

Reducing the amount of waste produced and obtaining maximum value from waste that cannot be avoided has many benefits:

- decreases costs
- reduces use of resources
- decreases pollution
- encourages people to manage resources responsibly
- addresses climate change commitments
- saves natural habitats
- improves human health

The aim of the waste hierarchy is to avoid producing waste and to recycle all that is possible and to prioritise waste prevention. Waste that is produced should be reused or recycled with only the irreducible minimum used for energy recovery and a negligible remainder landfilled.

Successfully addressing waste management in Northern Ireland requires:

- Full prioritisation of the **waste hierarchy** through appropriate collection and recycling infrastructure coordinated across Northern Ireland.
- **Integration** across all waste streams and sectors.
- **Flexibility** to adapt to changes in behaviour, technology and waste composition.
- **Communication** demonstrating what must be done, how, and why it is important.

## KEY RECOMMENDATIONS:

- Promote the waste hierarchy and move up it – work at all levels to promote resource efficiency and the benefits it brings.
- Review infrastructure requirements in light of climate change, energy security and prices, ensuring it is fit for purpose for 2020-2050.
- Set a 70% recycling target for 2020 with appropriate infrastructure developed now. Use public awareness and communication, incentives/disincentives and legislation/regulation to achieve this.
- Prioritise reduction of food waste at all levels from production to post-consumer, with separate collection/treatment of food waste to provide energy and biochar.
- Extend recycling requirements and facilities to businesses with charging set to encourage participation.
- Ensure integration across all waste streams to maximise opportunities.
- Use Government procurement to drive markets.
- Ensure that waste, including packaging, is minimised by manufacturers and retailers.
- Develop an Action Plan for central coordination of uniform delivery of the waste hierarchy throughout Northern Ireland with guidance on its use.
- Set up a 'Waste Hierarchy Committee' accountable to the Minister of the Environment.

1. The waste hierarchy ranks waste treatment options (most to least favourable) in the sequence: prevention, reuse, recycling and composting, energy recovery, landfill/disposal. The aim is to shift as much of the waste as possible to the prevention level and the minimum to the landfill/disposal level.
2. The Department of the Environment should urgently review the existing Waste Management Strategy to ensure compliance with the revised European Directive.
3. The household waste recycling rate in Northern Ireland increased from 4.9% in 1999 to 34.4% in 2008/9, with an increase of 2.5% during 2007/8. An annual increase of about 3% is therefore possible and this should be maintained and improved upon with targeted programmes and infrastructural provision, including universal separate collections for major waste streams.
4. The current recycling target is 50% in 2020. This is clearly unambitious and an annual increase of about 3% suggests that the target should be revised to 70% by 2020. As Edwin Poots, Minister of the Environment stated, "...we need to aim even higher, not just for the benefit of our environment but for that of future generations."
5. A local council survey in 2008 found that households in Belfast were throwing away about 4 kg of food every week. Food waste is a priority because of its large volume and highly polluting nature, its opportunities for energy production, and its relevance to consumers who recognise the value of decreasing the amount of food wasted and the impact this has on their food bill.
6. A proactive, high-profile public awareness campaign should be launched on the importance of proper waste management and should stress the multiple benefits – environmental, social and economic.
7. Central policy should be a strong driver to phase out mixed materials recovery facilities in favour of separate collections for all major recyclables, including food and biodegradable materials. Separate food waste collection is a perfect topic for a 'first step' public awareness effort to connect resource efficiency, carbon conservation and economic costs by linking to sustainable development and climate change messages.
8. Food and other biological wastes can be burned in the absence of oxygen by pyrolysis to produce biochar, a material that can be used as a soil conditioner for maintenance of soil quality and higher crop yields under warmer climatic conditions. This reuse of the material is superior to energy from waste using conventional energy recovery by raising the material up the waste hierarchy. Most of the carbon in biochar is also likely to remain inert for thousands of years, effectively removing it from the carbon cycle and making a major contribution to the mitigation of climate change.
9. Cooperation with the Republic of Ireland in development of installations for efficiency should be considered for some materials. This would provide Northern Ireland with recycling/reprocessing facilities on an island of Ireland basis in addition to integration within the UK.