

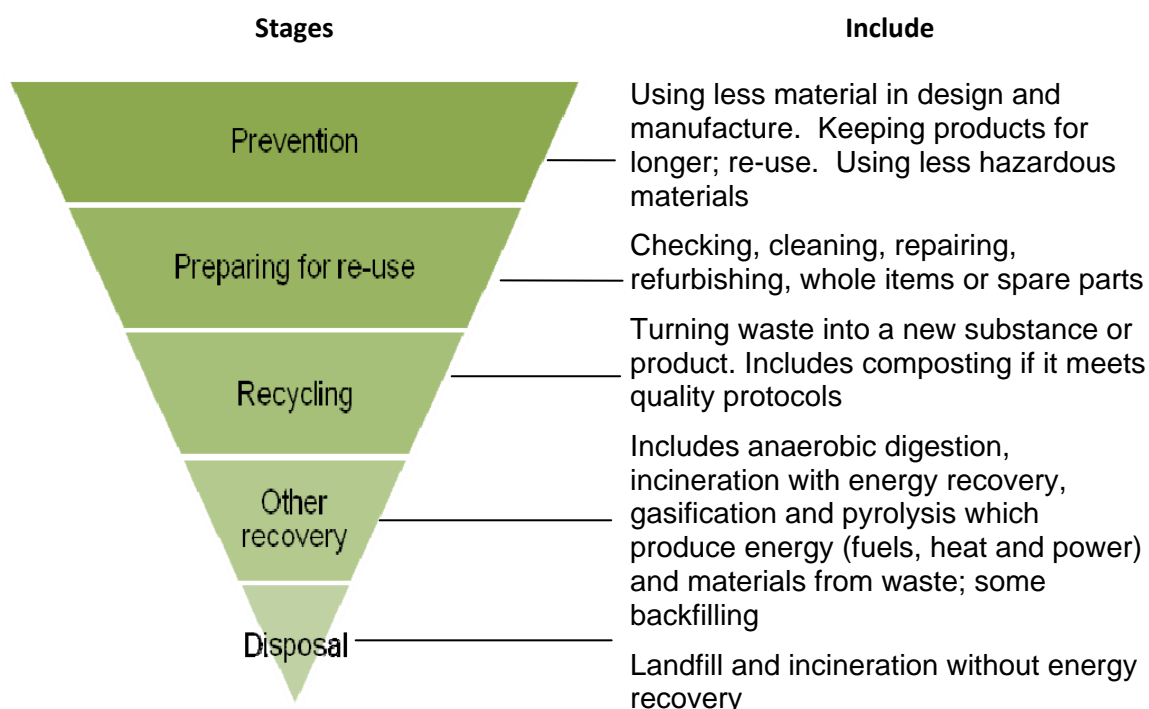
Waste Hierarchy – Frequently asked questions

The Waste Regulations (Northern Ireland) 2011

(<http://www.legislation.gov.uk/nisr/2011/127/contents/made>) came into operation on 8 April 2011. The provisions relating to the hierarchy will come into operation on **8 October 2011**.

What is the waste hierarchy?

Article 4 of the revised EU Waste Framework Directive ([Directive 2008/98/EC](#)) sets out the 'waste hierarchy', five steps for dealing with waste, ranked according to environmental impact. So prevention, which offers the best outcomes for the environment, is at the top of the priority order, followed by preparing for re-use, recycling, other recovery and disposal, in descending order of environmental preference.



Who does it affect?

If your business or organisation (including district councils on behalf of householders) produces or handles waste (this includes importing, producing,

collecting, carrying, keeping, treating or disposing of waste, brokers or dealers who have control of waste, and anyone responsible for the transfer of waste), you must take all such measures as are reasonable in the circumstances to apply the waste hierarchy. The waste hierarchy applies to all waste including hazardous waste.

The relevant duties are set out in Regulations 17, 33 and 63 of the Waste Regulations (Northern Ireland) 2011.

(<http://www.legislation.gov.uk/nisr/2011/127/contents/made>)

Where can I find help on what this means for me?

The Department of the Environment has published a package of guidance to assist businesses and other organisations in Northern Ireland, to make better decisions on waste and resource management. This guidance considers the **environmental impacts** of various waste management options for a range of materials. It comprises:

- [a short summary guidance](#) (PDF) aimed particularly at small and medium sized enterprises
- [an evidence paper](#) (PDF) which summarises current scientific research on the environmental impacts of various waste management options. This evidence underpins the guidance on the hierarchy
- frequently asked questions (this document).

Who decides the priority order for each waste material?

Our guidance is based on the **best evidence** currently available. As waste management technologies evolve, so their impact on the environment relative to other options may change.

The current research shows that for food anaerobic digestion is environmentally better than composting and other recovery options. The evidence also indicates that for garden waste and for mixtures of food waste and garden waste, dry anaerobic digestion followed by composting is environmentally better than composting alone.

Likewise, the scientific data for certain waste management technologies is currently limited, e.g. for pyrolysis and rendering. So we are unable to determine their environmental benefits *relative to other options* of within the hierarchy.

Businesses and district councils may consider **other factors** when they make decisions on waste, including social and economic impacts, and technical feasibility. These factors will vary in line with the size of an organisation, the range of materials it handles and its location. The relevance of these factors will have to be weighed on a case-by-case basis in liaison with Northern Ireland Environment Agency.

As new technologies emerge, we will review the evidence available on a regular basis and update our guidance on the hierarchy accordingly.

Why is anaerobic digestion environmentally preferable than composting as a waste management option?

The scientific evidence we currently have, based on life-cycle analysis, shows that for food anaerobic digestion is environmentally better than composting and other recovery options. The evidence also indicates that for garden waste and for mixtures of food waste and garden waste, dry anaerobic digestion followed by composting is environmentally better than composting alone.

This is because anaerobic digestion produces both biogas, which can be used to generate vehicle fuel, heat, electricity, combined heat and power, and digestate, which can be used instead of fossil fuel-intensive fertilisers. The combination of both outputs means that anaerobic digestion is environmentally preferable to composting.

The Directive does not mandate the use of one option over the others. Businesses and district councils may consider **other factors** when they make

decisions on waste, including social and economic impacts, and technical feasibility.

The evidence indicates that for garden waste and for mixtures of food waste and garden waste, which are not suitable for dry anaerobic digestion composting is environmentally better. The relative merits of composting depend on the compost being used in place of fertiliser or peat. In terms of greenhouse gas emissions composting and energy recovery are broadly similar.

How are you going to ensure that priority given to recycling in the hierarchy does not undermine the investment in Energy from Waste plants?

Recovery activities such as Energy from Waste are also a key part of the hierarchy. The evidence shows that for most materials recycling is better for the environment than energy from waste (EfW) and that EfW is better than landfill.

The Government wants to reduce residual waste and the achievement of the now statutory 'preparing for re-use' and 'recycling' targets will contribute towards this. However, there will be a need to deal with this type of waste for the foreseeable future and recycling alone cannot currently meet the ambition for diversion from landfill. There is no immediate risk of EfW facilities being deprived of feedstock.

How are the waste hierarchy stages defined?

The definitions of each of the stages can be found in Article 3 of the Directive, (2008/98/EC).

'prevention' means measures taken before a substance, material or product has become waste, that reduce:

(a) the quantity of waste, including through the re-use of products or the extension of the life span of products;

(b) the adverse impacts of the generated waste on the environment and human health; or

(c) the content of harmful substances in materials and products;

're-use' means any operation by which products or components that are not waste are used again for the same purpose for which they were conceived;

'preparing for re-use' means checking, cleaning or repairing recovery operations, by which products or components of products that have become waste are prepared so that they can be re-used without any other pre-processing;

'recycling' means any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.

'recovery' means any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy, Annex II to the Waste Framework Directive sets out a non-exhaustive list of recovery operations.

'disposal' means any operation which is not recovery even where the operation has as a secondary consequence the reclamation of substances or energy. Annex I to the Waste Framework Directive sets out a non-exhaustive list of disposal operations.

Other sources of support

The Northern Ireland Environment Agency has produced advice on various Waste operations, which can be viewed [here](http://www.doeni.gov.uk/niea/waste-home.htm):

<http://www.doeni.gov.uk/niea/waste-home.htm>