

CPRE Devon “Help Desk”. Waste Management – How does it affect you?

Introduction. Throughout the world there is now a realisation that “Waste” is a valuable commodity in its own right, to be traded and exploited wherever possible. Those with the capabilities to do so can recycle valuable materials, ranging from gold and rare earths to more mundane materials that have real commercial value. As the recycling of waste has improved Europe finds itself with a vast over-capacity for processing waste, particularly by incineration, where huge incineration plants built with operational lives of 25 – 30 years and local “Heat Grids” to support, find themselves having to import waste as Refuse Derived Fuel (RDF). In the UK we export two million tonnes of RDF to Europe every year! Simultaneously, the amount of waste being produced, known as “Waste Arisings”, has fallen dramatically, partly due to the world-wide economic slowdown and much improved recycling. The emerging economies, notably Russia, China, India, Brazil and some others are looking to invest in innovative technologies that deliver the elimination of all waste with virtually no residual material needing landfill.

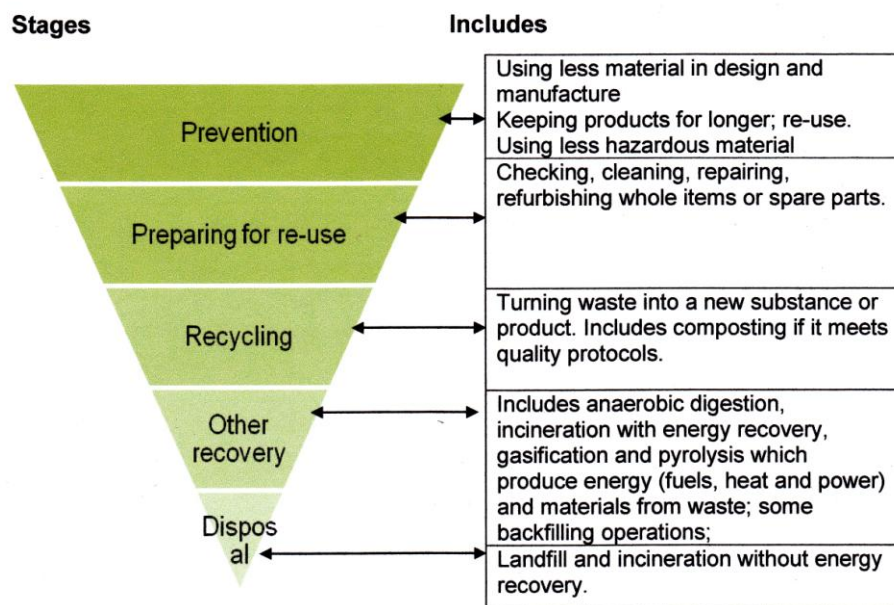
Here in the UK we have a difficult relationship between the Waste Management Conglomerates which, driven by the transport dimension of their businesses, have to concentrate on achieving economies of scale over huge geographic areas, and look to create “waste hubs” that have good road and rail access, a deep water port if possible and use bankable technologies for waste treatment. There is an inevitable clash between these national and inter-national companies and the County or Unitary Authorities, who are charged with granting or withholding planning permission for their waste facilities within the narrow confines of their county or unitary boundaries. Most waste facilities are unpopular with locals and CPRE is often the first port of call for those opposed to any planning application for a mass burn incinerator, large Anaerobic Digester, major landfill site or similar plant in their vicinity.

What do we mean by “Waste”? The legal definition of waste is set out in the revised Waste Framework Directive. It is defined as “any substance or object which the holder discards or intends or is required to discard”. Within this definition, waste streams are employed to categorise particular types of waste which may be produced by individuals or organisations. Primarily these are:

1. Municipal Waste – household waste and commercial waste similar to household waste.
2. Industrial (Including agricultural) and commercial waste.
3. Construction and demolition waste.
4. Hazardous waste.

Waste Policy. The UK Government has to comply with the EU Waste Framework Directive . This Directive, through its landfill tax escalator, will penalise those Authorities that exceed the allowed amount consigned to landfill, an imposition that will see gate fees rising to £80 per tonne next year. The British Government has responded with a Waste Hierarchy which sets out the priorities for waste handling throughout the country. It is important to realize that this waste hierarchy is both a guide to sustainable waste management and a legal requirement, enshrined in law through the Waste (England and Wales) regulations 2011. The Hierarchy gives top priority to waste prevention, followed by preparing for re-use, then recycling, other types of recovery (including energy recovery), and last of all disposal (e.g. landfill).

This waste hierarchy can be simply demonstrated as follows:



The UK Government has now (July 2013) embarked on a new policy document [“The Waste Management Plan for England”](#). [This document is at the consultation stage and you can read it here.](#) This plan is non-site specific and environmentally benign. The national planning policy on waste set out in Planning Policy Statement 10, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/11443/1876202.pdf provides the planning framework to enable local authorities to put forward, through local waste management plans, planning strategies that identify sites and areas suitable for new or enhanced waste management facilities to meet the waste management needs of their areas. The core aim of this plan is to bring current policies under the umbrella of one national plan.

In practice, the **responsibility for “collecting” waste** rests with your local District or Unitary Authority. The **responsibility for “disposal” of all waste** rests with the County or Unitary Authority. In Devon, you can read [the Devon Waste Plan](#) and the [Waste and Resource Management Strategy for Devon here](#). Your local District Council will also have a local waste plan setting out in detail the facilities that they make available for the local disposal of waste. [Links to you own Unitary or District Websites can be found here](#) Waste Management is a complex and expensive business and there are many specialised small companies involved. Where it fails; “Fly Tipping” becomes a real public nuisance.

There is one further policy that should govern all waste management. This is known as the **“Proximity Principle”**. This requires all waste to be dealt with as close as possible to where it has been generated.

Regulation. Waste legislation exists to ensure that the environment and human health is protected. Effective regulation provides a level playing field in which legitimate businesses can operate and invest with confidence and thus help to create markets. However, waste regulation can impose significant burdens on business: it is therefore important that regulation is proportionate to the risk posed by waste management operations and targeted against those with poor standards of compliance or who cause a nuisance or harm, and those who deliberately flout the law. The Environment Agency is the main regulator of waste management in England. Among its responsibilities are the determination of applications for “Environmental Permits” required under article 23 of the revised framework Directive: and carrying out inspection and other compliance assessment activities.

The Available Technologies for dealing with waste. It is hard for the general public to understand how waste is processed and disposed of. We are all too familiar with the transport that make it all happen, from the large crusher trucks that collect from our back door to the huge waste distribution lorries that carry both domestic and commercial waste from one site to another for treatment.

Incineration. The new incinerator in Plymouth, for example, will burn 265,000 tonnes of rubbish a year and require the delivery of an almost continuous stream of heavy trucks of waste whilst the plant is in operation. In addition, the Inert Bottom Ash (IBA), around a third of the amount burnt, will have to be trucked somewhere else for disposal. There must be better options for the future. These plants are huge and will have a lifespan of 25 – 30 years. To be fully effective there must be an outlet for the waste heat beyond that used for generating electricity.

Gasification & Pyrolysis. A process similar to that used many years ago to provide town gas. It produces a synthetic Gas (Syngas) that can be used to generate electricity using gas turbines. These turbines are much more efficient than their steam cousins. These plants can be of almost any size.

Advanced Plasma Power. This is Gasification coupled to a Plasma arc at very high temperatures (7,000 degrees C) where the process literally “cracks” large harmful molecules like toxic Dioxins and Furans into smaller safer ones and produces a safe, unleachable material not unlike glass.

Mechanical-Biological-Treatment (MBT). This covers a range of treatments where materials are first separated mechanically into different streams for further treatment. Anaerobic and Aerobic Digestion of organic materials; food, wood and similar materials is beginning to take off.

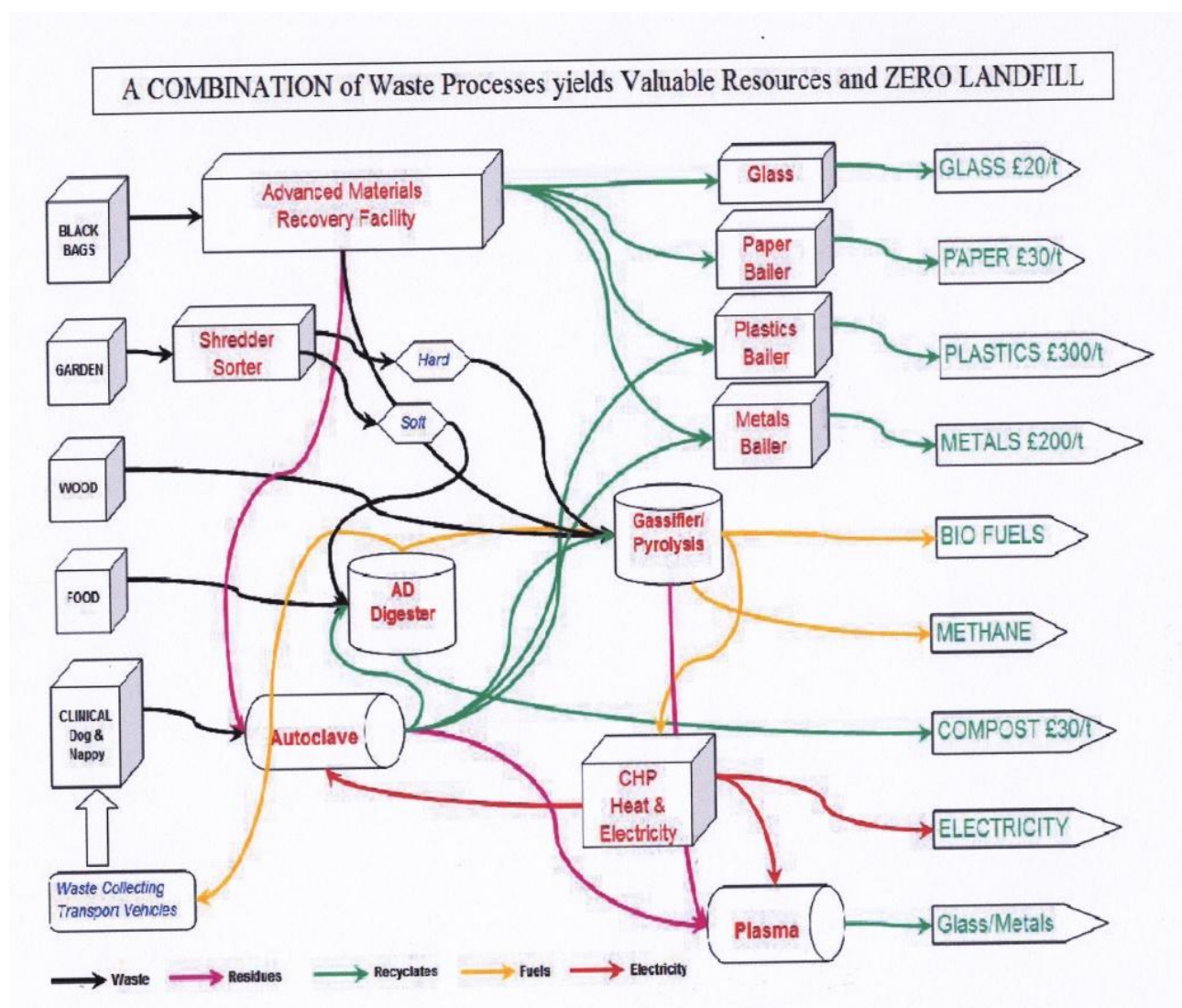
Energy from Waste (EfW). It is clear that we should make the very most of the energy produced by any of these processes as part of our national energy mix. However, in the UK the almost total lack of “Heat Grids” for housing or industry makes it very difficult to site large incineration plants effectively. The Incinerator in Plymouth Dockyard is a rare example where the Dockyard can provide a Heat Grid to take off the surplus heat. For the rest, the heat from incineration can be used to create steam for steam turbines to generate electricity. However, these are much less efficient than gas turbines that can be fed from the more modern processes.

Summary. Where does this leave us in CPRE and how can we best contribute to a more sensible approach to waste management? For most of us domestic waste recycling and processing is as close to the industry as we are likely to come. You can read a [“Layman’s Guide to Domestic Waste Recycling and Processing” here.](#) Beyond this more familiar domestic routine, there is a complex interaction between businesses of every sort, some producing very toxic materials and others, like the construction industry, involving huge quantities of demolition and similar waste, much of it having less residual commercial value, destined eventually for landfill.

CPRE can help create a more sensible approach to waste management in many ways:

- **Support the drive for recycling at both District and County Level.** Many Local Authorities are strapped for cash and see local Waste Recycling Centres as expensive commitments where savings can be made. We should join with other like-minded groups in pushing, not just for their survival, but for an increase in “Local Facilities” where the general public and local industry can recycle materials at the lowest possible cost. The “Proximity Principle” demands we do better.
- **Support the building of “Advanced Materials Recovery Facilities” (MRFs).** These facilities separate mixed waste into separate product streams which can then be fed to the most efficient treatment centres. These are expensive facilities but prepare soft organic waste for Anaerobic Digestion and solid organic waste for treatment in modern Gasification, Pyrolysis and Plasma treatment facilities.

- **Join with others to lobby for** less wasteful packaging, a drive towards more efficient and effective technologies and above all for Governments of all sorts to adhere to the “Proximity Principle”, thus reducing the number of “Waste Miles” as large numbers of huge lorries truck waste to outdated, centralised incinerators.
- **“Localism” should mean what it says.** We should press at every opportunity for a more “distributed approach” to Waste Management, by pushing for small modular modern facilities for processing waste that can be part of small industrial estates and serve the communities and industries around them. If these facilities can deliver Zero Landfill, they will at a stroke also deliver less waste miles, local employment opportunities and make recycling an attractive proposition for the ordinary citizen. In short a “Triple Whammy” in waste terms.
- **There is money in Waste and the ordinary citizen should be part of it.** The diagram below sums up the opportunities that are there to be had.



Waste Management is not everyone's cup of tea but is hugely important to all of us. Unless we can reduce the amount we dump in landfill, we will all pay for it through our Council Taxes. Unless we can persuade the industry to go for the technologies that are now coming on stream we will not escape the construction of ever

larger incinerators that blight communities and demand intense transport systems to deliver waste over huge distances. This is an area where many Environmental Groups have almost identical aims and ambitions. We should combine where we can to put pressure on Central but particularly on Local Governments, who control the key planning decisions, to hang in there with the “Proximity Principle” and so force change for the better.

Even those living in the worst possible conditions and with almost no influence over how their lives are lived can make something out of the rubbish that surrounds them. We too can do better [Be inspired by their enthusiasm.](#)

Robin Hogg. 25th September 2013.