

History of waste and recycling information sheet



 [Chronology of waste](#)

 [What was and is in your dustbin](#)

 [The present day](#)

In early pre-industrial times waste was mainly composed of ash from fires, wood, bones, bodies and vegetable waste. It was disposed of in the ground where it would act as compost and help to improve the soil. Ancient rubbish dumps excavated in archaeological digs reveal only tiny amounts of ash, broken tools and pottery. Everything that could be repaired and reused, populations were smaller, and people lived in less concentrated groups. However, the transition from nomadic hunter-gatherer to farmer meant that waste could no longer be left behind, and it soon became a growing problem.

Until the Industrial Revolution when materials became more available than labour, reuse and recycling was commonplace. Nearly 4000 years ago there was a recovery and reuse system of bronze scrap in operation in Europe and there is evidence that composting was carried out in China. Reuse and recycling has always existed in the form of salvage, an ages-old tradition stretching forward to the Rag-and-Bone men. Traditionally, recovered materials have included leather, feathers and down, and textiles. Recycling included feeding vegetable wastes to livestock and using green waste as fertiliser. Pigs were often used as an efficient method of disposing of municipal waste. Timber was often salvaged and reused in construction and ship-building. Materials such as gold have always been melted down and re-cast numerous times. Later recovery activities included scrap metal, paper and non-ferrous metals.

However, as city populations increased, space for disposal decreased, and societies had to begin developing waste disposal systems.

Chronology of Waste

3000 BC - In the Cretan capital, Knossos, the first recorded landfill sites were created where waste was placed in large pits and covered with earth at various levels.

2000 BC - Composting is known to have been a part of life in China During the European Bronze age bronze scrap recovery systems were in place.

Over 2,500 years ago, government officials in the Greek city-state of Athens, open a municipal landfill site and decree that waste is to be transported at least one mile beyond the city gates.

1297AD - In response to the increasing amount of waste deposited in towns in Britain, a law is passed to make householders keep the front of their house clear from refuse. It is largely ignored. However, most waste is burned on household open fires.

1354 - "Rakers" are employed in each London ward to rake rubbish together, load it into carts, and remove it once a week.

1407 - It is ruled that household rubbish is to remain indoors until it can be removed by the rakers after which it is either sold as compost or dumped in the Essex marshes. This preliminary attempt to manage and control waste is not particularly successful, but paves the way for further regulation.

1408 - Henry IV's removal order instructs that refuse be removed or else forfeits be paid. **Medieval German cities** required the wagons which bring produce into the city to carry out waste into the countryside.

1500s - Spanish copper mines use scrap iron for cementation of copper, a recycling practice that survives to this day.

1515 - Strafford-upon-Avon court record show that Shakespeare's father was fined for 'depositing filth in a public street'.

1588 - Elizabeth I grants special privileges for the collection of rags for papermaking.

1700s and 1800s - The Industrial Revolution begins in the 18th century when the availability of raw materials and increased trade and population stimulate new inventions and the development of machinery

Coal powered machinery can now produce increasingly large quantities of materials quickly and cheaply. Increased production has led to increased waste, which lays in place the means of mass producing materials which we see in factories today.

Early 1800s - Many people lived by selling what they could find in other peoples rubbish, even dogs' dung which was valuable as it was used by tanners for purifying leather.

'Toshers' worked in the sewers, a dangerous and smelly way to make a living, but lucrative as they found coins, bits of metal, ropes and sometimes jewellery.

'Mud-larks' scavenged on the river banks, and made a very poor living.

'Dustmen' collected the ash from coal fires. Over three and a half million tons of coal was burned in London in a year!

The dust was taken to dust-yards. Here men, women and children worked on the heaps of rubbish, sieving the breeze or coarse section of the dust. This is used as a soil conditioner and for brick making.

1848 - In Britain the Public Health Act 1848 begins the process of waste regulation.

1874 - Energy from waste begins its development in Britain as the first "destructor" is designed and constructed in Nottingham. Destructors were prototype incineration plants which burnt mixed fuel producing steam to generate electricity. During the next 30 years, 250 destructors are built in Britain. They are opposed on the grounds of emissions of ashes, dust and charred paper which fall onto the surrounding neighbourhood. By 1945 incineration is at an all time low, to re-emerge in the 1960s and again today, where opposition is on the grounds of dioxin emissions.

1875 - The Public Health Act 1875 charges local authorities with the duty to arrange the removal and disposal of waste, starting an evolution of local authority power. This replaces the previously widespread practice of scavenging. The Act also rules that householders keep their waste in a "movable receptacle", the beginning of the dustbin, which the local authorities have to empty every week. A charge could be made for every day the bin was not emptied.

1890 - The British Paper Company is established specifically to make paper and board from recycled materials. Waste paper is obtained from organisations such as the Salvation Army and rag-and-bone men.

By the **late 1800s** household waste is collected daily in moveable ash bins. The waste is sorted by hand, usually by women or girls, into salvageable materials, and coarser materials are sieved from fine ash (breeze). A large proportion of the waste is salvaged, revealing the extent of reuse and recycling systems, for instance materials such as glass and metal are returned to merchants, and the breeze and hard core from incinerated residue are used in building materials. The value of goods reclaimed from dust heaps shows that the level of recycling and reclamation has always depended on economic incentive.

1898 - The Association of Cleansing Superintendents is established, which today has evolved into the Institute of Wastes Management.

1907 - An amendment to the Public Health Act 1875 extends refuse collection to include trade refuse and authorises local authorities to levy charges for waste collection.

1907 - A delegate at the Association of Cleansing Superintendents conference is quoted in the *Surveyor* as suggesting that the biggest change in municipal work would be the change from destruction to salvage "in the near future". Nine decades on this has still not happened.

1921 - The British Waste Paper Association is established (initially as the Association of London Waste Paper Merchants) to help develop the trade in waste paper for recycling.

1930 - The Ministry of Health urges that "the system of dumping crude refuse without taking adequate precautions should not be allowed to continue". Similar complaints about unsanitary landfill were to continue for several decades.

1930s - The manufacture of plastics from chemicals produced from petroleum begins (plastic products had been made from plants since 1862). The production and manufacture of plastics grows slowly over the next 20 years. In the economic boom of the 1950s production begins increasing sharply due to increases in different types and applications for plastics. While the development of plastics and other forms of packaging has reduced the amount of food wastage, the environmental consequences of increasing amounts of non-biodegradable plastic packaging and toxic inks is largely overlooked.

In the 1930s, most people live in houses where heating and hot water are provided by burning newspaper and coal in fires, hence the small quantities of paper and large quantities of dust in the bins. The small percentages of textiles, glass, and metals are also the result of recovery and reuse schemes.

1936 - The Public Health Act 1936 rules that the accumulation of waste which is prejudicial to health, or a nuisance, is a Statutory Nuisance. Authorities are given the power to prosecute over uncontrolled dumping, cesspools and scavenging - a practice which often resulted in the scattering of refuse. The Act also prohibits building upon contaminated land and lays down regulation for the management of landfill sites, but these were mostly overlooked in the years that followed.

During the **world wars** waste regulation becomes less of a priority. Despite a rise in reclamation and recycling during the wars, the post-war years face the legacy of huge unsanitary and uncontrolled refuse tips especially surrounding the larger cities. Although local councils make efforts to legislate against the dumping of refuse, appalling situations develop throughout the country where vast tips up to a mile long burn continuously.

1947 - The Town and Country Planning Act gives authorities planning powers over new waste management sites, but most of the existing tips cannot be controlled.

During the **post-war** years, economics are against incineration, hence the domination of landfill in British waste disposal practice. Landfills are constructed at the most convenient cost and locations, with little thought of their environmental impact or consequences such as water pollution and methane gas. Contemporary consumer society evolves with the increase in production and consumption, as products are designed to be thrown away and packaging increases. Increased consumption inevitably generates an increase in manufacturing, industry, mining and quarrying, agricultural and food processing wastes.

However, the post-war period sees not only some effects from the boosted salvage industry stimulated by the demand for raw materials during the wars, but also increasing public awareness of the environment.

1956 - The Clean Air Act is passed signalling a decrease in the number of open fires in homes as they are replaced by central heating fuelled by oil, gas or electricity. Consequently the composition of household waste changes from being predominantly ash, dust and cinder from fires, to being made up of other wastes such as food and paper which would previously have been put on the fire.

1960 - A working party set up by the Duke of Edinburgh criticises the existing management of the countryside and the environment, especially waste management. Its recommendations lead to the setting up of the Royal Commission on Environmental Pollution.

1960s - Private waste contractors begin to take over in what had previously been considered a public works activity. In 1968, contractors come together to form the National Association of Waste Disposal Contractors.

1970s - It takes a combination of increased new chemical waste, changing waste compositions after clean air legislation, and new health and safety guidelines to bring about the first serious waste regulations during the 1970s. This is also linked to concerns over energy use and the wider depletion of resources.

1971 - Some drums of cyanide waste are dumped at an abandoned brick kiln near Nuneaton, leading to a huge public outcry. The ensuing furore, along with press coverage of waste disposal drivers taking bribes to dump hazardous waste illegally, and a report by the Royal Commission on toxic wastes, provides a catalyst for the first ever legislation to control hazardous waste. The consequent Deposit of Poisonous Waste Act 1972 is drafted in 10 days and passed through Parliament within a month.

Friends of the Earth launch their first campaign by returning thousands of bottles to Schweppes, an environmental stunt which successfully uses the media in bringing issues of waste and product disposability to public attention.

1974 - Increasing concern over waste leads to the Control of Pollution Act 1974 which aims for a much wider control of waste disposal and regulation of sites, and begins a serious tightening up of waste disposal methods.

1977 - The first bottle banks appear in Britain

1980s - The decade sees increasing public concern over waste disposal especially hazardous waste. The construction boom results in an estimated 1 million tonnes of illegally deposited waste lying around London at any one time. Those who produce the waste have no responsibility for it. Directives from the European Union begin to put pressure on the British government, and there are contentious issues such as the import of wastes, contaminated land and inadequate powers of waste regulators. The increasing number of private sector contractors in waste management begin to challenge the enforcements and self-regulation of the local authorities.

1986 - Environmental protection finally gets included in the Treaty of Rome through the Single European Act.

1987 - The National Council for Voluntary Organisations sets up a project called Waste Watch to promote and support waste reduction, reuse and recycling. Over fifteen years later, Waste Watch is an independent national charity working alongside local authorities, community and voluntary groups, businesses, industry and Government, providing advice, training and information from the Wasteline, as well as practical support for action.

1989 - The Commons Environment Committee inquiry, chaired by Sir Hugh Rossi, recommends that waste regulation pass from local authorities to a central body.

1990 - The Government produces "This Common Inheritance", its first comprehensive White Paper on the Environment. This sets out a waste strategy which regards waste minimisation and recycling as priorities, and sets a target of 25% for the recycling of household waste by 2000.

The subsequent Environmental Protection Act 1990 separates waste regulation from operational work in local authorities and implements more regulations and controls. It replaces the 1974 Act with a new licensing system covering all controlled wastes (certain household, commercial and industrial wastes) and requires local authorities to consider recycling in their waste strategies.

1992 - The Duty of Care is introduced, whereby anyone who "imports, produces, carries, keeps, treats or disposes of controlled waste" must take responsibility for it. Those who deal with waste are now given a duty to care for it, managing waste from its generation through to transfer and disposal.

The Eco-labelling scheme is set up to recognise relative environmental impacts of similar products.

1994 - An EU Directive introduces the idea of producer responsibility with regard to packaging waste requiring member states to set targets on the reduction and recovery of packaging waste. This was followed by the UK's Producer Responsibility Obligations Section 93 (Packaging Waste) Regulations.

1995 - The Environment Act establishes the Environment Agency, replacing the National Rivers Authority, Her Majesty's Inspectorate of Pollution, Waste Regulation Authorities and some parts of the Department of the Environment. As a central body its aim is to manage and regulate not only waste but also industrial pollution and water resources.

1996 - The Government publishes its waste strategy for England and Wales, entitled "Making Waste Work". This document sets out plans for sustainable management of waste, and also confirms the target of 25% of household waste to be recycled by the year 2000.

The landfill tax is introduced, which levies £7 per tonne on active waste going to landfill in order to encourage alternatives such as reuse and recycling, and promote waste minimisation. The standard rate will increase to £10/t from 1 April 1999, with a lower rate for inactive waste frozen at £2/t. Inert waste used in the restoration of landfill sites and quarries will be exempt from 1 October 1999.

1997 - The Producer Responsibility Obligations (Packaging Waste) were implemented, requiring businesses to recover and recycle 38% of their packaging, increasing to 56% by 2001. There are also additional recycling targets to enforce a minimum percentage of recycling for each of the packaging materials (currently paper and card, plastics, aluminium, steel and glass). The obligations are shared between raw material manufacturers, converters, packers and fillers, and sellers.

1999 - The Government releases "A Way with Waste", a draft waste strategy for England and Wales updating "Making Waste Work". The national waste strategy for Scotland is also launched, with specific goals for reducing special and industrial waste arisings. In the 1999 budget the landfill tax is placed on an "landfill escalator" of £1 per year until 2004.

2000 - A finalised waste strategy for England and Wales - "Waste Strategy 2000" - is published, setting revised national targets for the recycling or composting of household waste: 25% by 2005, 30% by 2010, and 33% by 2015. The "Waste Management Strategy for Northern Ireland" is launched, setting targets for household waste similar to "Waste Strategy 2000".

2002 - The EU Regulation on Ozone Depleting substances comes into force. Under this Regulation any insulation foam or cooling circuits containing CFCs or HCFCs must be recovered from fridges and freezers prior to shredding and disposal.

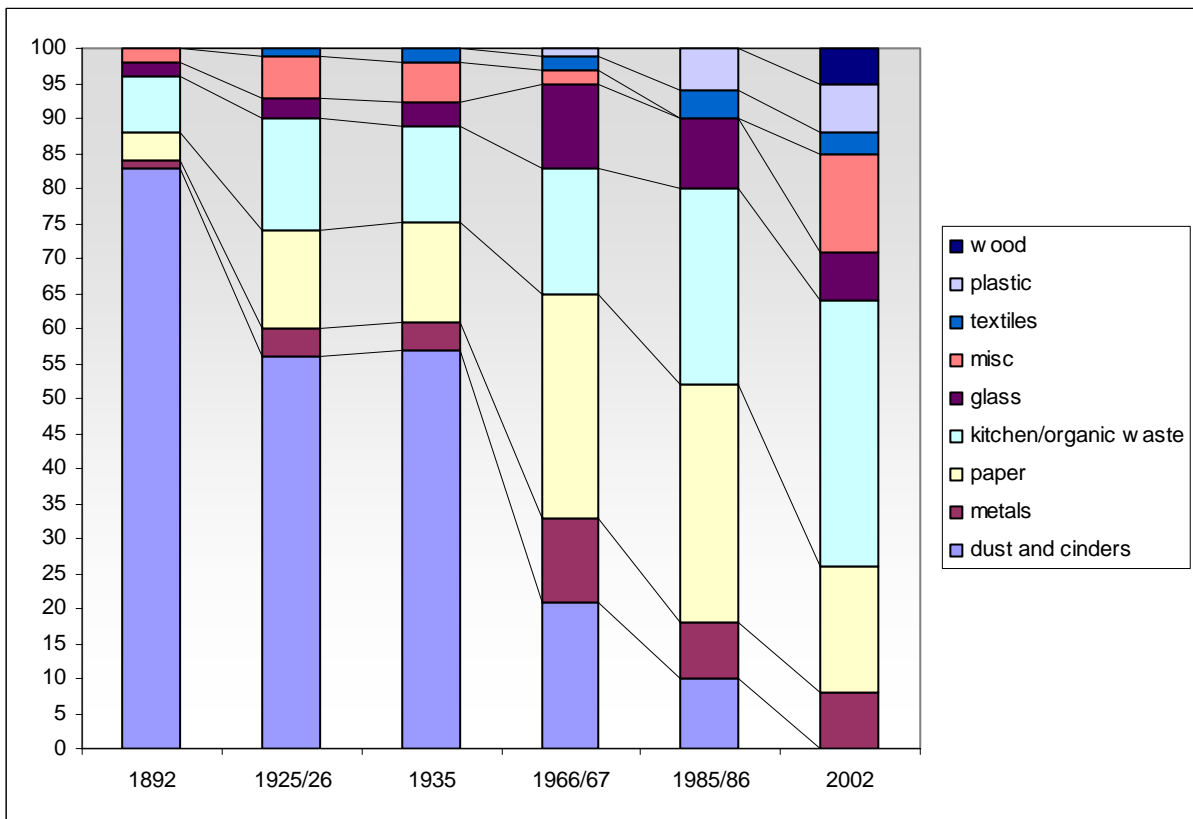
Waste Not Want Not, the Strategy Unit's report on Waste Strategy 2000, is published.

2003 - The budget raises the landfill tax escalator to £3 per year from 2005.

The WEEE (Waste Electrical and Electronic Directive) is implemented. England will have to collect 4kg of WEEE from every household by 2006.

What was and is in your dustbin

There have been significant changes in the composition of household waste over the last 100 years which can be traced back to fundamental social and economic shifts affecting the way we live our everyday lives, as is traced in the above chronology. Waste arisings can be difficult to quantify, and it is only over the last few decades that there have been any real attempts at estimating the composition of household waste. Some of these are given in the diagram below.



Source: *Waste and Recycling: an exploration of contemporary environmental policy*. Page: 5

Sources: Atkinson, W. and New, R. (1993) *An Overview of the Impact of Source Separation Schemes on the Domestic Waste Stream in the UK and Their Relevance to the Government's Recycling Target*, Warren Spring Laboratory, Stevenage, Herts., Strategy Unit (2002) *Waste Not Want Not*.

Many people now live in flats or converted houses. Fewer people have fires to produce ash and cinders or gardens to put vegetable waste in. The Clean Air Acts cut down emissions from coal fires and many people have switched to central heating instead. Changes in society such as increased mobility with the motor car, the rise of supermarkets and increased competition between traders has led to an emphasis on the presentation and marketing of products and a steep rise in packaging. This accounts for the rise in packaging materials such as metal and plastics and a decline in returnable bottles.

The present day

Since the 1980's, household waste arisings in the UK have risen from just under 400 Kg per person to over 500 Kg per person per year. Such an increase can be attributed to economic growth, social change, and waste collection methods. The increase in waste has closely mirrored that of Gross Domestic Product (GDP), while the increase in single person households and increase in wheeled bin household waste collections have exacerbated the problem.

Today in the UK it is estimated that each household throws away over a tonne of waste annually. In addition, for every tonne of products we buy, ten tonnes of resources are used to produce them. Around 70% of our household waste has the potential to be either recycled or composted¹. Despite the fact that the majority of the general public regard recycling as worthwhile, and that over 65% of households have access to kerbside collection recycling schemes, only 14.5% of dustbin contents are recycled or composted.

What you can do

Recycling has many environmental advantages: it uses less energy causing less pollution; it reduces the demand for virgin resources; it reduces the amount of waste landfilled. However, energy is still used in the process and it cannot completely replace the need for the raw materials. The best situation would be not to create so much waste in the first place.

For further information please see our other information sheets and topics pages:

<http://www.wasteonline.org.uk>

<http://www.wastewatch.org.uk>

Due to changes in funding, we are no longer able to offer a public information service. Should you have further questions on waste and recycling, please contact one of these groups:

Householders and students should call the [Recycle Now](#) helpline on 0845 331 31 31 for further waste based information, and where to find your local recycling facilities.

Small to medium businesses should visit the [Envirowise](#) website, or call 0800 585 794, for further information on waste issues. Larger businesses should visit www.businesslink.gov.uk.

For industry based questions, please use the WRAP technical helpline on 0808 100 2040 for advice on markets and recycling company development, or visit www.letsrecycle.com for listings of recyclers and reprocessors.

If you find a mistake on this page, or have a technical question regarding the wasteonline website, please email info@wastewatch.org.uk.

Thank you, and apologies for any inconvenience.