

### Definitions and rationale

1. End-of-life vehicles (ELV) constitute one of the “priority waste streams” identified by the European Commission and Member States in the mid-1990’s as warranting special attention. The number of vehicles on the road was steadily increasing year on year, they were being built with increasingly complex materials and combinations of materials. Since generally only the metallic fraction was recycled, growing quantities of material, some of it hazardous, were being disposed of in landfill sites. The priority waste stream exercise resulted in the publication of a Commission proposal for the End-of-Life Vehicles Directive, which was adopted in October 2000.

2. The End-of-Life Vehicles Directive (2000/53/EC) lays down measures aimed, as a first priority, at the prevention of waste from vehicles and, in addition, at the re-use, recycling and other forms of recovery of ELVs and their components so as to reduce the disposal of waste, as well as to improve the environmental performance of all of the economic operators involved in the life cycle of vehicles and especially the operators directly involved in the treatment of ELVs.

3. The key points of influence at end-of-life were addressed by the EU Directive which has been transposed into national legislation by the ELV Regulations 2003 and the ELV (Producer Responsibility) Regulations 2005. The Directive contains the following elements, all reflected in the transposing Regulations:

- ELVs can only be treated (‘depolluted’) by authorised treatment facilities (ATFs) complying with specified site and operational standards;
- a Certificate of Destruction must be issued to last owners by ATFs. This triggers the removal of a vehicle from the national register;
- vehicle manufacturers must provide information to facilitate vehicle dismantling and mark certain components to aid recovery and recycling;
- vehicle manufacturers must ensure their vehicles comply with restrictions on the use of lead, mercury, cadmium and hexavalent chromium;
- producers (vehicle manufacturers and importers) must provide convenient “free takeback” for ELVs from 1 January 2007; and
- mandatory targets for re-use, recycling and recovery starting in 2006 must be achieved (see the Policy and targets section below).

### Arisings, trends and projections

4. The Department of Trade and Industry (DTI) estimates that between 1.6 million and 2 million vehicles reach end-of-life each year. The majority of these are ‘natural’ ELVs, averaging around 13 years of age, but some 200,000 are ‘prematures’ (accident-damaged vehicles). The average weight of a natural ELV scrapped in 2005 is put at 971kg, resulting in total arisings of 1.7–1.9 million tonnes. A study of the materials in ELVs scrapped in 2005 put the ferrous and non-ferrous metal content at 75%, with plastics, rubber, glass, textiles, fuel, oils and coolants in varying proportions making up the remainder. The composition of a typical car has been changing in recent years. For example, ferrous metal content has decreased as a proportion of the whole, as lighter, more fuel-efficient materials, such as plastics, have increasingly been incorporated into vehicle design. This will have cost implications for the recovery of ELVs in coming years.

### Management routes

5. The main management routes for ELVs are set out below.

#### Dismantling

6. ATFs, permitted by the Environment Agency, depollute ELVs in accordance with the requirements of the 2003 ELV Regulations, by removing oils, other fluids and hazardous components. Some ATFs also remove other metallic and non-metallic parts for re-use. Most ATFs then bale the “shells” for transportation to metal processors (shredders).

#### Shredding

7. Shredding facilities tend to be large, capital-intensive operations, fragmentising ELV and other ferrous scrap for onward recycling in the steel industry. A few shredder firms also run dense media separators, which extract non-ferrous metals from main shredder residue. Some non-metallic materials (e.g. rubber, plastics, glass) may also be segregated for recycling.

#### Disposal

8. Industry estimates traditionally put ELV re-use, recycling and recovery rates at about 80–81%, leaving around 20% (0.36 million tonnes) to be disposed of in non-hazardous landfill sites. This disposal fraction will reduce from 2006 onwards, as parties obligated under the ELV (Producer Responsibility) Regulations 2005 achieve the 85% recovery target required by the ELV Directive.

### Policies and targets

9. The End-of-Life Vehicles Regulations 2003 transposed a number of the environmental and Single Market provisions in the Directive, including the Certificate of Destruction, the licensing of ATFs, heavy metal restrictions and component marking obligations.

10. The End-of-Life (Producer Responsibility) Regulations 2005 adopted an “own marque” system, with vehicle producers declaring responsibility for the vehicles they put on the market, establishing networks of ATFs and collection points at which last owners can take their ELVs (free of charge from January 2007). These networks were partially operational from 1 January 2006, the first year in which a recovery target must be achieved. Responsibility for achieving the 85% recovery target falls on vehicle producers, in respect of ELVs brought back to their network ATFs. However, that same responsibility rests with ‘uncontracted’ ATFs when taking in ELVs for which they do not have a producer’s contract. In this way, a competitive ELV treatment and recycling market operates when scrap material values are high enough to offset the costs of depollution and recovery, but guaranteed ‘convenient free takeback’ is available to last owners, even when scrap values fall to uneconomic levels.

11. The ELV Directive sets recovery targets of 85% (80% re-use and recycling, and a maximum of 5% energy recovery) for 2006–2014, and 95% (85% re-use and recycling, maximum 10% energy recovery) for the years from 2015 onwards. The Directive requires this latter target to be reviewed by the European Commission, taking account of the changing composition of vehicles. The Commission published the results of its review in January 2007, recommending to the European Parliament and Council that the 2015 target be maintained in its present form.

## Roles and responsibilities

**Table C11.1: Roles and responsibilities**

Organisation	Roles and responsibilities
Vehicle manufacturers and professional importers	<ul style="list-style-type: none"> <li>To continue to comply with the ELV Regulations in terms of heavy metal restrictions, marking of parts, publishing dismantling information, providing an adequate collection and treatment network, free takeback and meeting recovery targets</li> </ul>
ATFs	<ul style="list-style-type: none"> <li>To continue to comply with their permit and any other waste management licence conditions, as appropriate, issue Certificates of Destruction to last owners and achieve recovery targets, where necessary</li> </ul>
Environment Agency	<ul style="list-style-type: none"> <li>To provide effective regulation of ATFs and to carry out enforcement activity with regard to illegal dismantlers/scrapyards</li> </ul>
DVLA	<ul style="list-style-type: none"> <li>To enforce the Certificate of Destruction element of the 2003 ELV Regulations</li> </ul>
Local authorities/ police authorities	<ul style="list-style-type: none"> <li>To arrange for recovery of abandoned/nuisance vehicles only through licensed operators</li> </ul>
DTI	<ul style="list-style-type: none"> <li>To continue facilitating the ELV Consultation Group, advising on and ensure enforcement of recovery target obligations and updating depollution advice in the light of technical development</li> </ul>

## Infrastructure and capacity

12. At present there are more than 1150 ATFs in England, of which around 200 are contracted to provide free takeback on behalf of vehicle manufacturers. These ATFs have adequate capacity to depollute all expected ELVs arising in a given year. There are 25 shredding facilities in England, and three dense media separation plants. These have sufficient capacity to fragmentise all expected ELVs.

## References and other information

Defra – producer responsibility: ELVs  
[www.defra.gov.uk/environment/waste/topics/elvehicledir.htm](http://www.defra.gov.uk/environment/waste/topics/elvehicledir.htm)

DTI – ELV Regulations  
[www.dti.gov.uk/innovation/sustainability/elv/page30591.html](http://www.dti.gov.uk/innovation/sustainability/elv/page30591.html)