

Definition and rationale

1. Used tyres constitute one of the 'priority waste streams' identified by the European Commission and Member States in the mid-1990s as warranting special attention. The number of vehicles on the road was steadily increasing year on year, with consequent increases in associated tyre tonnages being disposed of in landfill sites. The priority waste stream exercise resulted in recommendations for voluntary action from Member States, designed to drive up tyre recovery rates, but the Commission decided to adopt a prohibition on the landfilling of tyres, in two stages – first, whole tyres, and then shredded tyres. This latter prohibition came into effect on 16 July 2006 – through the EU Landfill Directive.

Arisings and trends

2. Millions of tyres are disposed of in the UK each year. Figures from the Government/Industry Used Tyre Working Group show used tyre arisings in excess of 40 million units, or around 480,000 tonnes, a year. The majority of these are car tyres which, in the main, are taken off at tyre retailers and garages upon replacement with a new tyre. However, with an estimated 1.8–2 million end-of-life vehicles a year, most of which will have five tyres, some 10 million car tyres are also taken off at vehicle dismantlers and similar facilities.

Management routes

Re-use

3. Tyres are re-used in many ways. Altogether the re-use sector accounted for 142,000 tonnes of tyres in 2005.

4. One of the most straightforward forms is where tyres are re-used on vehicles. When tyres are taken off a vehicle but have useful tread remaining they can be refitted following inspection and appropriate marking. It is estimated that this activity accounts for around 33,000 tonnes. A further 20,000 tonnes are exported, either as part-worns or as casings for overseas retreading markets, with an additional 14,000 tonnes on exported used vehicles, the vast majority of which are HGVs.

5. Tyres are also re-used in whole form for applications such as silage clamps on farms and to form protective barriers around race tracks, and it is roughly estimated that these uses account for 20,000 tonnes of tyres.

6. Lastly, good casings can be retreaded to provide a tyre with a further life. While the passenger car retread market has all but collapsed, the truck sector remains buoyant and the combined car/truck market accounted for almost 55,000 tonnes of tyres in 2005.

Reprocessing

7. After re-use activities are taken into account, around 340,000 tonnes of tyres are available to the used tyre reprocessing sector. This sector can broadly be split into recovery, energy recovery and landfill engineering.

Materials recovery

8. Shredding and granulation of tyres for applications such as carpet underlay, horse ménages and sports and safety surfacing accounts for over 160,000 tonnes of tyres each year. There is a reasonable geographic spread of facilities capable of shredding tyres.

Energy recovery

9. Many of the cement kilns operating in the UK use tyres as a substitute fuel, mainly in chipped form, with a few taking whole tyres. Tyres have a high calorific value and are a well-proven alternative fuel in cement manufacture. One of the benefits is that the use of tyres helps reduce the environmental impact of the plant, particularly through a reduction in the emission of nitrogen oxides. In 2005, a little over 85,000 tonnes was used in this way, and other kilns are actively pursuing the use of tyres.

Landfill engineering

10. Tyres have been used as a leachate drainage medium in landfill cells for a number of years, initially in whole tyre form but over the past few years the use of shredded tyres has predominated. Provided the tyres are being incorporated into a properly engineered structure, and substituting for other material that would otherwise have been required, this use is considered as recovery, rather than disposal, and as such falls outside the terms of the landfill disposal ban. In 2005, almost 60,000 tonnes of tyres were used in landfill engineering schemes, and usage has grown strongly through 2006.

Policies and targets

The EU Landfill Directive

11. From 16 July 2006 the disposal of almost all used tyres to landfill has been banned – (only oversize and bicycle tyres are not covered by the ban). Figures for 2005 show an overall used tyre recovery rate of around 94% (450,000 tonnes) and, as such, only fairly limited tonnages of tyres will have been landfilled in the first half of 2006, either as tyre shred or as a constituent of automotive shredder residue.

12. The ban introduces a 100% recovery requirement, which is unparalleled in other sectors. While the run-up to, and period following, the tyre ban has not been without difficulties, the additional tonnages diverted from landfill have largely been accommodated by the existing tyre recovery infrastructure. However, it should be noted that much of the volume is reliant on a relatively small base of outlets (and can consequently be considered to be fragile) and that because of the in-chain stocking capability of the industry, which is vital to managing the seasonal ebbs and flows, problems building within the sector may not be immediately evident.

The End-of-Life Vehicles (ELV) Directive

13. The ELV Directive introduced an 85% re-use, recycling and recovery target for authorised treatment facilities handling ELVs from 1 January 2006. The landfill disposal ban effectively now compels the recovery of tyres, and at an average non-metallic weight of 30 kg per vehicle, with an infrastructure already in place to collect and treat tyres, tyre recovery activity makes a significant contribution to achievement of the 89 kg evidence needed from each vehicle. See Annex C11 for more information on the ELV Directive.

Tyre fly-tipping

14. Tyres are subject to fly-tipping. This can take a number of forms, including the abandonment of a few tyres, overnight dumping at retailers forecourts and large-scale criminal activity, where multiple trailer loads have been left by the roadside. This places a cost on local authorities and landowners, as well as the industry.

15. Tyre fly-tipping is not a new phenomenon and has been an issue for a number of years. In fact, a commonly held view is that fly-tipping has increased proportionally to the decline of the passenger car retreading sector, which needed to source substantial stocks of casings, many of which would not have been suitable for retreading but would have been disposed of by the retreader after sorting and inspection. Figures from the Environment Agency and through the Flycapture database¹ have not registered an appreciable increase in tyre fly-tipping activity in the months immediately following the 2006 landfill ban, although it continues to be the case that considerable numbers of tyres are fly-tipped.

16. The tyre industry has for some time supported a proposal to tighten up the responsibilities placed on those handling waste tyres under the Duty of Care. Under these proposals, those registered waste carriers handling tyres would be faced with requirements to actively report on the fate of the tyres they transported. In March 2007 Defra completed a consultation on the Duty of Care regime in general and is now considering the responses. The consultation included proposals on a system of statutory reporting for used tyres.

Roles and responsibilities

Table C12.1: Roles and responsibilities

Organisation	Roles and responsibilities
Environment Agency	<ul style="list-style-type: none"> • Continue to provide effective regulation and enforcement to ensure a level playing field • Support business compliance
Waste & Resources Action Programme (WRAP)	<ul style="list-style-type: none"> • Continue to give priority to market development for used tyre rubber, identifying and promoting innovative outlets, and encouraging reprocessing capacity
DTI	<ul style="list-style-type: none"> • Continue to facilitate the Used Tyre Working Group, which maintains market intelligence
Defra	<ul style="list-style-type: none"> • Continue to monitor levels of fly-tipped tyres. Understand further the possible causes and incentives about why tyres might be fly-tipped.
Tyre industry	<ul style="list-style-type: none"> • Take an active role through supply chain network to support compliance

¹ See <http://www.defra.gov.uk/environment/localenv/flytipping/pdf/flycapture-data0506.pdf>

Infrastructure and capacity

17. Used tyres arise from a number of sources, including scrapyards, garages and specialist tyre retailers. A network of collection points therefore exists, and the key infrastructure development priorities are reprocessing/recycling businesses, energy from waste opportunities (e.g. cement kilns) and the transport infrastructure to move used tyres from collection points to these treatment facilities. Very high levels of recovery of used tyres in the UK have been achieved and sufficient reprocessing capacity exists to deal with all arisings, although there may be localised difficulties.

References and other information

Defra – Producer Responsibility: Tyres

www.defra.gov.uk/environment/waste/topics/tyres.htm

EC Landfill Directive

www.defra.gov.uk/environment/waste/topics/landfill%2ddir/