggestions for the regulatory content, it does make any suggestions regarding a possible merge of the Directives.

SUGGESTIONS

Suggestion 1: Consider a digital vehicle passport including details on used materials

Description: In recent years, new vehicles have become increasingly difficult to dismantle and recycle as new substances are being used and the different parts of those vehicles as well as the way they are built into the vehicle have become more complex. Yet, dismantlers are still being provided only insufficient and legally uncoordinated information by vehicle manufacturers (for instance in most Member States via the IDIS-System [International Dismantling Information

System])[4] regarding the presence, localisation, composition and re-use potential of components in ELV and regarding the presence of (hazardous) materials hampering high quality recycling.[5][6]

Therefore, it is recommended to consider a mandatory digital "vehicle passport" that automobile manufacturers have to provide to dismantling facilities for every new vehicle model that enters the market and in line with the applicable requirements of related regulation, such as the expected EU battery regulation.[7] Similar procedures as for the repair and maintenance information in Annex X of the Regulation (EU) 2018/858 could be considered. This "vehicle passport" should include detailed information on the presence and localisation of vehicle parts and materials used as well as notices regarding their recyclability and references to parts for re-use.[8] Such "product passports" already exist for other products (cf. EU Ship Recycling Regulation or Proposal for Eco-design for Sustainable Products Regulation), especially technological devices, and have become common practice in these product areas.[9]

In order to keep possible additional administrative burdens (e.g., through ICT-development) at acceptable levels, it is important to analyse the expected impacts of the vehicle passport on manufacturers, registration authorities, and other stakeholders in advance, and to develop any suggested system based on the experiences made with the existing systems, such as IDIS for dismantling, IMDS/GADSL/SCIP for material declarations/ SVHC declarations or individual platforms for tracking spare part availabilities (Catena-X, B-parts from individual groups of manufacturers). The simplification and reduction potential could be achieved through a targeted extraction of key information from existing platforms to respective end-users (consumers, garages, dismantlers, shredders, etc.) with different data needs.

Expected benefits: The electronic provision of such information would firstly facilitate the dismantling, re-use and recycling of vehicles and thus lower the costs of these measures. This would first and foremost decrease the burdens for dismantling facilities linked to the identification of the different materials used in the specific car type, their location inside the vehicle and the connections between the different vehicle components. Hence, the vehicle passport will lead to an easier and accelerated dismantling and recycling procedure. While the passport will increase the burdens for vehicle producers and the administration in terms of enforcing this passport, it will potentially also reduce some of the burdens for the administration in terms of the enforcement and control regarding the attainment of recycling goals by vehicle producers and dismantling facilities.

[4] Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of Directive 2000/53/EC on end-of-life vehicles for the periods 2008-2011 and 2011-2014, 27.02.2017, p. 5;
[5] Tesla response to European Commission Inception Impact Assessment: Revision of Directive 2000/53/EC on end-of-life vehicles, Nov. 2020;
[6] RegHub consultation on the implementation of the end-of-life vehicle Directive, 2022;
[7] ELV IA: Improve circularity in the design, production and end-of-life treatment of vehicles (objective 2), 03.2022, p. 89;
[8] European Environment Bureau feedback to the to the EU's road map the review of the End-of-Life Vehicles Directive, 19 November 2020, p. 4;
[9] European Environment Bureau feedback to the EU's road map the review of the End-of-Life Vehicles Directive, 19 November 2020, p. 4;

The information provided would also allow more re-use and recycling and namely more "high-quality" recycling, preserving valuable materials. This would then not only have a beneficial economic impact due to the materials and components retrieved but also environmental benefits.

Suggestion 2: Refine the definitions for end-of-life vehicles and used vehicles/ parts of vehicles

Description: One of the largest issues with regards to the implementation of the ELV-Directive has been the illegal export of vehicles outside of the EU that are within the scope of the ELV-Directive and therefore should be disposed of within EU borders.[10][11] Amongst others, one of the central issues here has been the false labelling of end-of-life vehicles as "used vehicles" in order to bypass the provisions of the ELV Directive.[12]

In order for authorities to have a clear guidance on which vehicles should be allowed for export as "used vehicles" and which vehicles should be prohibited from getting exported as "end-of-life vehicles", the definitions for these categories should be specified, as it has already (at least partially, but not legally binding) been done in the Correspondents' guidelines No. 9 on the disposal of ELV, adopted by the Member States,[13] which however are not deemed sufficient.[14][15]

Special attention should be given to export situations in which the differentiation between vehicle 'labels' is not straightforward (e.g., hobby cars vs. end-of-life vehicles), but requires additional measures to properly supervise ELV vehicles. The implementation in Italy can be considered a favourable example for such differentiation: While the Highway Code[16] allows deregistration for exports only if the vehicle complies with the Periodical Technical Inspection (PTI) and if no order for an extraordinary PTI has been issued by policy authorities, special cases, such as an owner selling a vehicle in another country, can be settled if the owner proves the re-registration in that country by submitting a copy of the corresponding registration certificate.

Likewise, a revised Directive should provide clear definitions for "re-use" and "preparing for re-use", since these are essential regarding the re-use of parts of ELVs and determine whether parts for re-use are put newly on the market and need to fulfil the respective requirements.

[10] Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of Directive 2000/53/EC on end-of-life vehicles for the periods 2008-2011 and 2011-2014, 27.02.2017, p. 10;
[11] RegHub consultation on the implementation of the end-of-life vehicle Directive, 2022;
[12] Umweltbundesamt: Altfahrzeuge; German Environment Agency: Scientific opinion paper: Effectively tackling the issue of millions of vehicles with unknown whereabouts, 2020, p. 10;
[13] Umweltbundesamt: Altfahrzeuge; Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of Directive 2000/53/EC on end-of-life vehicles for the periods 2008-2011 and 2011-2014, 27.02.2017, p.12, 13;
[14] Assessment of the implementation of Directive 2000/53/EU on end-of-life vehicles (the ELV Directive) with emphasis on the end of life vehicles of unknown whereabouts, p. 19, 60;
[15] RegHub consultation on the implementation of the end-of-life vehicle Directive, 2022;
[16] Art. 103 of the Highway Code (Legislative Decree 285/92);

Regarding damaged vehicles, it should be ensured that technically repairable vehicles and parts of vehicles can only be resold to automotive professionals. (Parts of) vehicles that cannot be technically repaired must be sold for destruction to approved centres.

Expected benefits: This would lead to more certainty with regards to which cars have to be kept within EU borders for public authorities and potentially simplify administrative processes.[17]

Countries outside of the EU, in which those vehicles are generally sold and disposed of, will benefit from a stricter EU export policy in two ways, if the latter is accompanied by a stricter supervision of exports of used vehicles and spare parts: First, a reduced intake of (parts of) inappropriately dismantled end-of-life vehicles, will reduce the number of disposed of vehicles and consequently the level of pollution caused by environmental dumping. Second, a reduction of the use of older, often more polluting, vehicles in the destination countries would reduce the level of air pollution in those countries[18]

Furthermore, the materials retrieved from those end-of-life vehicles stopped from export can be reused within the EU which leads to their value staying within the EU as well.[19]

Suggestion 3: Consider full digitalisation of the registration system and (2) installation of a central registration system and/or interoperable systems or ensuring the compatibility and coordination of the registration systems across and within Member States

Description: Currently, the degree of digitalisation of the registration system for vehicles varies between countries and still has not been fully achieved. This issue is also linked to the lack of a central common registration system and/or lack of compatibility and full coordination between the existing registration systems.[20] This leads to challenges occurring for vehicle owners and public authorities, especially when a car needs to be re-registered or deregistered in another region or Member State and the registration information is not available.[21] Such obstacles may lead to vehicle owners forgoing the deregistration procedure altogether and also to mistakes and system malfunctions happening regarding the registration and deregistration.[22]

[17] Umweltbundesamt: Altfahrzeuge; Stakeholder opinion Czech Republic;
[18] Umweltbundesamt: Altfahrzeuge; German Environment Agency: Scientific opinion paper: Effectively tackling the issue of millions of vehicles with unknown whereabouts, 2020, p. 6;
[19] Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of Directive 2000/53/EC on end-of-life vehicles for the periods 2008-2011 and 2011-2014, 27.02.2017, p.12;
[20] German Environment Agency: Scientific opinion paper: Effectively tackling the issue of millions of vehicles with unknown whereabouts, 2020, p. 7;
[21] Assessment of the implementation of Directive 2000/53/EU on end-of-life vehicles (the ELV Directive) with emphasis on the end of life vehicles of unknown whereabouts, p. 58;
[22] German Environment Agency: Scientific opinion paper: Effectively tackling the issue of millions of vehicles with unknown whereabouts, 2020, p. 8;

The lack of digitalisation and coordination thus makes it difficult in some cases to determine a vehicle's status with certainty, which also facilitates the illegal dismantling and disposal of vehicles at unauthorized treatment centres and the export to countries outside of the EU.[23]

Therefore, it is recommended, that the Commission analyses the advantages and disadvantages of a common EU digital registration system[24] and thoroughly assesses its impacts. Should the expected administrative burden for setting up a central system exceed its expected benefits, it should at least be ensured that the different Member States' registration systems are made compatible with each other and/or are being coordinated, e.g., by harmonising the terms, data, and impact of de-registration and by requiring a harmonised digital registration of information to enable the EU-wide exchange of information, e.g., by using the EUCARIS-System,[25] and expanding the e-CoC concept.

Expected benefits: While these adaptations will require additional administrative efforts in the beginning, from a long-term perspective they will simplify the administrative work and decrease the administrative burden that is linked to the registration process, as seen in Portugal or Italy, where a central digital registration system is already in place.[26] In Italy, registration procedures both for export and scrapping are fully digitised and allow authorities and qualified private companies to access a fully telematic registry.[27]

With these improvements regarding the registration and deregistration process, these procedures will be more time-efficient and thus will also present an advantage to car owners that want to re- or deregister their vehicle in another Member State.

Moreover, this would allow for better control of the vehicles' status and strengthen the ability of enforcement authorities to carry out more stringent checks on compliance. This would potentially decrease the loss of vehicles as it would improve the vehicles' traceability.[28] This again would help against the loss of raw materials that could otherwise be recycled in the EU (as seen above).

[23] European Environment Bureau feedback to the EU's roadmap the review of the End-of-Life Vehicles Directive, 19 November 2020, p. 1;
[24] Tesla response to European Commission Inception Impact Assessment: Revision of Directive 2000/53/EC on end-of-life vehicles, Nov. 2020;
[25] German Environment Agency: Scientific opinion paper: Effectively tackling the issue of millions of vehicles with unknown whereabouts, 2020, p. 7; Oeko-Institut e.V., Institute for Applied Ecology: Assessment of the implementation of Directive 2000/53/EU on end-of-life vehicles (the ELV Directive) with emphasis on the end of life vehicles of unknown whereabouts, p. 17;
[26] Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of Directive 2000/53/EC on end-of-life vehicles for the periods 2008-2011 and 2011-2014, 27.02.2017, p. 11;
[27] Legislative Decree No. 98/2017 establishes the "Single Registration and Ownership Document"; services are provided through a telematic motorist information point;
[28] Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of Directive 2000/53/EC on end-of-life vehicles for the periods 2008-2011 and 2011-2014, 27.02.2017, p. 10;

Suggestion 4: Enforce the certificate of destruction (COD) necessary for deregistration and implement a systemic differentiation between temporary and permanent deregistration

Description: In most Member States, the deregistration is currently handled by public authorities while the dismantling is carried out by private dismantling facilities. At the same time, not all countries require the vehicle's last owner to provide a COD upon deregistration, which is serving as a proof that the vehicle has been properly dismantled, as it is required by the directive. This is due to the circumstance that some countries (e.g., Germany) do not differentiate between short-term deregistration and final deregistration or deregistration for final disposal or other purposes.[29]

Thus, due to the lack of coordination, a destructed car is not necessarily also deregistered (which some Member States, e.g., Portugal, have tried to avoid by setting up a tax that only is dropped if the car is properly deregistered),[30] and a deregistered vehicle does not necessarily need to be destructed, leading to uncertainty regarding the vehicles' status.[31]

Hence, it is recommended, that the Member States should be required to implement a system that requires every car owner to provide a COD issued by an authorized dismantling facility before permanent deregistration[3233] and, therefore, if not already practiced, systematically differentiate between temporary and permanent de-registration.[34] Such system could further be harmonised across the EU, because otherwise an illegal dismantling shadow economy in one Member State may undermine the efforts in another Member State.

In order to decrease the workload for authorities regarding the vehicle deregistration, make it more effective and easier to enforce, the use of digitalised CODs and the strengthening of internet-based exchanges between the vehicle registration authority and the recovery facilities are seen as indispensable.[35]

In addition to the differentiated process for deregistration, Member States could be encouraged to introduce systems of incentives that ensure that a vehicle's status is known and that temporarily deregistered vehicles are re-registered with specified time-limits. Depending on the

[29] German Environment Agency: Scientific opinion paper: Effectively tackling the issue of millions of vehicles with unknown whereabouts, 2020, p. 9, 10;
[30] Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of Directive 2000/53/EC on end-of-life vehicles for the periods 2008-2011 and 2011-2014, 27.02.2017, p. 10;
[31] Tesla response to European Commission Inception Impact Assessment: Revision of Directive 2000/53/EC on end-of-life vehicles, Nov. 2020; German Environment Agency: Scientific opinion paper: Effectively tackling the issue of millions of vehicles with unknown whereabouts, 2020, p. 6< Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of Directive 2000/53/EC on end-of-life vehicles for the period 2014-2017, 30.01.2020, p. 10;
[32] Tesla response to European Commission Inception Impact Assessment: Revision of Directive 2000/53/EC on end-of-life vehicles, Nov. 2020; German Environment Agency: Scientific opinion paper: Effectively tackling the issue of millions of vehicles with unknown whereabouts, 2020, p. 8;
[33] RegHub consultation on the implementation of the end-of-life vehicle Directive, 2022;
[34] German Environment Agency: Scientific opinion paper: Effectively tackling the issue of millions of vehicles with unknown whereabouts, 2020, p. 9;
[35] RegHub consultation on the implementation of the end-of-life vehicle Directive, 2022;

national situation, such system may – besides de-registration time-limits – include measures such as reporting duties for car owners, or rewards for deregistration and dismantling (see suggestion 5).[3637] Other examples for incentives for vehicle owners to properly return end-of-life vehicle to ATFs, include the linking of the COD for an end-of-life vehicle to the insurance premium (as in place in the Czech Republic) or to specific taxes (e.g., road taxes in Spain).[38]

In the absence of incentives, vehicle owners might bypass the destruction obligation by temporarily deregistering an end-of-life vehicle, not having to fear any follow-up on the re-registration. The introduction of such measures should follow common guidelines to be introduced by the European Commission in order to assure a coherent treatment of temporarily deregistered vehicles. Provisions regarding time limits for temporary deregistration should be designed in a way that the administrative burden for registration authorities is kept to a minimum.

Direct vehicle deregistration by ATFs can be envisaged if it can be ensured that final deregistration is equivalent with the handing-over to a recovery facility (i.e., deregistered vehicle = waste).[39]

Expected benefits: This would ensure that only dismantled cars are permanently deregistered and that authorities have an oversight on the vehicles' status, i.e. whether it has been destructed or just temporarily deregistered.

In the latter case of temporary deregistration, the reporting duties of car owners on the vehicle's status and limitation of the time period, during which a vehicle can be temporarily deregistered, can act as a tool for public authorities to control the implementation of the ELV-Directive's objectives but also to ensure the tracking of vehicles even after deregistration. Likewise, can a system of (dis-)incentives encourage timely reregistration and increase the number of vehicles actually dismantled in line with the ELV Directive.

With the deregistration procedure thus being designed more comprehensively by better streamlining the vehicle (de)registration procedures with the ELV specific provisions, this would potentially discourage car owners from illegally selling their end-of-life vehicles or letting them be dismantled at unauthorized dismantling facilities. Hence, it would also have a positive environmental and economic (due to the materials' values) impact.

Suggestion 5: Improve implementability of the ELV-Directive's requirements through a reward system for deregistration and/or dismantling

Description: With one of the biggest challenges in the implementation of the ELV-Directive being the loss of end-of-life vehicles due to illegal exports or illegal disposal,[40] it has been

[36] German Environment Agency: Scientific opinion paper: Effectively tackling the issue of millions of vehicles with unknown whereabouts, 2020, p. 9;
[37] RegHub consultation on the implementation of the end-of-life vehicle Directive, 2022;
[38] EuRIC (2022) EuRIC Position Paper: EPR schemes for ELV;
[39] RegHub consultation on the implementation of the end-of-life vehicle Directive, 2022;
[40] European Environment Bureau feedback to the EU's roadmap the review of the End-of-Life Vehicles Directive, 19 November 2020, p. 1;

observed that financial incentives have helped increase the number of cars dismantled and deregistered and therefore have helped with the implementation of the ELV-Directive.[41][42]

There are two major ways in which Member States have created such financial incentives, one being the introduction of rewards for dismantling (e.g. the "Abwrackprämie" (=scrapping premium) in Germany and similar initiatives in France, Italy and Spain in 2008/09[43]) and the other one being a reward system for the deregistration for example in Portugal and Denmark.[44] If scrapping premiums are used, they should be designed in a way that ELV recyclers are not passed over and put at a disadvantage compared to shredder companies, i.e. that the provisions allow the transfer of end-of-life vehicles to parts recyclers.

Negative financial incentives for non-compliance with current regulations, such as fines for last owners/holders who dispose of their vehicle illegally or transfer only incomplete end-of-life vehicles to ATFs, and penalties for illegal dismantlers might be considered as well.[45]

Therefore, it is recommended that the Commission encourages Member States to establish such reward systems for deregistration and/or dismantling, taking into account the country-specific situation.[46] A potential reward system for dismantling could include the condition that the reward is used for more sustainable transportation alternatives (including electric cars), while a reward system for deregistration could be such that charges are levied for the duration of the temporary deregistration, which should be lifted if the car is permanently deregistered.

Expected benefits: This will potentially reduce the number of vehicles that are being illegally exported or disposed, thus improve implementability of the ELV-Directive.[47] With the incentive to dispose of vehicles correctly, a reward system will also have environmental benefits due to proper recycling in authorised facilities and economic benefits due to the materials recovered.[48]

[41] RegHub consultation on the implementation of the ELV Directive 2022: All of the respondents agree or rather agree that financial incentives such as insurance premiums or fines help enforce the certificate of destruction;
[42] RegHub consultation on the implementation of the end-of-life vehicle Directive, 2022;
[43] Umweltbundesamt: Altfahrzeuge; Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of Directive 2000/53/EC on end-of-life vehicles for the periods 2008-2011 and 2011-2014, 27.02.2017, p. 7;
[44] Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of Directive 2000/53/EC on end-of-life vehicles for the periods 2008-2011 and 2011-2014, 27.02.2017, p. 10, 11;
[45] RegHub consultation on the implementation of the end-of-life vehicle Directive, 2022;
[46] Cf. propositions by German Environment Agency: Scientific opinion paper: Effectively tackling the issue of millions of vehicles with unknown whereabouts, 2020, p. 7; Oeko-Institut e.V., Institute for Applied Ecology: Assessment of the implementation of Directive 2000/53/EU on end-of-life vehicles (the ELV Directive) with emphasis on the end of life vehicles of unknown whereabouts, p. 118;
[47] As seen in Portugal, cf. Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of Directive 2000/53/EC on end-of-life vehicles for the periods 2008-2011 and 2011-2014, 27.02.2017, p. 10;
[48] RegHub consultation on the implementation of the end-of-life vehicle Directive, 2022;

Suggestion 6: Ensure coherence with other legislation, e.g., the Batteries Directive 2006/66/EC and the REACH Regulation

Description: Currently, treatment facilities are subject to various different provisions stemming from different directives with some of their obligations being redundant or not well aligned in certain constellations, e.g., regarding the Batteries Directive and the ELV-Directive in the case of electric vehicles.[49] With the growth of the electric vehicle market, the revision of the ELV-Directive should therefore be closely aligned with the revision of the Batteries Directive.[50]

Likewise, a revision of the ELV Directive should take into account inconsistencies and gaps currently found with regard to the REACH Regulation. In this context, special attention should be given to ensure the re-use of parts from the circular economy. While a merging of the two legislations is considered difficult, for at least limit values regarding the hazardousness of waste should be consistent.[51]

It is therefore recommended, to examine the reporting obligations imposed by related directives and find a clearer differentiation with regards to the applicability of the directives in order to avoid doubled reporting obligations.[52] Moreover, contradictory definitions, limit values and targets should be assessed and streamlined.[53]

Expected benefits: This will significantly increase definitory clarity, decrease the workload with regards to reporting obligations and thus potentially lead to reporting obligations being complied with more frequently. Consistent definitions and limit values will also facilitate controls and enforcement for market surveillance authorities and simplify waste assessment with regard to its hazardousness.

Suggestion 7: Improve compliance and enforcement possibilities through more realistic targets, common methodologies, and increased producer responsibility

Description: The current design of the ELV Directive leaves the treatment of end-of-life vehicles behind its possibilities. While country-specific circumstances need to be taken into account and accurate cost-benefit analyses need to be the basis of any revision that includes new procedures and measures, some adjustments could be considered in order to sharpen the targeting of the Directive and to address situations of market and regulatory failure. Such opportunities can currently be identified with regard to better definitions, better specifications for pre-treatment removal and post-treatment shredding, minimum quality requirements, recycled content targets, and material-specific targets for some materials. If cost-effective solutions are found, they can help to reduce the currently disproportionate regulatory burden

[49] Input from stakeholders; Tesla response to European Commission Inception Impact Assessment: Revision of Directive 2000/53/EC on end-of-life vehicles, Nov. 2020;
[50] European Environment Bureau feedback to the EU's road map the review of the End-of-Life Vehicles Directive, 19 November 2020, p. 4;
[51] RegHub consultation on the implementation of the end-of-life vehicle Directive, 2022;
[52] Input by stakeholders;
[53] RegHub consultation on the implementation of the end-of-life vehicle Directive, 2022;

faced by ATFs, and ultimately to achieve reuse, recycling and recovery targets in line with the polluter pays principle and the principle of waste hierarchy.

Common definitions and methodologies can enable more realistic targets and improve recycling and recovery

In the absence of a common methodology for the calculation of reuse and recycling targets, a desirable cross-EU comparison of results and performance regarding the achievement of ELV targets is impossible.[54] A common methodology could further inform a more realistic and reliable setting of benchmarks and processes. The current regulation of calculation methods in Decision 2005/293/EC is considered not to be precise enough and therefore manipulatable. It is therefore recommended to propose a common methodology in a reviewed Directive 2000/53/EC.[55]

A common definition of Post Shredder Treatment (PST) in the revised Directive could have advantages, because standardised separation and clearly defined treatment processes after shredding, leave less room for different interpretations, and eventually improve recovery and reduce environmental impact, e.g., by better management of 'fluff'.[56] Likewise, a minimum PST quality requirement on how to perform a shredder campaign – taking into account sectoral and country specific conditions – can improve recycling quality. A common definition of PST and common methodologies must not hinder innovation and competitiveness of ATFs with regard to shredding and post-shredding technologies, and should leave sufficient room to account for national conditions.[57] Test shreddings on randomly selected vehicles carried out in accordance with the Directive's provision could not only inform a common methodology as such, it could also help to review and establish standards for both combustion and electric vehicles.[58]

Expected benefits: To introduce a binding common methodology for the calculation of reuse and recycling targets makes target values more transparent, realistic and achievable. It is thus expected to facilitate benchmarking and increase compliance with ELV targets.

A common definition of PST and a common methodology on how to perform a shredder campaign is expected to facilitate and improve recovery and reduce environmental impact, if it can be ensured that national conditions are taken into account and if new dismantling obligations are informed by comprehensive cost-benefit analyses.

Adapted and more realistic recycling targets can improve dismantling and high-quality recycling

The adaptation to technological development, including the increasing production and use of electric vehicles, the potential introduction of new vehicle types into the reviewed ELV Directive, and the continuous introduction of new (hazardous) substances to the vehicle

[54] RegHub consultation on the implementation of the end-of-life vehicle Directive, 2022;
[55] RegHub consultation on the implementation of the end-of-life vehicle Directive, 2022;
[56] RegHub consultation on the implementation of the end-of-life vehicle Directive, 2022;
[57] EuRIC (2022) EuRIC Position Paper: EPR schemes for ELV;
[58] RegHub consultation on the implementation of the end-of-life vehicle Directive, 2022;

production process, as well as the economic necessity to recover critical raw material, make a review of recycling targets necessary.[59]

As mentioned before with regard to common calculation methods for recycling targets, any change or the creation of new (material-specific) targets should be based on reliable data and tests for different vehicle types, investigating the balance of materials and products, as well as the cost of management. To account for differences across Member States, varying fleet age and the actual capacity of dismantlers have to be considered, when determining calculation and finally targets.[60]

It is therefore recommended to review the currently existing combined reuse and recycling targets based on weight and introduce material-specific targets, i.e., for low-volume critical raw material, where manageable and based on real data. To enable compliance, country-specific conditions have to be taken into account and waste management facilities should be supported to ensure their sustainability and competitiveness.

Further, to contribute to higher rates of reuse parts to make the removal of vehicle parts before shredding mandatory under the revised Directive for a list of components that can be updated is largely supported by the RegHub network.

Expected benefits: A higher contribution to circular economy objectives, more realistic targets, and material-specific targets based on real data will increase compliance, improve dismantling and separation, enable the recovery of critical raw material and overall increase high-quality recycling.

Including recyclability and durability criteria in vehicle design can facilitate dismantling and lift implementation burden from ATFs

The principle of waste hierarchy favours waste prevention as most effective mean to reduce negative impact and improve resource efficiency. Vehicle manufacturers are in a good position to prevent waste, when designing their vehicles, taking into account criteria favouring the recyclability and durability of materials and components. Vehicles currently on the market are less and less easy to reuse, recycle and recover, because such criteria are not sufficiently respected. The extensive use of electronic components and the development of proprietary software or hardware also has repercussions on the vehicle design and risks to hamper cross-brand services including dismantlement. This contributes substantially to the economic unviability of ATFs, difficult and insufficient recovery, and to higher levels of pollution.

In line with the polluter-pays principle, it is therefore recommended to consider the creation of incentives for vehicle manufacturers to comply with eco-design criteria, including through the introduction of a European harmonised Extended Producer Responsibility (EPR), specifically tailored to end-of-life vehicle recycling. Such measure could include a financial contribution of vehicle manufacturers to compensate the average loss per vehicle for ATFs, with a particular

[59] RegHub consultation on the implementation of the end-of-life vehicle Directive, 2022;
[60] RegHub consultation on the implementation of the end-of-life vehicle Directive, 2022;

focus on concepts that are not economically viable (e.g., plastics, glass, batteries).[61] Should EPR schemes be considered for the revision of the ELV Directive, it should be ensured that well-functioning recycling processes are not disrupted. Existing effective relationships between manufacturers and ATFs should not be jeopardised by new requirements.[62] Further discussions could also consider the role of circular VAT rates, favouring the repair and reuse of (parts of) vehicles.

Furthermore, the suggested "vehicle passport" will only have real consequences, if the materials and components used are actually removable, reusable, recyclable and recoverable. Therefore, it is suggested to introduce design requirements and liability schemes that further facilitate dismantling and improve waste management. Modular design, standardisation, higher recovery rates, and use of recycled material and reuse of components should be encouraged, including by the setting of (new) targets, such as recycled content targets. Additional measures such as mandatory life cycle analyses, where appropriate, for each vehicle and the obligation to ensure that only such materials, for which a reuse or recycle value chain is in place, are being used, can support this.

Expected benefits: All measures are expected to incentivise vehicle manufacturers to produce better recyclable vehicles, i.e., by using less heterogenous components and improving removability, and invest more resources to develop more sustainable products and processes. Both, design requirements and financial contributions by manufacturers, will facilitate the work of ATFs, reduce their costs and increase their revenues from better management.

[61] RegHub consultation on the implementation of the end-of-life vehicle Directive, 2022; EuRIC (2022) EuRIC Position Paper: EPR schemes for ELV;
[62] EuRIC (2022) EuRIC Position Paper: EPR schemes for ELV.