

Basic principles

Waste generation is an inevitable consequence of consumerism. As the costs of waste disposal increase (due to rising landfill tax, the increasing fuel costs associated with waste transportation and increasingly stringent environmental legislation), waste is being more actively managed at source.

A significant proportion of Hertfordshire's household waste is landfilled, most being exported out of the county. Looking to the future, to become sustainable, the county must tackle its waste within the county boundaries.

Types of waste

Waste generated by development is produced through three main activities: construction, operation and refurbishment/demolition:

- Construction waste: major components include soils (often mixed with other materials), concrete, masonry, stone, metal (largely steel), glass, plasterboard, timber, packaging, insulation, bituminous materials such as road plantings and architectural features. Studies by WRAP and the BRE indicate that up to 30% of all construction waste is packaging. .
- Operational waste: the largest share of waste can be generated by building operations, i.e. building occupation. Although operational waste management practices are at the discretion of the building user, effective operations are strongly influenced by the design and fit out of a building.
- Refurbishment/demolition waste: includes all building materials, building services, furniture and landscape materials and features.

The construction industry is responsible for producing around one third of all waste in the UK.

Construction

WRAP operated a programme of work supporting the construction industry in reducing waste and improving resource efficiency between 2000 and March 2015. Following a review of the resources including tools, research reports, case studies and good practice guides WRAP has transferred the main knowledge base to CIRIA. Go to our Help centre to find out more.

For more information on waste arisings and management in Hertfordshire visit Hertfordshire's [Waste Aware](#) website.

Principles of sustainable waste management

Population and household growth in Hertfordshire put increasing pressure on waste management in the county. Consequently, the need to actively manage waste streams in Hertfordshire has never been more significant.

Sustainable waste management can be actively addressed through the planning process in the following ways:

- Reducing the quantity of materials required for the building.
- Reducing the amount of waste generated.
- Management of construction and demolition wastes.
- Materials specifications (e.g. use of reclaimed and recycled materials).
- Provision of recycling space/facilities.

The nationally accepted framework or approach for achieving reductions in waste arisings and sustainable waste management is the **Waste Hierarchy**.

Waste hierarchy

The waste hierarchy provides a framework where waste management options are set out in priority order to enable the correct choice to be made when assessing how to deal with waste. In the hierarchy, waste prevention is the most environmentally friendly and disposal the least.

The hierarchy applies to all waste streams, not only those directly influenced by this guide.

Waste reduction

By preventing waste before it occurs, money can be saved on the collection, treatment or disposals costs of waste. It also reduced the environmental impact and costs of extracting more raw materials, production and use.

This becomes more important when the true costs of waste are considered.

The true cost of waste is not only the Disposal cost it also includes

- Cost of purchasing materials/ resources
- Handling / processing / maintenance costs
- Management time
- Lost revenue
- Any potential liabilities

A study in 2009 showed that a typical construction skip costs around £1343 when you add the cost of the skip to the cost of labour and materials that fill it. The breakdown of this was:

- Skip hire £85 (quite low compared to current prices) – 6.4% of cost
- Labour to fill it £163 – 12.1% of cost
- Cost of materials in skip £1095 – 81.5% of cost

It was estimated that a typical 80m² house development would produce 5 skips of waste material, therefore, the financial cost of waste for a generic house construction was £6715, over 80% of which could be avoided through better resource use and selection of materials

Materials reuse

Reusing products and materials for the same (or alternative) purpose is the next preference. Before a material can be reused it should be assessed for its quality as it may be

necessary to make minor repairs or additions before the product can reach the required standard.

This may include for example, retaining unused materials for one construction project to use on the next project.

Recycling and composting

Recycling involves the collection, separation and processing of wastes to make new products, e.g. newspapers are regularly recycled either to make new newspapers or eco-friendly home insulation. Composting is the same process but with organic wastes, e.g. food waste composted to make new fertiliser products.

Recycling and composting processes usually require some energy to work well; however, the energy and cost to alternatively make new products from scratch are usually much greater. The economic viability of recycling/composting depends on factors such as the quality of the waste stream, the transport distances involved and the market price for the recycled materials which can fluctuate significantly. The aim should be to recycle construction wastes as close to their source as possible as they are typically heavy and bulky to transport.

Energy recovery

Energy from waste incineration recovers a proportion of energy from the waste stream; however, usually much less than by recycling/composting, reusing or reducing the waste generated in the first instance.

Landfill disposal

Disposal is the last option in the waste hierarchy and therefore the aim is to divert waste from this end destination. The only landfill in Hertfordshire currently accepting waste (Westmill in Ware) only has permission to continue receiving waste until 2017.

Proximity principle

The transportation of waste can incur significant environmental and nuisance impacts plus unwanted additional cost. Therefore, the proximity principle

encourages processing, recycling, reuse or disposal of waste as near to the point of its production as possible.

Benefits of sustainable waste management

Sustainable waste management delivers lots of benefits:

- Reduced waste disposal costs (notably Landfill and Aggregates taxes).
- Reduced pressures on finite resources, such as virgin aggregates.
- Reduced greenhouse gas emissions from landfill and incineration.
- Reduced energy consumption from the manufacturing process.
- Increased economic productivity.
- Reduced requirement for additional landfill capacity.
- Reduced nuisance created by odour and visual intrusion from landfill sites.
- Improved corporate reporting and green credentials for business.

Typical practice

A - White goods and scrap

B - Textiles

C - The average household in Hertfordshire send 15kg of waste to landfill every week

D - Furniture

E - Paper and cardboard

F - Kitchen waste

G - Garden waste

Good practice

A - White goods and scrap

B - Textiles

C - Furniture

D - Paper and cardboard

E - Purchase of food with reduced/no packaging

F - All kitchen and garden waste (other than meat, bones, etc) into compost bin or wormery - 30% of total waste volume

Rate this page