

## END-OF-LIFE VEHICLES: FREE TAKE-BACK AND OTHER INSTRUMENTS

End-of-life vehicles (ELV) can exert three major externalities on the environment: by dumping the ELV in the environment, by releasing pollutants in the course of ELV treatment operations (recycling, recovery, reuse) and by land filling of automobile-shredding residue. Although the EU figures on the annual amount of ELV seem to be relatively uncertain, the problem is not on a minor scale. For the EU15 and Norway it is estimated that in 1998 there were 11.5 million cars deregistered, of which 7.7 million were ELV (the bulk of the difference being exported for ELV treatment or reuse abroad).

Before the adoption of an EU directive on ELV (Directive 2000/53) there were (and still are) specific regulations and/or voluntary industry agreements in the member countries. Most of the regulations and agreements stipulate technical and administrative procedures but do not rely on the use of economic instruments. It is only in the Netherlands and in Sweden that economic instruments for addressing the mentioned externalities of ELV are used.

In the Netherlands a “disposal fee” (or recycling fee) was introduced during the 1990s. The instrument consists of three elements: The first element is a target (or several targets) to increase the recycling/recovery/reuse (RRR) rate. The second is a fee that has to be paid by the first owner of a new car registered in the country. The third part is a “recycling premium” paid to dismantlers, transporters and recyclers for the extra-cost they incur for meeting the RRR target rates. The system is managed by a private company.

In Sweden a “deposit-refund” system is used. It was introduced already in the 1970s. The producer or importer of a car has to pay a “recycling fee” to the Vehicle Disposal Fund. The fee, which is fixed by the Government, raises – of course – the price of the car. The Vehicle Disposal Fund pays a “scrapping premium” to the final car owner if the car is correctly deregistered for scrapping. Beside this premium, there might be a positive or negative value of the ELV. This is to be negotiated between the final owner and the dismantler. If the dismantler buys the car before deregistration, he is entitled to the scrapping premium.

The EU Directive 2000/53 introduced a third economic instrument: the “free take-back”. Free take-back implies that the final car owner can deliver the car to a (registered) dismantler free of charge. The latter receives financial resources from the car-making industry. The amount of the resources going to all dismantlers has to be determined in light of the RRR targets set likewise by the EU directive.

Mazzanti and Zoboli (2005) consider each of the three economic instruments capable of dealing with the three mentioned ELV externalities, whereas the free take-back system – as they cautiously formulate – “could be, ex ante, a good candidate as the best economic instrument.” The main reason is that car makers have to meet the RRR targets and want to do this at low costs. Thus, they have an incentive to innovate upstream in a way that makes recycling cheaper.

However, the authors regard it as uncertain how far free take-back or other economic instruments are capable of exerting optimal dynamic incentive effects for innovation in complex and inter-linked industrial subsystems and to induce optimal innovation paths. The necessity for innovation to meet the RRR targets of the directive is seen by them not only upstream but also downstream. Moreover, not only product and process innovations are required, also new markets must be created or arise. The authors see a possible solution in an integrated policy approach which should lead to a “shared inter-industry interest in innovation”. A cornerstone of such a solution may be enforceable voluntary agreements within the car sector and between car sector and government.

Presently the EU directive is under implementation in most EU countries. It leaves some room for countries to keep main elements of their existing system for dealing with ELV. Table 1 informs about the status of implementation of the directive in EU-15 and Norway, while Table 2 describes the current financial conditions related to ELV.

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### Reference

Mazzanti, M. and R. Zoboli (2005), “Economic Instruments and Induced Innovation: The Case of End-of-Life Vehicles European Policies”, *FEEM Working Paper*, no. 80.

Table 1

## ELV legislation &amp; EU ELV Directive implementation

Country	Existing Legislation	Directive Implementation Status	Requirements deviating from Directive
Austria	Ordinances issued 11/2002 based on Waste Management Act (2002); Voluntary Agreement (1992)	Implemented	Economic operators not specified; main tasks placed exclusively on manufacturers/importers; extreme complex report duties
Belgium	Voluntary Agreement 1999; Renewal Voluntary Agreement in negotiation; regional legislation: Flanders 1999, Brussels 2002 and Wallonia 2003	Implemented	Free take-back by 1 <sup>st</sup> January 2006 on the condition of a progressive management plan approved by different administrations before 1 <sup>st</sup> July 2004
Denmark	Consolidation Acts 373 & 860 (1999); Executive Order 141 (2000)	Modification of Executive Order published 19 <sup>th</sup> June 2002, covering the period until end of 2006	As defined in "car package" (treatment, requirements to companies, compensation)
Finland	No	In preparation. Adoption expected Q3, 2004	Free take-back as of 1 <sup>st</sup> January 2005
France	Voluntary Agreement (1993)	The French ELV transcription decree has been sent to the council the 13 <sup>th</sup> March for adoption. (Decree N° 10)	Research: Increase recoverability (2002 90%) and recycles use; Parts marking; Information
Germany	Legislation (Altauto VO)	Implemented since 1 <sup>st</sup> July 2002	Last owners deliver ELVs to certified dismantlers. Recovery quota. Cost-free take-back. Technical requirem. for dismantlers
Greece	General Waste Law – Presidential Decree regarding the implementation of ELV Directive (05/03/2004)	Presidential Decree regarding the implementation of ELV Directive was published on the 5 <sup>th</sup> March 2004	Manufacturers only are liable to set up the system. Athens, Thessalonica, Patra, Volos & Heraklion: Cost-free take-back, up to end 2006. Rest of Greece: Cost-free take-back, up to end 2009. AMVH has been approved as a collective system by law published on the 17 <sup>th</sup> of June 2004
Ireland	Voluntary Agree, in discussion commencing 09/01	Primary legislation finalized 3 <sup>rd</sup> July 2003	None
Italy	National and regional laws	Law published on 7 <sup>th</sup> August 2003	ELV owners deliver ELVs to authorised centres – Carmakers are free to create a free take-back network. If they do so they are allowed to guarantee free take-back only if their vehicles are delivered to one of these authorised centre.
Luxembourg	General waste law only	Law implemented 1 <sup>st</sup> April 2003	None, however, producers are responsible for Monitoring
Netherlands	Special body created by 5 organisations: ARN (1993)	Implemented since 4 <sup>th</sup> June 2002	Dutch Government has brought forward the EU 2015 targets to 2007 and 2006 to 2003
Norway	Government System (19789)	Implemented since 16 <sup>th</sup> July 2002	As per ELV Directive
Portugal	Voluntary Agreement (1999) and Waste Management Law (1998)	Implemented since 24 <sup>th</sup> August 2003	Management integrated system is to be organised, transport and treatment costs must be borne by producers if negative market values appear
Spain	Legislation (RD 1383/2002)	Issued 3 <sup>rd</sup> January 2003	Owners deliver ELVs to authorized centres. Producers shall take back ELVs. Negative market values from 1 <sup>st</sup> January 2007 if deficit in treatment chain audited by third party. Recovery quotas.
Sweden	Car scrapping legislation (1975), producer responsibility ordinance (1998), Regulation on vehicle dismantling operation (April 2002), Government bill (May 2003) Ban of certain metals (July 2003)	Remaining issues: Cost-free take-back 2007, Article 9.2	Car industry responsible for targets & reports for all cars and for free take-back (cars registered Jan 1998)
UK	Statutory instrument 2003 N° 2635	In effect 3 <sup>rd</sup> November 2003	None

Note: The information relates to July 2004.

Source: European Automobile Manufacturer Association (ACEA), ACEA Country Report, July 2004 (www.acea.be).

Table 2

## Current financial ELV take-back conditions

Country	Market Conditions	Cost-Free Take-Back	Fund System
Austria	x	Free take back when new or used car is purchased	n.a.
Belgium	x	From 01 January 2006	no
Denmark	Last owner is negotiating with the dismantler	Indirectly: Last owner pays for treatment (approx. DKK 800–1,000), receives fund compensation (DKK 1,750) when presenting CoD	Annual Payment of DKK 90 per car owner. This amount is added to the liability insurance premium + minimal producer contribution for new vehicles (0.5 €)
Finland	x	As of enacting of legislation	n.a.
France	x	Only at shredders	no
Germany	Market conditions for ELVs until 31 <sup>st</sup> December 2006	From 1 <sup>st</sup> January 2007	n.a.
Greece	x	Athens, Thessalonica, Patra, Volos & Heraklion: Cost-free take-back, up to end 2006, Rest of Greece: Cost-free take-back, up to end 2009. Common system of all manufacturers	no
Ireland	Under Discussion	Mid 2005	no
Italy	x	New vehicles from 2002, old car park as of 2007	No fund system is foreseen
Luxembourg	x	Producer liable	no
Netherlands	n.a.	Levy System, paid by importer, possibility to charge it to the first registered owner	n.a.
Norway	n.a.	Incentive to last owner. Treatment cost covered by Government	A car scrapping fee paid on new vehicle sales
Portugal	LOIs for whole car park are signed with 5 dismantlers	„Scrapping bonus“ for old cars when a new car is purchased. New vehicles from 2002, old car park as of 2007. Producer borne costs for transport and depollution (according to the dates above) if negative market values appear	Contribution to system provider (Valorcar) based on car share
Spain	x	Cost-free take-back: from 1 <sup>st</sup> January 2005	n.a.
Sweden	n.a.	Cost free for vehicles on the market from January 1998 by producer responsibility	Premium paid to last owner, higher for cars registered before 1998. A car-scrapping fee paid to the state-owned fund on each new car registration, higher for personal imports. The fund system is under review, starting fall of 2003 and may become changed
UK	x	From 1 <sup>st</sup> January 2007	n.a.

Note: The information relates to July 2004.

Source: European Automobile Manufacturer Association (ACEA), ACEA Country Report, July 2004 ([www.acea.be](http://www.acea.be)).