

## **Hampshire MRS: End of Life Vehicles (ELVs) & Abandoned Vehicles (AVs) Briefing Paper**

This paper summarises the End of Life Vehicles (ELVs) and Abandoned Vehicles waste opportunities in Hampshire required to meet the Vision of the MRS.

This is based upon the best information that we have available and has arisen from discussions that took place at the workshop on the 31st March 2004 which produced a detailed briefing paper. This paper has now been modified and extended following further consultation and discussion with industry experts and the ELV Resource Group who met on 28<sup>th</sup> June 2004.

The Opportunities outlined below are the results of discussion with industry experts and detailed research into the topic. This research is summarised in the following pages.

The Information contained within this briefing paper will develop following this consultation into one section of the Material Resources Strategy.

This paper also links to the follow papers:

- **Plastics**
- **Metals**
- **Glass**
- **Chemical and Hazardous Waste**

### **The main opportunities to meet MRS vision**

#### **Within Hampshire:**

- Develop co-ordinated partnerships between County, District, Borough and Unitary authorities for the removal of abandoned vehicles (AVs).
- Consider integrated County-wide collection and disposal contracts.
- Promote co-operation of Planning and Environmental Departments, to ease development of new waste facilities
- HCC should examine how it can provide a market for recycled materials via its procurement policy.
- HCC should examine how it can provide a market for professional contractors via its procurement policy
- Coordination with other waste streams
- Pump Priming of Operational Systems for Dealing with Automotive Shredder Residue (ASR)
- Development of a Materials Resource Information Brokerage

#### **Within the South East Region:**

- Promote economic stability in order to fuel investment in processing infrastructure in the region.
- Promote market development for materials derived from ELV's e.g. plastics, glass
- Development of a Resource Production and Usage map.

**Nationally:**

- Consistent regulation of authorised treatment facilities.
- Consistent enforcement of depollution requirements.
- Enforcement of tax, MOT and insurance regulations.
- Market development for materials produced e.g. plastics, glass
- Coordination with National Initiatives

**On a European Scale:**

- Ensure level playing field in all EU member states with regard to enforcement of ATF standards.
- Share Best Practice.

**What is the current ELV & AV resource situation?****Current Trends**

Approximately 2 million tonnes of ELV waste arises each year in the UK. The fluctuating metal market has a great influence on the economic viability of processing ELVs. The cost of disposing ELVs has generally risen in the UK and this has been predominantly due to the low value of scrap metal. Other factors that have had an influence include gradually increasing standards for vehicle dismantlers, cars becoming more complicated & reliable (fewer second-hand spares sold), low interest rates & economic prosperity (low cost loans & finance for new cars), the attitude of society (throw away society), low cost of second hand cars, the inconsistent approach of Local authorities in awarding disposal contracts, declining landfill space, landfill tax, & the landfill Directive. Note. The recent current high price of scrap metal during the first quarter of 2004 meant that cost to last owner of disposing of ELVs and AVs fell dramatically. However, due to a change in regulation of scrap metal imports into China this price has now dropped, although the long-term market for steel in China is expected to remain strong.

The principle component of a scrap vehicle that has a value is scrap metal (ferrous and non-ferrous) and this is traded as a global commodity. The remaining non-metallic components such as glass, rubber, plastic, foam, fabric and fluids do not generally have a positive value and, in the main, still tend to be disposed of to landfill.

The industry sector dealing with End of Life Vehicles (ELVs) has a long established history and operators tend to fall into three main types of function; the dismantler, shredder, and vehicle collector. Often it is difficult to distinguish between these functions as operators may carry out one or all of them with varying degrees of professionalism. This long history means that disposal paths for some of the materials that make up a vehicle are well established. Recently however, the European End of Life Vehicle Directive (ELVD), which is one of a suite of producer responsibility legislation arising in Europe, has caused the manufacturers to become involved via a requirement to provide free take back of complete vehicles through a network of Authorised Treatment Facilities (ATFs) which are likely to be highly

professional vehicle dismantlers operating in an environmentally sound manner. From 2007 the manufacturer of a vehicle will, in all likelihood, become responsible for the recovery and recycling of the waste streams arising from the disposal of that vehicle at the end of its life. The issue of the manufacturer's involvement is discussed further under the Major Issues section.

The process for the disposal of a vehicle is currently undergoing a significant change in that the ELVD requires materials and fluids to be removed and disposed in an environmentally sound manner. As such the industry is in a considerable state of flux. From now on, any business that handles ELVs (collects, stores, depollutes, processes, dismantles etc.) will have to meet the same enhanced environmental and administrative operating standards. As such, it is expected that many of the smaller scrap yards will disappear and be replaced by a reduced number of professional operators who rely on high volumes of vehicles to make sufficient profits.

In Hampshire the District authorities are responsible for the collection of AVs and the County Council is responsible for their safe storage and disposal. The two unitary authorities are responsible for all three activities. In practice, District Councils in Hampshire carry out all three stages and invoice the County for storage and disposal of these vehicles. Currently vehicles that are reported to the local districts as abandoned are issued with a notice of removal, removed and stored whilst the registered owner is notified. During this time checks with the Police National Computer are carried out to ensure that the vehicle is not of Police interest. If no response is received from the owner the vehicle is destroyed.

The time between the notification to the district authorities and removal of the AV will be reduced in order to prevent associated crime (arson/vandalism) and the storage period of the vehicle will also be reduced through strengthened links with the Police, Fire Service and **Driver & Vehicle Licensing Agency (DVLA)**. All AVs will be taken to a contracted authorised treatment facility where they will be treated. The Department of Trade and Industry (DTI) have indicated that the vehicle producers will be responsible for the recycling & recovery targets identified in the ELV Directive and they would utilise their network of contracted authorised treatment facilities. If an un-contracted authorized treatment facility takes in a vehicle, they would be responsible for reaching the target. Once the ELV has been treated the Directive states that a Certificate of Destruction (CoD) is to be passed from the treatment facility to the vehicles last registered owner.

### **Commercial Vehicles**

Commercial vehicles, ie those vehicles that are over 3.5 tonnes or have more than eight seats, tend to retain a higher resale value than that of a vehicle which falls within the private and light goods (PLG) category. Due to this higher value, commercial vehicles tend not to be destroyed by dismantling, but are either exported or, if they suffer damage, undergo a salvage

operation. Therefore commercial vehicles represent a negligible proportion of either the number of end of life vehicles or the waste streams produced from the treatment of ELVs.

It should also be noted that the End of Life Vehicle Directive on End of Life Vehicles does not apply to Commercial Vehicles over 3.5 tonnes or have more than eight seats. See appendix A for a fuller explanation of the remit of the ELV directive.

### **Estimated Arising (tonnes) per annum in Hampshire, Portsmouth and Southampton**

In 1998, around 1.8 million vehicles were scrapped in England and Wales (SWMA for the South East, Environment Agency 2000). Unfortunately, there are no reliable regional or local estimates of ELV's. Notwithstanding this, data contained in the SWMA in relation to waste tyres indicates that the South East (excluding London) accommodates approximately 17% of England and Wales' licensed vehicles. Based on this percentage, it could thus be said that just over 300 000 ELVs arise in the South East each year.

The Automotive Consortium on Recycling and Disposal (ACORD), an industry working group, has compiled data on the materials in ELVs. In 2000, the average weight of a car was 1 142kg (1.1 tonnes). The material breakdown of an average passenger car for 2000 is set out in Table 1 below. Additionally, based upon the likelihood of there being 300 000 ELVs arising in the South East, Table 1 also calculates how much of the component materials are likely to arise on an annual basis in the South East.

Table 9.1 Main Components of End of Life Vehicles

<b>Material Type</b>	<b>Average Weight (kg)</b>	<b>% of Total</b>	<b>Estimated Quantities (tonnes) Arising in the South-East Based on Total ELV of 300 000 units @ 1.1 tonnes each (2000)</b>
Ferrous Metals	780	68.2	225 060
Non-Ferrous Metals	89	7.8	25 740
Electrical/Electronics	8	0.7	2 310
Fluids	24	2.1	6 930
Plastics	104	9.1	30 030
Carpet	4	0.4	1 320
Process Polymers	12	1.1	3 630
Tyres	40	3.5	11 550
Rubber	18	1.6	5 280

Glass	33	2.9	9 570
Battery	13	1.1	3 630
Other	17	1.5	4 950
<b>TOTAL</b>	<b>1 142</b>	<b>100</b>	<b>330 000</b>

(Source: DTi *End of Life Vehicles Factsheet*, May 2002)

Based on the above, it is therefore calculated that regionally, in the order of **330 000 tonnes** of ELV is generated in the South-East each year (based upon 1998 and 2000 data).

Work conducted by Viridis on behalf of SEEDA at the beginning of 2003 has sought to apportion total ELV waste for the south-east region out to the individual Waste Planning Authorities. This was carried out by considering the percentage of households with use of at least one car (as provided in the UK National Statistics, ONS, 2002), taking an average of the ELV arising over this value and multiplying by household numbers. On this basis, Hampshire was allocated a 20% share of the regional figure, which based upon the data set out in 2.18 above, gives a total amount of ELV waste for Hampshire in 2000 of **66 000 tonnes<sup>A</sup>**.

#### **Estimated Recycling Element**

At present, there is little publicly available data to illustrate how much ELV is recycled in Hampshire, Portsmouth and Southampton. However, using the assumption that 75% of a vehicle is already recovered, this means that 49,500 tonnes are recycled each year.

#### **Approximate Capacity for Handling ELV in Hampshire, Portsmouth and Southampton**

At the end of 2003, there were 44 metal recycling/recovery sites (MRSs) located across Hampshire, Portsmouth and Southampton. Despite these numbers, the vast majority are small operations licensed to accept <10 000 tonnes per annum. Only two sites were licensed to accept up to 250 000 tonnes per annum - Dundas Spur, Portsmouth and Northern Ironworks, Southampton. The available data has not enabled a full assessment of how many of the existing MRSs are geared towards meeting the provisions of the ELV Regulations, although the data has shown that a recent permission was given to build an ELV facility within the confines of an existing MRS at Barfield Close, Winchester. Total licensed throughput capacity of these facilities stood at almost 1.2 million tonnes per annum in 2000/01 (with only 291 000 tonnes of this capacity being taken up in the same year). Discussions with the

<sup>A</sup> This figure is approximately 3 000 tonnes more than the total apportioned figure given in the Viridis Report (January 2003), which was calculated using a baseline UK ELV figure of 330 000 vehicles / approximately 310 000 tonnes per annum. However, the precise origin of the calculation that 330 000 units equates to 310 000 tonnes is unclear and so has not been applied in this baseline report.

Environment Agency have revealed that there are two contractors within Hampshire who have achieved ATF status.

### **Current Legislation**

Both ELVs and AVs are regulated by a number of specific regulations/legislation, but these are not directly connected as AVs and ELVs are not the same thing and do not arise the same way

***Road Traffic Regulation Act 1984, The Refuse Disposal (Amenity) Act 1978, The Removal and Disposal of Vehicles Regulations 1986 & The Removal, Storage and Disposal of Vehicles (prescribed Sums and Charges, etc.) Regulations 1993*** set out the responsibilities for local authorities collecting and disposing of AVs.

***Environmental Protection Act 1990, Environmental Protection (Special Waste) Regulations 1996, Environmental Protection (Controlled Waste) Regulations 2001 etc.*** controls collection, storage, treatment & disposal of wastes, which include ELVs & their derived wastes.

***The Landfill Directive (1999/31/EC)*** seeks to reduce the types & volumes of waste going to landfill and imposes controls on any waste that is landfilled.

***The Motor Salvage Operators Regulations 2002*** regulates operators that deal wholly or partly in the recovery for reuse or sale of salvageable parts from motor vehicles. It requires that all operators register with their local authority.

***End of Life Vehicle Directive (2000/53/EC) & corresponding UK regulations*** 'producer responsibility' legislation. Seek to reduce pollution associated with treatment & disposal of ELVs and to reduce amount waste from ELVs that is landfilled. Applies minimum environmental standards to ELV treatment sites. It requires all operators that handle undepolluted ELVs to be licensed and to decontaminate all ELVs. Operators working under exemption (see disposal options) cannot handle undepolluted ELVs. Directive also looks specifically at trying to reduce the amount of waste generated by setting recycling & recovery targets, prompting vehicle manufacturers to consider final disposal options when the vehicle is first designed.

**Codes of Practice:** Whilst there are few best practice guides available on the treatment of ELVs those produced by the CIWM, DEFRA and DTI are considered to be comprehensive and provide a national standard of guidance. Following recent meetings regarding the National Abandoned Vehicle Strategy, the Office of the Deputy Prime Minister (ODPM) is preparing a summary of Best Practice in tackling abandoned vehicles to distribute to local authorities.

- CIWM produced "*Abandoned Vehicles: A good practice guide to the issues of Abandoned and End of Life Vehicles*" providing guidance on AVs that also included best practice for treatment of ELVs.

- DEFRA has produced “*Guidance on Part VII and Schedule 5 of the End of Life Vehicles Regulations 2003 – The Keeping and Treatment of Waste Motor Vehicles and Conditions of Site Licences Current Environmental Issues*”
- DEFRA in conjunction with the DTI has published “*Depolluting End-of-Life Vehicles Guidance for Authorised Treatment Facilities*”

The level of hazardous materials that could be released into the environment is dependent upon the type and age of vehicle and the way in which it is treated. With all vehicles there is the potential for leakages before, during and after the depollution process. Vehicles that have been vandalised and burnt out pose a particular risk to the community and environment. Hazardous elements include lubricating oils, fuels, coolant and batteries.

### **Current Fiscal policies**

**Landfill Tax** was introduced in 1996 and currently stands at £14 per tonne for active waste and £2 per tonne for inert waste. From 1st April 2004 active waste will be charged £15 per tonne.

### **What is being recovered now and what infrastructure is in place?**

#### **Current Disposal Options**

About 2 million ELVs occur every year in UK. Estimated about 300,000 Avs last year. Generally, they are dismantled & crushed without proper decontamination and proper records are not kept. There is a wide variety in standards of dismantlers, even if licensed. Shredders & scrap yards do not depollute ELVs at all. Most of the metals are already recycled but about 450,000 tonnes of non-metallic material (shredder waste) from ELVs is landfilled in the UK each year.

The Resource Group considered that the current “business as usual” scenario consisted of the following:

- Dismantlers will remove fluids, tyres, and batteries as required by new legislation. (approx 3% of vehicle by weight)
- The remaining vehicle shell is sent to shredders who mechanically reduce the vehicle to small “chunks” of material.)
- The metal is separated and exported for reuse into new applications (approx 75% of vehicle by weight).
- The remaining automotive shredder residue (ASR) is sent for landfill. (Approx 22% of vehicle by weight)

This therefore means that a high proportion of an ELV is already recycled and HCC has to do very little, except to engage an Environment Agency approved contractor, to comply with the requirements of the ELVD. However, using the assumption that 75% of a vehicle is already recovered, this means that 49,500 tonnes are recycled each year within Hampshire.

The situation regarding ASR has recently changed. On July 16<sup>th</sup> 2004 the European Union's Landfill Directive was transposed into UK Legislation and prevents the co-disposal of hazardous and non hazardous waste. Due to the lack of a recognised test there was some confusion within the industry as to whether ASR was hazardous or not. This culminated in an agreement between industry and the EA on 21<sup>st</sup> July 2004 that ASR from depolluted vehicles would be recognised as non-hazardous. Additionally, a temporary derogation as to the requirements for depollution would be applied until the end of October 2004.

### **Current Standards**

***The Dangerous Substances & Explosive Atmospheres Regulations – DSEAR*** were introduced on 9 December 2002 to implement the ***Chemical Agents and Explosives Atmospheres Directive*** which addresses fire and explosion risks from dangerous substances including petrol.

***The End of Life Vehicles Regulations 2003***, introduced on 3<sup>rd</sup> November 2003, apply new standards to existing vehicle dismantling sites, require operators working under a registered exemption to apply for a site licence (if accepting vehicles which have not been depolluted) and set new minimum technical standards for all sites that store or treat ELVs

### **Current Specifications**

A consortium of 24 international vehicle manufacturers have developed a CDROM based set of multi-marque dismantling instructions called the ***International Dismantling Information System***. The system displays potentially recyclable materials from vehicles as the individual car parts (in graphic and/or text mode) in a number of languages. Also provides information on hazardous wastes and specialised procedures (e.g. airbag deployment).

### **Current Costs**

The Government has yet to make final decisions on funding. But between 2002-2006 this will be met by the last owner (in the case of AVs by public spending). It is anticipated that it will be VMs that are responsible for additional costs after 2007. Dismantlers, scrap yards & shredders will have to invest to meet the new ATF standards. Likely to be fewer ATFs than present number of dismantlers & scrap yards.

## **Current Benefits**

The implementation of the Directive will ensure that all ELVs are accounted for and treated properly, and DVLA informed that each vehicle is destroyed. ELVs will be handled only by legitimate businesses (ATFs), which will operate to higher business standards, yielding more trained workforce, employment opportunities & tax revenues. There will be significantly reduced environmental pollution from dismantlers, scrap yards & shredders. A greater proportion of waste currently produced by ELVs will be diverted away from landfill and become available as useful material. This will have benefits in saving the energy used in production of these materials. Vehicle manufacturers will have to 'design for End of Life'.

## **Current Key players**

Producers, importers, dismantlers/ ATFs/ scrap yards/ shredders, insurers, material reprocessors.

**National:** DTI, DEFRA, Environment Agency, Driver & Vehicle Licensing Agency, Charles Trent Ltd, UK Shredders Ltd, Sims Group Ltd, European Metal Recycling Ltd. and vehicle manufacturers.

**Hampshire:** CD Jordan Ltd.

## **ELV and AV Waste Sector Support**

**Local Government Association (LGA)** is a voluntary lobbying organization that represents the local authorities of England & Wales to promote better local government. The LGA aims to put local councils at the heart of the drive to improve public services and work with Central Government to ensure that the policy, legislative and financial context in which local authorities operate supports that.

**Motor Vehicle Dismantlers Association (MVDA)** represents the interests of about 220 vehicle dismantlers. Involved in lobbying Government and regulators, to benefit its members. Distributes information to members.

**British vehicle Salvage Federation (BVSF)** Represents the interests of about 100 of the larger insurance-contracted dismantlers. Involved in lobbying Government and regulators, to benefit its members. Distributes information to members

**British Metals Recycling Association (BMRA)** represents the interests of scrap yards and shredders.

All three organisations (MVDA, BVSF, BMRA) sometimes work co-operatively in lobbying.

**Automotive Consortium on Recycling & Disposal (ACORD)** is a cross-sectoral political organisation that lobbies Government. It has representatives from motor vehicle manufacturers, vehicle dismantling and shredding industries the plastic & rubber manufacturing industries. Component suppliers, the steel & glass industries, insurance industry & UK Government Departments are also members. Promotes collaborative work by membership.

**Consortium for Automotive Recycling (CARE)** is a technical consortium (an offshoot of ACORD) involving the main UK motor vehicle manufacturers/importers and vehicle dismantlers. Carries out pilot projects exploring recycling & recovery technologies, material end markets. This group focuses on energy recovery, standards for dismantlers and research into rubber and plastics recycling.

**Examples / Case Studies:**

**National:**

**AVs:** Operation Crackdown run by West Sussex County Council.  
 Operation Cubit in Kent (2001).  
 Banger Buster Scheme in Liverpool (2002).  
 Car Clear in Bristol and Avon area (2003).

**ELVs:** Research into Shredder Residue Separation (CARE-Brighton University).  
 Generic plastics standards projects (e.g. PROVE).  
 Development of continuous pyrolysis (CARE- Brighton University).

**Hampshire:**

**AVs:** Operation Clean Sweep (2000), Project Car Clear (2002)  
 Crime Reduction Environment Week (CREW) (2004) in Southampton

**How is this likely to change by 2020?**

**Future legislation**

- The European Hazardous Waste Directive (91/689/EC) and the revised European Waste Catalogue 2002.
- Battery Directive, Incineration Directive, (tyre directive) may also have an effect

**Future Quantities**

<b>Year</b>	<b>2000</b>	<b>2013</b>	<b>2020</b>
ELVs	60,000	82,200	95,000
Tonnage of By products	66,000	90,400	104,600
Tonnage of plastic	6,006	10,490	14,640

See Appendix B for calculations

## **Future Disposal options**

The ELV Directive states that ELVs can only be treated by ATFs that meet new standards of operation. There must be an adequate network of ATFs nationally to allow convenient surrender by last owner. There must be no cost to last owner if ELV is complete when delivered to ATF (from now onwards for vehicles made after 07/2002, & for all vehicles from 2007 onwards). Directive also sets recycling & recovery targets of 85% by weight of all ELVs by January 2006 & 95% by 2015.

However, local authorities will still need to have disposal contracts in place post 2007, as invariably, abandoned vehicles are not complete and as such will not be eligible for free take back. In addition, if manufacturers let their contracts to different ATF's, a local authority collection contractor will have to visit several destinations to drop off vehicles. This may lead to local authorities to accept the cost of disposal rather than transport a vehicle to an ATF which may or may not provide free depollution.

## **Stretching Best Practice Scenario**

Whilst it considered the "business as usual" scenario, the Resource Group focussed much of its attention on the future and how Hampshire County Council (HCC) could influence the industry to produce an increased re-use and recycling rate.

Due to the high proportion of an ELV already being recovered, the Resource Group focussed on areas where HCC may be able to have an influence as a customer as well as a policy maker.

Several issues were raised whereby it was considered that HCC could have an influence, these being:

- **HCC should examine how it can provide a market for recycled materials via its procurement policy.**

When considering the cost of construction of pilot plants and the ongoing labour costs, perhaps the most effective method for HCC to drive recycling is as a purchaser of recycled materials or products made from recycled materials

Additionally, it was suggested that HCC should communicate with the procurement sections of other Local Authorities to determine whether there may be synergies to be obtained. For instance if several local authorities combined their requirements for purchasing, it was considered that this would provide a strong stimulus for the use of recycled materials.

An alternative path considered would require HCC to lobby any central buying consortium of which it is a member to ensure that products made from recycle are purchased.

- HCC should examine how it can provide a market for professional contractors via its procurement policy**

The Resource Group considered that HCC could promote recycling via the engagement of responsible and professional contractors for dealing with abandoned vehicles, as this would prevent the use of improper disposal. Additionally, if the number of contractors were limited this would produce a concentration of the material which would then allow economies of scale to be taken advantage of and as such reduce the costs of both using and producing a recycle.
- Coordination with other waste streams**

The waste streams produced from ELVs could be combined with other commercial and industrial and municipal solid waste (MSW) streams. It is considered particularly so for plastics and glass. Therefore it is thought that HCC could act as a coordinator for combining the commercial and industrial waste with MSW of similar properties such that synergies are taken advantage of to produce greater economies of scale. It is suggested that this could take place via Project Integra.
- Pump Priming of Operational Systems for Dealing with ASR**

Following the recent problems within the industry regarding whether this is a hazardous waste or not, it is suspected that there will be an additional impetus for reducing the quantity of ASR sent to landfill. Automotive Shredder Residue is considered to be a plastics rich waste stream. Whilst the separation of this plastic via mechanical means is not currently thought to be commercially viable, this already has significant cost advantages over the manual dismantling alternative. At a very basic level, hand picking of plastics after shredding could be viable. The principle barrier for contractors is the cost of establishment of the picking line and hence HCC could “pump prime” the system by providing initial financial assistance. It is suggested that this is explored further with the shredders who deal with Hampshire’s ELV waste to determine their enthusiasm for such action.
- Coordination with National Initiatives**

It is known that other organisations such as WRAP are carrying out investigations as to how best to deal with material streams such as glass or plastics. Whilst these appear to be on a more general scale it is important to ensure that wastes are dealt according to their intrinsic properties rather than source. Hence there may be opportunities for incorporation of ELV waste into the more general considerations being made by such national initiatives. Contact has not yet been made with WRAP, as it is understood that HCC wish to have a coordinated approach to such organisations. (Yes - post 14 July workshop a half-day session is to be arranged with the product experts at WRAP in Banbury)

- **Further research required**  
The Resource Group considered that there are several areas of further research to be carried out. These being:

#### **Resource Production and Usage**

The drive to create a market should not be carried out in an ad hoc manner. The resource group considered that research should be carried out to determine which companies are currently producing ELV materials, such as plastics, and which companies could utilise these materials. This information could be presented in the form of a resource map from which potential material flows could be identified. It was suggested that this could fit in with SEEDA initiatives and would be carried out possibly utilising an MSc student.

#### **Supplier's Quantity sensitivity**

Manufacturers are more likely to utilise a recycled material, if any order placed by HCC or buying consortium is a significant percentage of annual orders. For instance a chair manufacturer who uses plastics in their manufacturing process is more likely to take note if an order placed by HCC for chairs is a significant percentage of their annual production.

#### **Information Brokerage**

HCC could influence the market by ensuring that adequate information is available by acting as a broker for all who request it. In this way suppliers and users of resource would be able to easily contact other firms requiring or providing recycle. For instance should a company require an outlet for the plastics that have been collected from ASR then HCC would possess a database of possible users of that plastic.

#### **Discussion/Coordination with Other Resource Groups**

The Resource Group considered that the waste streams produced from ELVs should not be considered in isolation and that discussions should be shared with other resource groups. There is an opportunity for greater coordination of waste streams and this combined volume could improve the commercial attractiveness for reprocessors to establish plants within Hampshire.

## Summary of Scenarios

Scenario	Description	Option for Achieving Scenario	Description
1: Business as Usual	75% recycling/recovery	A	Total of 5 ATFs required. 2 existing, 3 new.
2: Mid Range	% recycling/recovery not known	A	Coordination with National Initiatives
2: Mid Range	% recycling/recovery not known	B	Resource Production and Usage
2: Mid Range	% recycling/recovery not known	C	Information Brokerage
3: Stretching Best Practice	78% recycling/recovery (Additional 3% arises from collecting bumpers)	A	Pump Priming of Operational Systems for Dealing with ASR  Provision of one plastics reprocessing plant.
3: Stretching Best Practice	% recycling/recovery not known	B	HCC should examine how it can provide a market for recycled materials via its procurement policy.
3: Stretching Best Practice	% recycling/recovery not known	C	HCC should examine how it can provide a market for professional contractors via its procurement policy
3: Stretching Best Practice	% recycling/recovery not known	D	Coordination with other waste streams

### Likely Impact of these Suggestions

It is conceivable that the manufacturers, under their requirement to meet ELVD reuse and recovery targets, will be looking for assistance to meet them. This seeking of assistance may provide HCC with an opportunity to assist in directing how those targets are met. However, it is difficult to quantify the additional percentage recycling that the above "Stretching Best Practice" suggestions would achieve.

It is likely that, due to the size of their economic might, the manufacturers will develop nationwide contracts for the recovery of materials from ELVs. However, it is questionable as to whether markets will exist for the non-metallic streams that are recovered. Hence the suggestions for the improved

understanding and stimulation of markets made above should go some way in preventing “plastic dashboard mountains” or “antifreeze lakes”.

A side effect of the stimulation of the market is that processing facilities of a national scale will be required. It may be possible to encourage these to be established within Hampshire providing a vehicle manufacturer’s strategic operation for say, the South of England. Therefore Hampshire may be able to attract the establishment of these facilities in its area via incentives provided to the vehicle manufacturers or their agents, for instance via the provision of land.

If plastics are taken as an example, it may be possible that by combining all the waste plastic streams, sufficient plastic may be generated to attract a re-processor. Notwithstanding this, should the quantities fall short, the fact that the waste streams are coordinated may also provide an incentive to a re-processor to construct facilities in Hampshire.

### **Future Trends**

As ELV non-metallic materials are diverted from landfill, due to the recycling & recovery targets in the ELV Directive, markets for these materials will gradually develop. This will be driven by the vehicle manufacturers liability for reaching the targets. They themselves have potential to provide major endmarkets for materials. New & existing technologies will be developed for automated separating of materials from shredder residue, making use of these materials more economically favourable.

### **Future environmental issues**

Authorised treatment facilities that comply with regulations will mean that there will be lower risk of environmental pollution from fluids and other hazardous wastes. The risk to the community from abandoned vehicles will be reduced by central government enforcing the taxation and registration systems, and local authorities reducing the time taken to remove vehicles once they have been reported.

Approximately 75% of a vehicle is already recovered due to ferrous and non-ferrous metals having a value on the global commodities market. Therefore attention needs to be focused on the remaining 25%. The key issue in considering how this 25% can be reduced is the impact of the ELVD and its transposition into UK law. The Directive requires that 85% (by weight) of a vehicle should be reused or recovered from 1<sup>st</sup> January 2006 rising to 95% by 1<sup>st</sup> January 2015.

It is likely the manufacturers will be made responsible for meeting these targets when the second phase of the ELV Directive is transposed in the near future. Therefore, with the risk of imminent punishment for non-compliance, it is likely that the manufacturers will bring great pressure on the operators within the ELV industry to comply with the recycling targets.

This in itself will drive the recycling market and possibly preclude the necessity for HCC's involvement. However, it is suggested that further contact is made with the manufacturers to discuss how they are likely to ensure compliance with the ELVD and how HCC can create a positive environment. It is also worth noting that the intention of the ELVD is to push manufacturers towards making their vehicles more recyclable.

The ELVD also requires manufacturers to provide a network of Authorised Treatment Facilities (ATFs) by which the public can dispose of their ELVs at no cost. The number of facilities required is to be determined by a proximity principle, the details of which is yet to be determined by government. However, it is expected that the average distance the population will be required to travel to an ATF will be 10 miles and no further than 50 miles in any event. This would mean a network of between one and five (approximately) ATF facilities within Hampshire. This network is already required to be in place for vehicles produced after 2002 and for all vehicles by 2007. The manufacturers will, however, only be responsible for complete vehicles. At present there are only vague definitions as to what constitutes a complete vehicle and as such there is the possibility that ATFs will turn away incomplete vehicles which could cause these vehicles becoming abandoned with the result that HCC becomes responsible for the disposal cost. However, this has to be viewed in the context of tightening of rules on vehicle registration/ taxation by the DVLA, which will have the effect of making it more difficult for owners to abandon vehicles or to sell them on without informing the proper authorities. In contrast to this scenario manufacturers may consider that the adverse publicity that could arise from not dealing with incomplete vehicles may not be in their interests and hence deal with incomplete vehicles anyway. This is especially so when it is likely that peer pressure amongst manufacturers will occur, as the quality marques will, in all likelihood, accept their vehicles in any condition.

The timescale for the second stage of the ELVD coming into play will be in the next two months or so.<sup>1</sup>

## **Conclusion**

The best practice scenario has focussed on the procurement activities of HCC, as this is possibly the most effective manner by which HCC could influence the market for ELV waste. It is unlikely that HCC will be able to influence the installation of mechanical or manual separation plant at shredders directly due to the ongoing and installation costs. Therefore HCC could utilise its purchasing power in a directed fashion, thereby creating a demand for recycling of the currently disposed material fraction. At the same time HCC could offer incentives, such as land provision etc, for those companies who could utilise recycled material to do so.

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<sup>1</sup> Telephone conversation with Steve Norgrove of the DTI 28-06-04

## **Further Information**

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Assistance in developing this paper and the industry experts on the day will be:

- Chas Ambrose of Charles Trent Ltd.
- Julian Lucraft of West Sussex County Council
- Alan Wheeler of Gosport Borough Council

## **Research Carried out:**

Contacts made with

Dismantlers: G W and G Bridges

Charles Trent Ltd

Shredders CD Jordans and Sons

Researchers: University of Southampton (School of Engineering)

Charles Banks

Brighton University – Dr Marie Harder

Internet Research

Plastics

Glass

Dutch ARN system

## **Appendix A**

### **Definition of Vehicles Affected by the End of Life Vehicle Directive.**

Article 2 of The End of Life Vehicle Directive<sup>2</sup> states the definition that:

*“For the purposes of this Directive:*

*1. "vehicle" means any vehicle designated as category M1 or N1 defined in Annex IIA to Directive 70/156/EEC, and three wheel motor vehicles as defined in Directive 92/61/EEC, but excluding motor tricycles.”*

The use of the M1 and N1 classifications is also reflected in the UK’s End of Life Vehicles Regulations<sup>3</sup>.

The M1 and N1 classifications are defined within the EEC Directive 70/156/EEC and subsequently modified by the Commission Directive 2001/116/EC<sup>4</sup>. The classifications provided within the latter are as follows:

Category M1 :            Vehicles used for the carriage of passengers and comprising no more than eight seats in addition to the driver's seat.

Category N1:            Vehicles designed and constructed for the carriage of goods and having a maximum mass not exceeding 3,5 tonnes.

These categories in turn match the UK’s Private and Light Goods Category which covers Light vans, cars, taxis etc not exceeding 3500kg<sup>5</sup>.

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<sup>2</sup> Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of life vehicles

<sup>3</sup> Statutory Instrument 2003 No. 2635 The End-of-Life Vehicles Regulations 2003

<sup>4</sup> Commission Directive 2001/116/EC of 20 December 2001, Article 1, Section 3.

<sup>5</sup> DVLA website <http://www.dvla.gov.uk/vehicles/taxation.htm>

## Appendix B ELV Future Quantity Calculations

### Table 2: Future Quantities

SE region has	300,000	vehicles	Source = Seeda
Hampshire has	60,000	vehicles	Source = Viridis

Assume in year 2000 2,007,000 vehicles in UK (see table 3)

### Example calculation of year 2000 ELVs

in 1999 there were 22,212,000 vehicles licensed.

in 2000 there were 2,480,000 new registrations

at end of 2000 there were 26,744,00 vehicles registered

therefore number of deregistrations in 2000 = 22,212,000 + 2,480,000 - 26,744,000 = 2,007,000 vehicles

Therefore Hampshire generates  $\frac{60,000}{2,007,000} = 3\%$  of the UK's ELVs

Assume this % remains the same

### Numbers of ELVs in Hampshire

Year	Deregistrations UK	Hampshire Units
2000		60,000
2013	2,750,000 (from point 1 chart 1)	82,212
2020	3,180,000 (from point 2 chart 1)	95,067

Assume vehicles remain at same weight ie 1.1 tonnes

### Tonnage of ELVs in Hampshire

Year		Tonnes
2000	60,000 vehicles @ 1.1 tonnes =	66,000
2013	82,212 vehicles @ 1.1 tonnes =	90,433
2020	95,067 vehicles @ 1.1 tonnes =	104,574

### Of which plastics

Year		Vehicle Plastic Content (%)	
2000	@	9.1%	6,006
2013	@	11.6% (from point 3 chart 2)	10,490
2020	@	14.0% (from point 4 chart 2)	14,640

### Chart 1: Projection of Deregistration Numbers

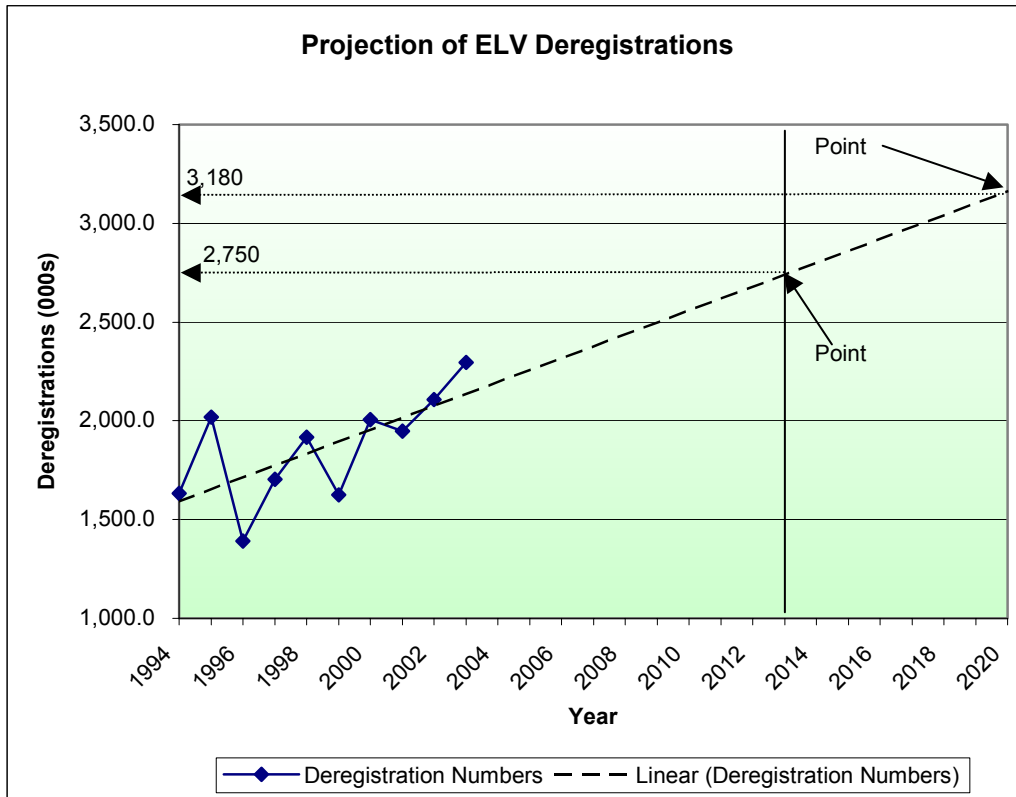


Table 3: Calculation of Deregistrations

Year	No of Vehicles Currently Licensed ** (000s)	Inflated by 4.2% to allow for VED evasion (000s)	New Registrations ** (000s)	Apparent Deregistrations (000s)
1993	22,289	23,225.1	1,886.2	
1994	22,672	23,624.2	2,032.8	1,633.7
1995	22,722	23,676.3	2,072.0	2,019.9
1996	23,439	24,423.4	2,138.9	1,391.8
1997	23,998	25,005.9	2,286.1	1,703.6
1998	24,477	25,505.0	2,417.1	1,918.0
1999	25,212	26,270.9	2,390.3	1,624.4
2000	25,666	26,744.0	2,480.2	2,007.1
2001	26,443	27,553.6	2,758.3	1,948.7
2002	27,165	28,305.9	2,860.5	2,108.2
2003	27,715	28,879.0	2,869.0	2,295.9

\*\* Office of National Statistics – Transport Statistics Bulletin, Vehicle Licensing Statistics 2003

\* DVLA estimates that in the PLG class of vehicles that 4.2% Vehicle Excise Duty evasion takes place. Therefore the numbers of registered vehicles has been adjusted to reflect these non registered vehicles.

**Chart 2: Projection of % plastic within vehicles**

