



Working Towards Zero Avoidable Waste in the Roofing Sector

The government's, **Our Waste, Our Resources: A Strategy for England (2018)**¹ aims to eliminate avoidable waste of all kinds by 2050. This includes waste from a wide variety of sectors, including construction.

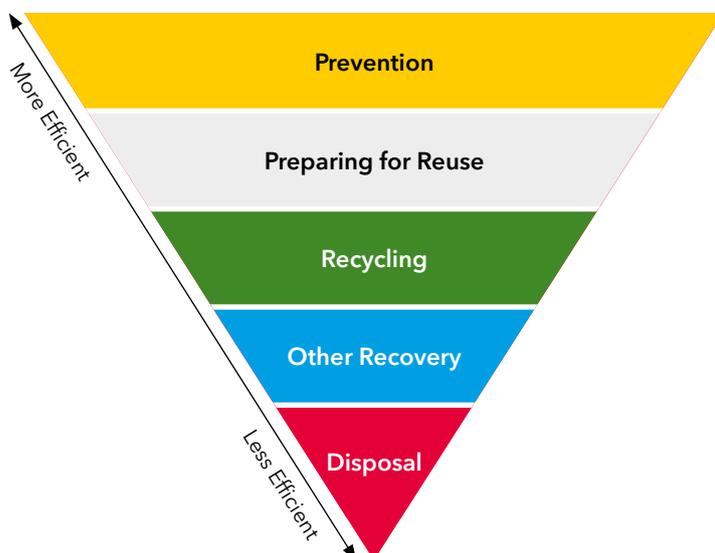
The construction sector is the largest user of materials in the UK and produces the largest waste stream in terms of tonnage. At every stage of the construction process, there are opportunities to reduce waste and reuse or recycle. This guidance note examines what the roofing sector is currently doing to avoid unnecessary waste and how we as a sector can work together over the next 30 years to ensure we achieve Zero Avoidable Waste (ZAW) within the roofing sector.

What does Zero Avoidable Waste (ZAW) Mean?

Zero Avoidable Waste in construction means preventing waste being generated at every stage of a project's lifecycle, from the manufacture of materials and products, the design, specification, procurement, and the assembly of roof coverings through to their removal at the end of their life. To achieve the highest possible level of the 'waste hierarchy' products, components and materials should be recovered rather than removed—if they do need to be removed consider whether they can be used on another project. An example of this would be to reclaim roof slates and tiles rather than these products being recycled, which leads to a reduced minimal environmental impact.

Waste hierarchy

The waste hierarchy is embedded within the working interpretation of Zero Avoidable Waste in construction, in line with the government's waste and resources strategy. The waste hierarchy ranks waste management options according to what is best for the environment. It gives top priority to preventing waste in the first place. However, when waste is created, it gives priority in descending order to preparing it for reuse, then recycling, recovery, and last of all disposal as shown below.



Prevention:

- For roofs on new buildings, the focus should be on waste prevention throughout the lifecycle. This includes designing the roof to be adaptable, longer-lasting, and capable of being repurposed or deconstructed for reuse.
- For existing roofs, waste can be avoided by extending their lifetime.
- Manufacturing waste can be prevented by putting material back into the manufacturing process and being more efficient by designing it out.
- Waste arising from the roof installation process can be prevented through designing out waste, reducing surplus and excess materials, along with the better storage and management of materials. Avoiding single-use resources and packaging and increasing longevity of tools and equipment will also help to reduce waste.

CASE STUDY: IKO PLC, Appley Bridge

During 2017 the 'Appley Bridge' site worked closely with a locally based waste company to redirect non-recyclable waste from landfill into 'refuse derived fuel', meaning not only do IKO no longer send waste from this site to landfill, but this material is used to provide greener energy. At the same manufacturing plant 26 tonnes of cardboard, 20 tonnes of paper and 18 tonnes of plastic were recycled over the year.

Waste Hierarchy = Prevention; Recycle; Other Recovery

Reuse and recycle:

- For existing roofs, the focus should be on the recovery of materials and products, if the life of the roof cannot be extended or retrofitted. Examples include:
 - The remanufacture of materials for further use, such as mineral wool insulation or lead.
 - Closed-loop recycling, whereby waste materials are used in the same process, for example reclaimed slates and tiles.
 - Open-loop recycling, whereby waste is used in an alternative process, for example turning glass bottles and jars into glass wool insulation.
 - One of the main principles of circular economy, is for materials to be maintained at their highest value and to avoid downcycling.

CASE STUDY: Sussex Asphalte, St Paul Cathedral

Sussex Asphalte recycled 100-year-old asphalt salvaged from a previous project to renew the North Courtyard, which had started leaking water into the Cathedral's workshops and storage facilities below. By recycling the 100-year-old asphalt, the team also saved St Paul's Cathedral, over £11,000.

Waste Hierarchy = Reuse; Recycle.

Open Recovery:

- Open recovery is where construction waste is used to produce energy, for example, incineration to produce greener energy.

Disposal:

- Disposal of waste should always be the last resort; the focus should always be, where possible to move waste away from landfill.

Implementing the Waste Hierarchy into your business:

Start by reviewing the waste that your company produces and handles, and ask yourself the following questions:

- What type of waste does my business handle and create?
- Could we salvage waste materials for reuse?
- Could we sort and segregate our waste better so more waste can be recycled?
- Could we reduce our surplus waste by using materials more efficiently and effectively?
- Could our surplus materials be someone else's resource?
- Could we use materials that last longer or can be repaired or refurbished easily?
- Can we use environmentally friendly products that are less hazardous waste?
- Can my waste be used to produce energy rather than go to landfill?

By having a better understanding of the waste, your company produces and handles, will help you develop a coherent strategy policy, which will in turn support you and your organisation in reducing your waste that goes to landfill.



Further information

¹ Our Waste, Our Resources: A Strategy for England (2018):

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/765914/resources-waste-strategy-dec-2018.pdf

For more information on Zero Avoidable Waste in Construction download the joint CLC and Green Construction Board paper:

<https://www.constructionleadershipcouncil.co.uk/wp-content/uploads/2016/05/ZAW-Report-Final-Draft-25-February-2020.pdf>

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