# Waste Stream

## Name

End-of-life vehicles (ELVs).

## Waste description

An ELV is, in general terms, a vehicle that has come to the end of their useful life, either because of its age ([[1]](#endnote-2)) or because of damage sustained during an accident (or other occurrence). Many components of ELVs are classified as dangerous substances and in some countries ELVs arecategorised Some of the hazardous materials and substances found in vehicles include: gasoline, engine oil, fluids (transmission, brake, power steering, etc.), lead and lead compounds (e.g. batteries, solder, vibration dampers), mercury switches, cadmium (in batteries for electrical vehicles), hexavalent chromium (corrosion preventative coating), brake pad linings made of asbestos (in some older ELVs), and potentially explosive materials (including air bags and seat belt pre-tensioners). As much as 25% of a car’s weight may be classified as hazardous waste when discarded ([[2]](#endnote-4)) ([[3]](#endnote-5)).

## Information on waste / non-waste classification

National provisions concerning the definition of waste may differ and, therefore, the same material may be regarded as waste in one country but as non-waste in another country. Determining whether a substance or object is or not a waste may not always be straightforward; however, it is ultimately the mandate of the national competent authority on waste to decide when an item is to be defined as waste or non-waste. Further work on clarifying this matter under the Basel Convention is in progress ([[4]](#endnote-9)).

It is generally argued that used cars and used vehicle parts should be considered waste when they are in a state which obviously does not permit its re-commercialisation or reuse without major repair. For instance, in the European Union, the Correspondents' Guidelines No.9, which represent the common understanding of all Member States on how Regulation (EC) No.1013/2006 on shipments of waste should be interpreted, mentions that a used vehicle would normally not be considered waste if it is: (a) an operational used vehicle or a repairable used vehicle; or (b) a vintage car or vehicle according to national provisions. Conversely, a used vehicle would normally be classified as waste if at least one of several criteria is met; for example: (a) the existence of a certificate of destruction; (b) the vehicle stems from a waste collection or waste treatment system; (c) the vehicle is destined for dismantling and reuse of spare parts or for shredding/scrapping; (d) The vehicle is a write-off /is not suitable for minor repair /has badly damaged essential parts or is cut into pieces. ([[5]](#endnote-10)) In addition, the European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL) has proposed amendments to further distinguish used cars and ELVs ([[6]](#endnote-11)).

In Switzerland in particular, motor vehicles may be classified as second-hand goods (non-waste) provided one of the following conditions is met: (a) vehicles are roadworthy and contain all the parts needed to be driven (e.g. tyres, engine etc.); (b) vehicles that have been involved in an accident with only slight damage; or (c) vintage vehicles that first entered service more than 30 years ago. On the other hand, vehicles without a vehicle registration certificate, burnt-out vehicles, vehicles that are leaking operating fluids, vehicles that are badly deformed or scrap cars that are destined for dismantling or to provide spare parts, would be classified as “controlled wastes”, for export purposes. Similarly, components obtained from dismantling vehicles (e.g. motors, gear boxes, shock absorbers) may be considered second-hand goods if they are functioning vehicle parts that will be used as replacement parts and for their original purpose, and the operating fluids have been either previously removed from the replacement parts or the parts are sealed or loaded in such a way that no fluids can escape; vehicle parts leaking fluids would be on the other hand considered “controlled wastes”. ([[7]](#endnote-12)) Similarly, in England, the Environment Agency has issued a statement that sets out their view on when an abandoned, accident damaged or stolen motor vehicle is classed as waste. ([[8]](#endnote-13))

Moreover, in the European Union, iron and steel scrap can reach end-of-waste status when the conditions established in Council Regulation (EU) No.333/2011 are met ([[9]](#endnote-14)). In the case of ELVs, waste used as input for the recovery operation must have undergone all treatments required by Article 6 of Directive 2000/53/EC of the European Parliament and of the Council ([[10]](#endnote-15)) for depollution ([[11]](#endnote-16)) of ELVs.

## Classification under the Basel Convention (Annexes I, II, III, VIII and/or IX)

ELVs which are duly depolluted belong to category B1250­— waste end-of-life motor vehicles, containing neither liquids nor other hazardous components­—in Annex IX.

Waste tyres are not considered to be hazardous waste and belong to category B3140 in Annex IX. Lead acid batteries belong to category Y31­ in Annex I, and are further classified as A1160 in Annex VIII. Drained sulphuric acid electrolyte should be classified under the Y34 category. Used lead-acid batteries are likely to possess hazard characteristics H6.1, H8, H11, H12 and H13 in Annex III. Mercury switches belong to category Y29 in Annex I, and may be further classified as A1030 in Annex VIII. Wastes consisting of, containing or contaminated with mercury are likely to possess hazard characteristics H6.1, H11, H12 and H13 in Annex III. Waste electrical and electronic assemblies can be classified as A1180. Used oil belongs to category Y8 in Annex I, and is further classified as A3020 in Annex VIII; used oils are generally considered to possess hazard characteristics H11, H12 and H13 in Annex III.

## Basel Convention guidelines and other guidelines/instruments

* UK Department for Environment, Food and Rural Affairs (DEFRA) Environmental Permitting Guidance: The End-of-Life Vehicles Directive, For the Environmental Permitting (England and Wales) Regulations 2010 – Available at http://archive.defra.gov.uk/environment/policy/permits/documents/ep2010vehicleendlife.pdf
* UK Department for Environment, Food and Rural Affairs (DEFRA) Depolluting End-of-Life Vehicles (Cars and Light Goods Vehicles). Guidance for Authorised Treatment Facilities. Department for Business, Innovation and Skills (BIS) (2011) – Available at https://www.gov.uk/government/uploads/system/uploads/attachment\_data/file/31736/11-528-depolluting-end-of-life-vehicles-guidance.pdf
* UK Department for Environment, Food and Rural Affairs (DEFRA) Depolluting Guidance for End-of-Life Vehicles over 3.5 tonnes (2004) – Available at http://archive.defra.gov.uk/environment/waste/producer/vehicles/documents/elv-depollution.pdf
* Canadian Auto Recyclers’ Environmental Code (CAREC) (2012) – Available at http://www.carec.ca/
* UNIDO/UNITAR/Secretariat of the Stockholm Convention Guidance on Best Available Techniques and Best Environmental Practices for the Recycling and Disposal of Articles Containing Polybrominated Diphenyl Ethers (PBDEs) Listed Under the Stockholm Convention on Persistent Organic Pollutants (2012) – Available at http://www.unido.org/en/what-we-do/environment/capacity-building-for-the-implementation-of-multilateral-environmental-agreements/the-stockholm-convention/popsguidance/pop-pbdes-batbep-guidelines.html
* UNEP Guidelines on Best Available Techniques and Provisional Guidance on Best Environmental Practices Relevant to Article 5 and Annex C of the Stockholm Convention on Persistent Organic Pollutants: Shredder Plants for the Treatment of End-of-life Vehicles – Available at http://chm.pops.int/Implementation/BATBEP/BATBEPGuidelinesArticle5/tabid/187/Default.aspx
* European IPPC Bureau Reference Document on Best Available Techniques for the Waste Treatments Industries (2006) – Available at http://eippcb.jrc.ec.europa.eu/reference/ (currently under review)
* European IPPC Bureau Reference Document on Best Available Techniques for Waste Incineration – Available at http://eippcb.jrc.ec.europa.eu/reference/

# Waste Management

## Storage

In the European Union, Directive 2000/53/EC of the European Parliament and of the Council requires the provision of impermeable surfaces for the appropriate areas with spillage collection facilities, decanters, and cleanser-degreasers. There must also be provision for the treatment of contaminated water, including rainwater. Storage operations are to be carried out avoiding damage to components which contain fluids (in order to prevent spillages) or to recoverable components and spare parts.

Engine compartments should be protected from rain in order to avoid contaminants being washed off. Reasonable precautions should be taken to ensure that the ELVs, their contents or waste cannot escape from it and unauthorised access is prevented. ([[12]](#endnote-20)).

## Packaging and labelling

Follow the label instruction of the hazardous materials (for example those mentioned in section 3a). Some labels give disposal recommendations.

# Disposal Operations (Annex IV, Sections A and B)

## Best available techniques (BAT) and best environmental practices (BEP)

Facilities that handle ELVs should meet all basic requirements to ensure the environmentally sound management (ESM) of wastes and commit to continual improvement in their operations. A facility should have the following, which should meet the approval of the relevant authorities: (a) appropriate design and location; (b) an environmental and social impact assessment, where appropriate; (c) sufficient measures in place to safeguard occupational health and safety, including an appropriate and adequate training programme for its personnel; (d) sufficient measures in place to protect the environment; (e) an applicable EMS in place, if feasible and appropriate; (f) an adequate and transparent monitoring, recording, reporting and evaluation programme; (g) an adequate emergency plan and response mechanism; (h) an adequate plan for closure and aftercare. ([[13]](#endnote-21))

ELVs are typically processed first by dismantlers, although a small percentage, because of their age or condition, go directly to the shredders.

1. Dismantling: ELVs are typically received and processed first by automotive dismantlers. At the dismantling yard, useable parts are recovered from the vehicle for resale (direct reuse) and/or remanufacturing. Hazardous materials and components should be removed and segregated in a selective way so as not to contaminate subsequent shredder waste.
2. Remanufacturing: This involves the remanufacturing and rebuilding of certain components of dismantled vehicles by dismantlers or by repair shops. Many automotive components are remanufactured to supply lower-cost repair and replacement parts (e.g.: starters, alternators, engines, transmissions, brake systems, and water pumps).
3. Shredding: After useable and re-manufacturable parts are removed from ELVs, the final step in the recycling infrastructure is the recovery of materials for recycling. Typically, the remaining auto hulk or shell is crushed and transported to shredding facilities. Automotive/automobile/auto shredder residue (ASR) is a complex heterogeneous mixture of intermingled materials that is extremely difficult to separate and handle; it also has a large number of incompatible materials, including moisture, wood, metals, glass, sand, dirt, automotive fluids, plastics, foam, rubber, fabrics, fibres, and others. In addition, ASR is known to contain varying amounts of heavy metals, PCBs, and fire retardants. The ASR is normally further separated into a “light ASR” and a “heavy ASR” where the polyurethane (PUR) foam is contained in the light ASR fraction and makes up 4% to 20% of this fraction ([[14]](#endnote-25).

In the European Union, sites for the treatment of ELVs should meet the following minimum technical requirements: (a) impermeable surfaces for appropriate areas with the provision of spillage collection facilities, decanters and cleanser-degreasers; (b) appropriate storage for dismantled spare parts, including impermeable storage for oil-contaminated spare parts; (c) appropriate containers for storage of batteries (with electrolyte neutralisation on-site or elsewhere), filters and PCB/PCT-containing condensers; (d) appropriate storage tanks for the segregated storage of ELV fluids: fuel, motor oil, gearbox oil, transmission oil, hydraulic oil, cooling liquids, antifreeze, brake fluids, battery acids, air-conditioning system fluids and any other fluid contained in the ELV; (e) equipment for the treatment of contaminates water, including rainwater, in compliance with health and environmental regulations; (f) appropriate storage for used tyres, including the prevention of fire hazards and excessive stockpiling.

European legislation requires that ELVs be depolluted to certain standards prior to dismantling, crushing, or shredding, through the following operations: (a) removal of batteries and liquefied gas tanks; (b) removal or neutralisation of potential explosive components, (e.g. air bags); (c) removal and separate collection and storage of fuel, motor oil, transmission oil, gearbox oil, hydraulic oil, cooling liquids, antifreeze, brake fluids, air-conditioning system fluids and any other fluid contained in the ELV, unless they are necessary for the reuse of the parts concerned; (d) removal, as far as feasible, of all components identified as containing mercury ([[15]](#endnote-26)). Furthermore, in order to promote recycling, the following treatment operations are required: (a) removal of catalytic converters from exhaust systems; (b) removal of metal components containing copper, aluminium and magnesium if these metals are not segregated in the shredding process; (c) removal of tyres (generally, no more than 2 vehicle loads of tyres should be stored) and large plastic components (bumpers, dashboard, fluid containers, etc.), if these materials are not segregated in the shredding process in such a way that they can be effectively recycled as materials; (d) removal of glass. Detailed advice is provided in guidance developed by the Scottish Environment Protection Agency (SEPA) and Environment Agency of England and Wales ([[16]](#endnote-27)).

When depollution activities have been conducted, the ELV is classified as non-hazardous waste. All fluids and other items which have been removed (apart from any air bags which have been deployed) should still be classified as hazardous waste. These will need to be stored in suitable storage facilities, which meet all regulations, until they are either treated or sent for recycling or disposal through a suitably licensed waste management contractor. Parts removed for resale should be stored on racks where practical. Any parts from which liquids could escape should be stored on an impermeable surface and no liquid should be able to escape from this surface. After removal from the ELV, liquids should be stored in separate, clearly labelled leak-proof containers and within a bunded area. Batteries should be stored in clearly labelled acid resistant containers which are leak-proof and prevent entry of rainwater. Car shells can be stored on a hardstanding provided they are fully depolluted.

Shredder plants for the treatment of ELVs are listed in Annex C of the Stockholm Convention as a source that has the potential to form and release unintentionally produced POPs. The data available indicate that the PCDD/PCDF and PCB released from shredder plants are from industrial, intentional production and have been introduced with oils, dielectric fluids, and other materials contained in these vehicles or consumer goods and which are simply set free through this mechanical process. In any case, measures to prevent accidental fires (which could result in the formation of chemicals listed in Annex C) should be in place at shredder plants (shredder light fluff consists of flammable plastic films and fibrous dust). Systems for dust suppression or collection systems would help to reduce potential emission of POPs. To improve emission control of the dust, fine dry residues should be stored in such a way that dispersion is minimized. Primary measures that prevent the formulation of chemicals listed in Annex C should include the removal of fluids, batteries, liquefied gas tanks, potential explosive components, catalysts, tyres and large plastic components. The appropriate treatment of shredder waste is incineration in a facility meeting the requirements for best available techniques and best environmental practices. If such a facility is not available, disposal in a sanitary landfill may be preferred to other forms of disposal. ([[17]](#endnote-28))

The amount of ASR that would eventually need to be disposed of can be reduced significantly by: (a) separation and recovery of recyclable materials from the shredder residue, primarily plastics, rubber, and residual metals, including the reprocessing of the fines fraction; (b) conversion to liquid and gaseous fuels via pyrolysis or gasification of its organic content; (c) incineration with heat recovery. The non-combustible fraction can also be reduced by separating and recovering the metals and their oxides and perhaps the glass. ([[18]](#endnote-32))

# Sustainable Materials Management (SMM)

## Extended Producer Responsibility (EPR)

* European Union: The Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of-life vehicles, contains a number of requirements in relation to recycling of ELVs and producer responsibility. Important generic elements of EPR include: product category or waste stream focus; standards for competing producers; assignment of responsibility for life cycle management, including product take-back and phase-out of hazardous materials; producer flexibility and accountability (e.g., through producer responsibility organizations) in program design and implementation; transparency for the public (e.g., clear labelling of products); performance requirements and deadlines; and regular monitoring and reporting of progress. Producers must meet all, or a significant proportion, of costs for collection and recovery measures. Member States are required to establish collection systems for ELVs and ensure that all vehicles are transferred to authorized treatment facilities through a system of vehicle deregistration based on a certificate of destruction. The last holder of an end-of-life vehicle may dispose of it free of charge ("free take-back"). Additionally, manufacturers must endeavour to reduce the use of hazardous substances when designing and producing vehicles and ensure that most components of vehicles placed on the market after July 1, 2003, do not contain mercury, hexavalent chromium, cadmium, or lead. The Directive emphasizes the importance of increasing the use of recycled materials in vehicle manufacture. In order to identify vehicle components and materials suitable for reuse and recovery and handle these materials safely, the Directive requires that producers use International Organization for Standards (ISO) guidelines for the labelling and identification of vehicle components.
* Japan: Under the Law for the Recycling of End-of Life Vehicles, which is based on a "shared responsibility" principle, consumers in Japan pay a fee when they purchase a new car or, for cars sold before the enforcement of the law, at the time of mandated regular inspection. The fee is managed by a third party, the Japan Automobile Recycling Promotion Center (JARC) ([[19]](#endnote-35)). An electronic manifest system is used to help ensure that ELVs are properly recycled.
* South Korea: The Act for Resource Recycling of Electrical and Electronic Equipment and Vehicles creates a framework to hold producers and importers responsible for their use of resources. The law addresses the use of hazardous substances, recyclability of materials, collection of ELVs, recycling rates, and information exchange through an on-line database.

## Using Lightweighting Materials and “Ecodesign” on the Recyclability of Vehicles

The effect of using automotive lightweighting material on recyclability, including changes of hybrid with a gas/electric powertrain will be a step in identifying changes that will impact the end-of-life recycling of vehicles of the future. Because the weight reduction is entirely in the currently recycled portion of the vehicle, the recyclability is adversely affected and is reduced

# Legislation

## Existing national, regional and international legislations

Since ELVs consist of more than 70% iron, these have been traditionally traded as a valuable secondary resource, and their recycling has been conducted autonomously based on market mechanisms. However, fluctuations in the price of steel scraps and the rise in the treatment cost of automobile shredding residues (ASR) have at times pulled down ELV prices. Thus, management of ELV recycling under a legislative framework is becoming increasingly important.

* European Union: Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of life vehicles. Available at <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32000L0053>.
* Croatia: Ordinance on the management of end-of-life vehicles, (Official Gazette No. 136/06, 31/09, 156/09). Available from: http://scp.eionet.europa.eu/facts/factsheets\_waste/2011\_edition/legislation
* Ireland: Waste Management (End-Of-Life Vehicles) Regulations 2006, S.I. No. 282 of 2006. Available from: http://www.irishstatutebook.ie/2006/en/si/0282.html
* Italy: Legislative Decree n. 209 of 24th June 2003. Available from: http://www.med-zerowaste.eu/deliverables/DST\_Final/index.files/.%5Clegislation%20analytika%5CItaly%20analytika%5CDLgs.209%202003.pdf
* Latvia: Law on Management of End-of- Life Vehicles, amended 22.12.2004. Available from: http://scp.eionet.europa.eu/facts/factsheets\_waste/2011\_edition/legislation
* Macedonia: Official Gazette of the Republic of Macedonia No.108/2009, 164/09. Available from: http://scp.eionet.europa.eu/facts/factsheets\_waste/2011\_edition/legislation
* Norway: Waste Regulation (Avfallsforskriften, 2004). Available from: http://scp.eionet.europa.eu/facts/factsheets\_waste/2011\_edition/legislation
* Poland: Act of January 20th 2005 on recycling of end-of life vehicles (J. of L. of 2005 No. 25, item 202, with later amendments) Available from: http://scp.eionet.europa.eu/facts/factsheets\_waste/2011\_edition/legislation
* Slovakia: Government Order No. 153/2004 Available from: http://scp.eionet.europa.eu/facts/factsheets\_waste/2011\_edition/legislation
* Slovenia: Decree on the management of end-of-life motor vehicles, (OJ RS, No. 32/11) Decree on environmental tax on the generation of end-of-life vehicles, (OJ RS, No. 118/05, 87/05). Available from: http://scp.eionet.europa.eu/facts/factsheets\_waste/2011\_edition/legislation
* Sweden: Ordinance (1997:788) on producer responsibility for End of life Vehicles. Available from: <http://www.naturvardsverket.se/Documents/publikationer/620-1249-5.pdf>
* Japan: Illegal dumping of ASR was occurring with considerable frequency due to the skyrocketing cost of disposing ASR that are generated during the process of the treatment of the vehicles. Such dumping was a major social problem. To address this problem, the Law for the Recycling of End-of Life Vehicles was enacted in July 2002. To address this problem, the law requires vehicle manufacturers and importers to destruct Freon and recycle airbags and ASR. Moreover, as recycling goals, the law establishes that the ASR recycling rate shall be over 70 percent and the airbag recycling rate over 85 percent by 2015. ([[20]](#endnote-37)) Available at https://www.env.go.jp/en/laws/recycle/11.pdf
* United States: In the United States, no stringent regulations such as those enacted in Europe exist at the federal level. Regulatory activities in the United States have been limited to the state level, and they are addressed primarily to specific compounds such as: (a) Labelling of liquid containers, including washer fluid and coolant fluid bottles; (b) Landfill restrictions on mercury-containing components, etc.
* South Korea: Act for Resource Recycling of Electrical and Electronic Equipment and Vehicles of 2 April 2007. Available at http://www.env.go.jp/en/recycle/asian\_net/Country\_Information/Law\_N\_Regulation/Korea\_of\_Law\_and\_Regulation.html

# Capacity and Feasibility

The goal of putting in place laws or policies relevant to end-of-life vehicles is to eliminate waste and hazardous materials while creating jobs and economic activity. The following policies are proposed with the intention of influencing government in a direction that will move us to a more sustainable auto industry ([[21]](#endnote-38)):

* Regulate facilities that handle ELVs in order to ensure the proper collection, depollution and dismantling of all ELVs;
* Establish a set of minimum technical standards as part of the permitting process, including mandatory depollution;
* Require decertification and certificates of destruction for ELVs;
* Require all vehicles that are sold in a specific country ideally should to be dismantled or disassembled in the same specific country;
* Optimize dismantling prior to shredding with the goal of increasing materials recovery, reducing shredder residue volumes, and reducing contaminants;
* Set recycling targets for parts and materials;
* Require manufacturers and importers of cars to label parts and to provide manuals for disassembly to auto recyclers;
* Enact regulations to reduce and eliminate toxic chemicals from use in vehicles and their components;
* Require deposits on new vehicles, and return these deposits to owners when the vehicles are disposed of at licensed facilities;
* Require the use of a certain percentage of recyclable materials in new cars as part of a shift to emphasizing design for the environment.

Information on disposal and recovery facilities authorized, permitted or registered to operate in the territories of the Parties to the Basel Convention, is provided in the Online Reporting Database of the Basel Convention, which contains data transmitted by Parties pursuant to Article 13 (3) of the Convention. The database is accessible through the Basel Convention website on: http://www.basel.int/Countries/NationalReporting/ReportingDatabase/tabid/1494/Default.aspx.

# Permitting

ELV treatment facilities should be licensed/authorised/permitted. If there is no licensed facility and the scrap exporter is the conduit for effective recovery, then the exporter should not only be licensed and achieve high standards of environmental protection in any storage facility, but also should present a detailed set of operating procedures describing its activities and those of its partners in other countries in order to facilitate governmental actions in the regional scenario..

# Enforcement

The ESM of wastes requires a regulatory and enforcement infrastructure that ensures compliance with legal instruments and standards. Consideration should be given to a national (and sometimes a regional) policy that includes provisions to allow prompt, adequate and effective enforcement actions to be undertaken, including sanctions and penalties that will serve as a deterrent to non-compliance.

Measures should be in place to ensure adequate monitoring, inspection and enforcement of ELV imports and exports subject to the requirements of the Basel Convention, by agents of the State and cooperation with enforcement agencies in other States (to prevent illegal traffic).

Adequate penalties and sanctions for illegal traffic should discourage such movements in the future.

# Certification and Auditing Systems

It is recommended that licensed waste management facilities should be subject to regular inspections by the appropriate government agencies and/or audits by a recognised independent auditor. The objective of the inspection and/or auditing procedure would be to: check conformance of the facility with all basic requirements to ensure the ESM of wastes, with relevant environmental regulations, and, if applicable, current EMS systems. Verifying compliance with existing laws and regulations is embodied in the European Community Eco-Management and Audit Scheme (EMAS). Under ISO 14001, a facility is required to know whether or not it is in compliance with applicable laws and regulations; without that knowledge, the facility would be considered out of conformance with that ISO standard. The inspection and/or audit should also assess the performance of the facility with respect to environment, health and safety objectives.[[22]](#endnote-39)

In the United States, the Recycling Industry Operating Standard (“RIOS”), created by the Institute of Scrap Recycling Industries (ISRI), is a management system integrating environmental, quality, and health and safety standards. This is an ISO-compatible management system that allows for third party audits, registration by certifying bodies, and certification. In Germany, facilities may be certified as “Entsorgungsfachbetrieb” (specialised waste management companies) according to the requirements set out in the Ordinance on Specialised Waste Management Companies (EfbV).[[23]](#endnote-40)

# Transboundary Movements

Governments should put in place legal requirements to implement and enforce the provisions of relevant international and/or regional instruments in relation to the transboundary movement of wastes (pre-notification, prior informed consent, etc.), including the Basel Convention.

Transboundary movements of wastes for management in another country cannot be assured to result in ESM by evaluating receiving facilities alone. Elements such as those for effective legal systems, government oversight and other infrastructure to protect the occupational health and safety of workers, communities and the environment, should also be considered. Transboundary movements of wastes should not be considered to be legal where there is a reason to believe the waste in question will not be managed according to ESM.

Notifications received by the Secretariat of the Basel Convention from Parties—pursuant to Article 13 of the Convention—on decisions to prohibit or restrict the import/export of hazardous or other wastes are published on the website of the Secretariat ([[24]](#endnote-41)).

1. Sometimes referred to as natural end-of-life vehicles. [↑](#endnote-ref-2)
2. European Commission. 2005. Directive 2000/53/EC on End-of-life Vehicles, Guidance Document. Version 1, January 2005. Available at http://ec.europa.eu/environment/waste/pdf/guidance\_doc.pdf [↑](#endnote-ref-4)
3. European Topic Centre on Resource and Waste Management (ETC/RWM). 2008. Transboundary shipments of waste in the EU: Developments 1995-2005 and possible drivers. ETC/RWM Technical Report 2008/1. Available at http://scp.eionet.europa.eu/publications/Transboundary%20shipments%20of%20waste%20in%20the%20EU/wp/tech\_1\_2008 [↑](#endnote-ref-5)
4. For further information, refer to the development of “Technical Guidelines on Transboundary Movements of E-waste and Used Electrical and Electronic Equipment, in Particular Regarding the Distinction Between Waste and Non-waste Under the Basel Convention” (http://www.basel.int/Implementation/TechnicalMatters/DevelopmentofTechnicalGuidelines/Ewaste/tabid/2377/Default.aspx), the development of Guidance to Provide Further Legal Clarity in Relation to “Used and End-of-life Goods” (http://www.basel.int/Implementation/LegalMatters/CountryLedInitiative/OutcomeofCOP10/Providingfurtherlegalclarity/tabid/2673/Default.aspx), and the development of a Glossary of Terms to provide additional legal clarity with respect to certain terms used in the Convention (http://www.basel.int/Implementation/LegalMatters/LegalClarity/tabid/3621/Default.aspx). [↑](#endnote-ref-9)
5. (European Commission) Correspondents' Guidelines No.9. 2011. Available at http://ec.europa.eu/environment/waste/shipments/guidance.htm [↑](#endnote-ref-10)
6. For further information, refer to http://impel.eu/wp-content/uploads/2013/01/2012-11-8-Waste-Sites-Manual-final.pdf and http://impel.eu/projects/end-of-live-vehicles-project/ [↑](#endnote-ref-11)
7. Swiss Confederation Federal Office for the Environment (FOEN). 2011. Exporting consumer goods - Second-hand articles or waste? Available at http://www.bafu.admin.ch/publikationen/publikation/01613/index.html?lang=en [↑](#endnote-ref-12)
8. Environment Agency of England and Wales. 2013. Position statement: When a motor vehicle is considered to be waste. Available at https://www.gov.uk/government/uploads/system/uploads/attachment\_data/file/296445/LIT\_629\_3fd340.pdf [↑](#endnote-ref-13)
9. Council Regulation (EU) No.333/2011 of 31 March 2011 establishing criteria determining when certain types of scrap metal cease to be waste under Directive 2008/98/EC of the European Parliament and of the Council. Available at http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32011R0333 [↑](#endnote-ref-14)
10. Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of life vehicles. Available at http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32000L0053 [↑](#endnote-ref-15)
11. Depollution is to safely remove all hazardous parts including liquids. [↑](#endnote-ref-16)
12. Scottish Environment Protection Agency (SEPA)/Environment Agency of England and Wales. Guidance on the Standards for Storage and Treatment of End-of-life Vehicles. ELV standards Guidance, Version 1.2. Available at http://www.sepa.org.uk/waste/waste\_regulation/producer\_responsibility/end\_of\_life\_vehicles.aspx [↑](#endnote-ref-20)
13. Secretariat of the Basel Convention. 2013. Framework for the Environmentally Sound Management of Hazardous Wastes and Other Wastes. Available at http://www.basel.int/Implementation/CountryLedInitiative/EnvironmentallySoundManagement/ESMFramework/tabid/3616/Default.aspx [↑](#endnote-ref-21)
14. UNIDO/UNITAR/Secretariat of the Stockholm Convention. 2012. Guidance on Best Available Techniques and Best Environmental Practices for the Recycling and Disposal of Articles Containing Polybrominated Diphenyl Ethers (PBDEs) Listed Under the Stockholm Convention on Persistent Organic Pollutants. Available at http://www.unido.org/en/what-we-do/environment/capacity-building-for-the-implementation-of-multilateral-environmental-agreements/the-stockholm-convention/popsguidance/pop-pbdes-batbep-guidelines.html [↑](#endnote-ref-25)
15. A possible depollution sequence is provided in guidance developed by the UK DEFRA (“Depolluting End-of-Life Vehicles (Cars and Light Goods Vehicles). Guidance for Authorised Treatment Facilities”, available at https://www.gov.uk/government/uploads/system/uploads/attachment\_data/file/31736/11-528-depolluting-end-of-life-vehicles-guidance.pdf) [↑](#endnote-ref-26)
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