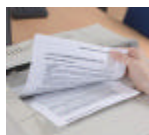


## MAIN WASTE DISPOSAL AND RECYCLING PROBLEMS IN THE AUTOMOTIVE COMPONENTS INDUSTRY

- Source separation of recyclables can be costly but with landfill cost increasing year on year the balance has to be regularly re-assessed;
- Lack of available space on site to separate wastes;
- Different types of plastics and composites make recycling difficult;
- Biodegradables like paper, cardboard, kitchen and garden waste - a major contributor to emissions from landfill - will be banned from landfill altogether sooner or later;
- Hazardous wastes can only go, after treatment, to hazardous waste landfill sites (none in Wales), resulting in rising transport cost;
- Due to low cost of raw materials and low income from recyclables it is often cheaper to buy new packaging.



## ALTERNATIVES AND SOLUTIONS

### MINIMISATION:

- Computer aided cutting and planning to minimise off-cut materials;
- Rethink your packaging arrangements. Focus on packaging going out as product. Avoid use of polystyrene or foam and find alternatives for protection or presentation of goods;
- Increase process control and machine maintenance to prevent stop/start waste, down-time and increase machine lifespan;
- Minimise stock and order exact quantities to prevent leftovers or damaged items. Create storage space - room to manoeuvre;
- Avoid use of disposables: use re-washable protective clothing and rags, ceramic mugs and plates; and
- Use materials with longer life spans.

### RE-USE AND RECYCLE:

- Discuss with suppliers and customers the use of re-usable transit packaging;
- Source separate & recycle paper/card, glass, metal and plastic by using colour coded bins;
- Clean-out contaminated packaging (drums/buckets) to enable recycling; and
- Repair broken pallets for re-use.

GENERAL – Some other suggestions that can help you with sorting out your waste issues:

- Make waste and the environment a boardroom issue, involve all staff, raise awareness;
- Keep all waste activities in designated, if necessary banded and/or covered areas; and
- Track environmental and related financial performance and involve all employees.

## LEGISLATION AND REGULATIONS RELEVANT TO THE AUTOMOTIVE COMPONENTS INDUSTRY

- Duty of Care Regulations (EPA 1990 Section 34) (*Issue 2 of Series 1*)
- Hazardous Waste Regulations and the European Waste Catalogue - EWC (including the Hazardous Waste List) (Due 2005) (*Issue 3 of Series 1*)
- Landfill (England and Wales) Regulations 2002 (*Issue 1 of series 1*)
- Waste Electric and Electronic Equipment Directive 2004
- Restriction of Hazardous Substances in Electrical and Electronic Equipment (ROHS) Directive
- End of Life Vehicle Regulations 2003
- Pollution Prevention Control (PPC) Regulations (See for guidance EA website and/or NetRegs)

### DEFRA Central Government

[www.defra.gov.uk](http://www.defra.gov.uk)

### Environment Agency Wales

[www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)

### NetRegs legislation explained

[www.environment-agency.gov.uk/netregs](http://www.environment-agency.gov.uk/netregs)

### Waste Resources Action Plan

[www.wrap.org.uk](http://www.wrap.org.uk)

### Arena Network Business Support

[www.arenanetwork.wales.org.uk](http://www.arenanetwork.wales.org.uk)

### Groundwork Business Support

[www.groundwork.org.uk](http://www.groundwork.org.uk)

N.B. BRASS is not responsible for the content of external internet sites

Each week a different sector of industry or waste type will be discussed in these briefing notes, which can be downloaded from the website below.

Don't waste paper.

N.B.: These notes are merely a guidance and should not be considered as advice from any of the parties contained within this leaflet.



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[www.brass.cf.ac.uk/wastesurvey.html](http://www.brass.cf.ac.uk/wastesurvey.html)



In the second series of business briefing notes published by the BRASS Centre, the waste issues experienced by individual business sectors are addressed and some basic guidance is provided. Issue 5 of Series 2 highlights waste issues in the automotive industry and its' suppliers and component manufacturers. Due to its' international character, the automotive industry is a highly regulated sector with specific waste legislation and management issues. In addressing some of these issues the leaflet draws on data collected from companies involved in the Commercial and Industrial Waste Survey 2003 conducted in Wales.

## WASTE AND YOU BUSINESS

The Welsh automotive industry includes about fifty international component manufacturers and a further 300 suppliers, most of which are SMEs. In total some 28,000 people in Wales work in this sector, generating £2.5bn turnover per annum. The industry is set to grow further. At the same time the amount of national and international regulations, supply chain and shareholder pressures to comply and 'go green' grows. Many businesses already have environmental policies and are accredited with having Environmental Management Systems (EMAS, ISO 14001), others are in the process of doing so.

(For more information on ISO or EMAS or (at national level) the Green Dragon scheme, contact Arena Network or Groundwork).



*The effect of good waste management as part of an EMS is not just environmental. The aim of The Landfill Directive is to move away from the cheap but environmentally damaging option of landfill by minimising the amount of waste going to landfill. A year-on-year increase of taxes will put focus on alternative waste management options like waste prevention/minimisation, pre-treatment of hazardous wastes, re-use and recycling. More and more it will become a financial issue too where great savings can be made.*

According to the European Automobile Manufacturers Association, 75 percent of the weight of a End of Life Vehicle (mostly metal) is recycled. However, much work needs to be done in ELV recycling of plastics, glass, rubber, textiles and hazardous wastes. The ELV regulations dictate that manufacturers must deliver instructions or data to facilitate the correct and safe depollution and dismantling of ELV's (and components).



### STANDARD AUTOMOTIVE WASTE TYPES

Manufacturing activities in the industry vary widely, from textile processing to electric component assembly and from metal parts foundry to the manufacturing of batteries. With so many different processes, the list of raw materials, resources and corresponding wastes is endless (see summary below).

The main wastes can be found in the following generalised groups (European Waste Catalogue codes in **RED**/Preferred waste management option in **BOLD**):

- *Mixed waste (200301)* should be separated further for **re-use, recycle and compost** and to save money on cost of landfill. (NB all fractions can also form individual larger single waste streams). Usual contents:
  - Packaging: paper/card (150101), plastic (150102) metal (150104) glass (150107);
  - Food wastes (200108), floor sweepings & cleaning wastes (200301) building rubble (170904) garden waste (200201);
  - Difficult non-hazardous process wastes, i.e. textiles (200111), composites (150105 or chapter 20) and small non-packaging fractions like scrap metal (machinery) (appropriate process chapter or chapter 20), scrap plastics (07\_02\_13).
- *All Hazardous wastes (marked with \*)*, usually handled by professional waste management companies have to be **treated** to reduce volume/hazardousness. Solids can then still go on to hazardous waste landfill (expensive - none in Wales). Ideally should be **recovered, recycled or incinerated with energy recovery**;
- *Waste chemicals and/or contaminated solvents (chapters 06\*/07\*/08\*/10\*/11\*/12\*/14\*)*: Hazardous process wastes from: washing, degreasing, pickling, etching, electrolysis, printing, painting, coating and sealing, etc (some of these wastes have non-hazardous equivalents);
- *Waste oils, fuels and oily mixtures (Chapter 12\*/13\*)* lubricating and hydraulic oils, oily mixtures;
- *Other hazardous wastes*: Contaminated absorbents (spills) and dirty rags (150202\*), contaminated packaging (150110\*); contaminated casting cores (100905\*/07\* and 101005\*/07\*), fluorescent tubes (200121\*), computer screens (160213\*), batteries (1606..\*)
- *Waste plastics, rubber and metals* Non hazardous wastes: turnings, filings, shavings from cutting, shaping, etc (120101/03/05) off-spec, off-cuts, cut-outs, unused and/or damaged materials (160302/04), wastes from casting, foundry, welding, soldering, blasting, grinding, etc (chapters 06/07/10/11/12). All these wastes should be **re-used or at least recycled** and they have a hazardous equivalent (chapters 06\*/07\*/10\*/11\*/12\* and 160303\*/05\*).
- *Sub-standard (off spec) electrical and/or assembled products, scrap electrical machinery (160214 and 160304 or 160213\* and 160305\* if they contain hazardous substances)* should be **remanufactured, repaired or at least recycled**;



## THE WASTE AUDIT OR GET TO KNOW YOUR WASTE

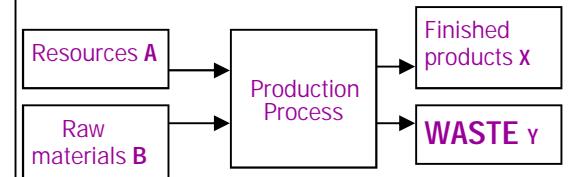
**There are two key elements to a basic waste audit:**

- Know the waste your company produces
- Know how much time and money waste costs your company (lost resources and raw materials, lost labour, energy, water, space)

**Steps to take:**

- Walk around buildings and grounds. Identify sources and types of waste and all activities that produce waste (e.g. toilets, any building work, kitchen/catering and staff rooms, any maintenance activities, cleaning activities, production processes, stock room, in-house engineering, R & D and laboratory activities, garden maintenance, office activities). Don't forget one-off wastes like old computers, machinery, furniture - even if you give these away or sell them on they are still considered waste and the Duty of Care applies;
- Identify process and resource management problems (too much stock, off-spec products, failing machinery or other wastage on the production line, excessive water or energy consumption, damaged stock);
- Calculate the total cost of your waste, including final disposal, pre-treatment, handling, storage, resource loss, loss of manpower
- Identify with the EWC all hazardous wastes and see if they can be replaced by a non-hazardous or less hazardous alternative;
- Identify composite products or products that cannot otherwise enter the re-use or recycling chain and try to find alternatives
- Involve all staff levels from factory floor to board room and elect a waste champion.

After you have done the calculations you can start setting yourself minimisation targets. For motivation go for instant success first and work your way down the list, reward helpful initiatives. Good luck...



$$A + B - X = Y$$