

3.0 European Union Directives

3.1 The Landfill Directive

3.1.1 The Landfill Directive (ED/1999/31/EC) came into force on 16th July 2001, and is a strategic plan to reduce the amount of waste going to landfill. Its main objective is to prevent or reduce as far as possible the negative effects of landfilling waste on the environment and human health. It will have a significant impact on waste management within the UK, particularly the limits which have been set on the amount of biodegradable municipal waste allowed to be landfilled in the future.

Key requirements

3.1.2 The Landfill Directive requires Member States to undertake a number of changes to current landfill practice, the key ones being:-

- Classification of all landfills as either hazardous, non-hazardous or inert by 2002.
- A ban on co-disposal of hazardous and non-hazardous wastes.
- A ban on certain types of waste currently going to landfill including liquid wastes, infectious clinical wastes and certain types of hazardous wastes (e.g. explosive or highly flammable) and tyres (whole tyres by 2003 and shredded tyres by 2006).
- The requirement to treat most wastes prior to landfilling by 2004.
- Targets for the reduction of biodegradable municipal waste that can be landfilled.
- More stringent technical standards for leachate and gas management, site security, monitoring, reporting and closure of sites.

Treatment of waste prior to landfill

3.1.3 Article 4 of the Landfill Directive states that all waste is to be treated prior to being landfilled, for instance to reduce its hazardousness or volume. This is likely to come into effect for hazardous waste by 2004, and no later than 2007 for non-hazardous waste. Consultation with the industry has been undertaken but the results of this have yet to be published. However it is anticipated that municipal solid waste will be deemed to have been treated if it has formed part of a recycling initiative. Further details of exactly what this means have yet to be issued, but once this is available it will be incorporated into the Strategy.



Targets for the reduction of biodegradable municipal waste

3.1.4 In order to reduce the amount of biodegradable municipal waste going to landfill, the following targets have been set. These assume that the Government uses the agreed 4 year derogations as they propose in Waste Strategy 2000.

- By 2010 to reduce the amount of biodegradable municipal waste landfilled to 75% of that produced in 1995.
- By 2013 to reduce the amount of biodegradable municipal waste landfilled to 50% of that produced in 1995.
- By 2020 to reduce the amount of biodegradable municipal waste landfilled to 35% of that produced in 1995.

3.1.5 The Environment Agency has estimated that the biodegradable content of municipal waste is 68%. Using this assumption and the forecast growth rates given in Table 4, estimated tonnages for each District Council area required to be diverted from landfill in 2010 and 2020 in order to meet the targets are given in Table 13. Whilst recycling and composting will help achieve these diversion targets, they will not be sufficient in themselves unless they far exceed their own targets that have been set. Similarly if waste growth rates exceed those forecasted then more waste will need to be diverted from landfill. Hence reduction in the rate of waste growth is also another important driver in meeting the Landfill Directive targets.

Waste and Emissions Trading Act and Landfill Allowance Trading Scheme

3.1.6 With regard to the targets above, the government have decided to meet the UK obligations by implementing the Waste and Emissions Trading Act. It sets up a framework requiring Local Authorities to reduce the amount of biodegradable waste they send to landfill through a tradable permit scheme (the Landfill Allowance Trading Scheme). The Scheme was consulted upon in October 2003 and the full Scheme details have now been published.

The Act is designed to give teeth to the Landfill Directive by setting absolute ceilings on the amount of biodegradable municipal waste that Waste Disposal Authorities can send to landfill using a Permit System to be monitored by the Environment Agency.

Each country of the UK will be set Biodegradable Municipal Waste (BMW) landfill targets under clauses one and two of the Waste and Emissions Trading Act. The Landfill Allowance Trading Scheme in England will have two functions:

Landfill allowances will be allocated as permits to each WDA at a level that will enable England to meet its targets under the Landfill Directive

The trading mechanism will allow these targets to be met in the most cost effective manner through the trading, banking and borrowing of allowances.

3.1.7 Each WDA will be able to determine how to use its allocation of allowances in the most effective way for them. They will be able to save unused allowances for use in later years (banking) or use a proportion of their future allocations in advance (borrowing). This will allow individual WDAs to use their allowances in accordance with their investment strategy. It will not however, be permissible to bank or borrow permits to achieve the diversions in the target years of 2010, 2013 and 2020. Each WDA will also have an incentive to trade allowances with other WDAs depending on the relative costs to that WDA of diverting waste from landfill. Trading will not be compulsory – a WDA could choose to landfill inline with its allowances without trading. The advantage of trading is that it overcomes the fact that different WDAs will face different diversion costs depending on their particular circumstances.

Failure to meet the targets

3.1.8 Whilst the Landfill Directive does not seek compliance until 2010, the proposed regulations which are the subject of this consultation seek to introduce the diversion of BMW from the landfill in a phased way starting in 2005/06. Furthermore, significant fines of £150/t are to be levied on those WDAs who exceed their permit allocation (supplemented where they can by purchasing permits from those WDAs in a position to sell them).

It is the County Council's intention as WDA to stay within the provisions of the WET Act.

Waste Strategy Policy Statement 17 (WSPS17)

The Local Authorities will ensure that the requirements of the Landfill Directive are met.

The Local Authorities will work together to achieve the targets set out for the reduction of biodegradable municipal waste being sent to landfill in 2010, 2013 and 2020. This will be achieved by promoting waste reduction, meeting or exceeding the Strategy recycling and composting targets, and either some form of waste to energy facilities or mechanical - biological treatment.

3.2 Waste Electrical and Electronic Equipment (WEEE) Directive

3.2.1 A broad range of goods and appliances are classified as electrical and electronic equipment. These include large and small household appliances, IT equipment, radio & audio equipment, electrical tools and telecommunication equipment. It is estimated that the volume of waste electrical and electronic equipment (WEEE) is growing between 3 - 5% per annum, of which approximately 49% is currently recycled.

3.2.2 In October 2000 the European Commission agreed proposals for the WEEE and the Restriction of Hazardous Substances (RoHS) Directives and the UK government arranged for the UK transposition of the Directives in August 2004. Consultation responses are currently being considered.

The WEEE Directive aims to:-

- Promote re-use, recycling and other forms of recovery of electrical and electronic waste in order to reduce the quantity of such waste to be eliminated
- Improve the environmental performance of all those involved in the life cycle of electrical and electronic equipment.

Outline of the WEEE Directive

- The proposal will apply to a wide range of electrical and electronic equipment including household appliances, IT and telecommunication equipment, consumer equipment, lighting equipment, toys, tools, medical equipment, monitoring and control instruments and automatic dispensers

Table 13 - Table showing impact of Landfill Directive targets on waste tonnages that can be landfilled split between each Waste Collection Authority area

LOCAL AUTHORITY	2009/10			2012/13			2019/20		
	TOTAL	40% rec/comp to landfill	diverted from l/fill	TOTAL	46% rec/comp to landfill	diverted from l/fill	TOTAL	60% rec/comp to landfill	diverted from l/fill
East Devon	78,200	31,300	7,300	80,600	37,100	14,500	86,400	51,800	15,000
Exeter City	70,900	28,300	6,600	73,000	33,600	13,100	78,300	47,000	13,600
Mid Devon	45,200	18,100	4,200	46,600	21,400	8,400	50,000	30,000	8,700
North Devon	66,700	26,700	6,200	68,700	31,600	12,400	73,600	44,200	12,800
South Hams	55,500	22,200	5,200	57,200	26,300	10,300	61,300	36,800	10,600
Teignbridge	76,400	30,500	7,100	78,700	36,200	14,100	84,300	50,600	14,700
Torridge	32,500	13,000	3,000	33,400	15,400	6,000	35,900	21,500	6,200
West Devon	29,900	12,000	2,800	30,800	14,200	5,500	33,100	19,800	5,700
TOTAL	455,300	182,100	42,400	469,000	215,800	84,300	502,900	301,700	87,300

NOTES:

Using the Environment Agency LATS estimator tool to determine the permit allocation for Devon:

In 2009/10 Devon will be allowed to landfill 156,679 tonnes of biodegradable MSW

In 2012/13 Devon will be allowed to landfill 104,359 tonnes of biodegradable MSW

In 2019/20 Devon will be allowed to landfill 73,024 tonnes of biodegradable MSW

It is assumed that the biodegradable content of MSW is 68% and that 60% of material recycled/composted is biodegradable

It is assumed that each District Council will produce the same proportion of waste in Devon in the future as in 2003/04 and that recycling / composting targets will be met

- Member states must set up a collection system whereby householders can return their WEEE free of charge with producers being responsible for all the costs associated with this. Producers will be responsible for all WEEE placed on the market after 13th August 2005 but may be able to recover some of their costs for non-household WEEE prior to his date.
- A target of 4kg per household of WEEE must be separately collected by December 2006 with further targets being set for 2008.
- Householders should be discouraged from disposing of their WEEE through mixed municipal waste collections.

The RoHS Directive aims to:

- Protect human health and the environment by restricting the use of certain hazardous substances in new equipment
- Complement the WEEE Directive

From 1st July 2006 this Directive bans the use of certain hazardous substances including lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers within new electrical and electronic equipment. There are some exemptions including the use of mercury in certain types of fluorescent lamps.

- 3.2.3. The Government wants to encourage increased separate collection of WEEE and wishes to make use of existing Recycling Centres, but does not require a separate kerbside collection of WEEE, nor every Recycling Centre to offer a separate WEEE collection point. It wants to encourage local authorities to upgrade existing sites where possible and greater segregation of WEEE. It does not expect WEEE to impose an additional financial burden and hence is looking to set up a fund to which local authorities may apply to improve their sites. It anticipates that funding should be provided by the retailer take-back compliance scheme. All Local Authorities would have access to the clearing house which would remove WEEE on demand free of charge within a set timescale (probably 48 hours). Local Authorities will still be able to pass equipment free of charge to charities and re-use community organisations or sell equipment as they do at Recycling Centres. Any organisation receiving such equipment will need to report on tonnages collected and re-used achieved.)
- 3.2.4 Government does not feel that it needs to introduce legislative requirements for products to be more eco-friendly, and is looking to work with manufacturers through a business forum to disseminate best practice. It considers that work which is currently being undertaken in Europe on the whole concept of resource management will influence how products are designed in the future.
- 3.2.5 The County Council will consider the implications of the Directive when further details become available.

In the meantime it is considered that 12 Recycling Centres could accept WEEE without additional works and within the current contractual cost. There may however be licence and planning considerations and the need to record commercial and household WEEE separately.

Waste Strategy Policy Statement 18 (WSPS18)

The Local Authorities will work together to implement the requirements of the WEEE Directive. In responding to the consultation process the local authorities will request that the Government ensures that no extra cost burden will fall to local authorities.

3.3. End of Life Vehicles (ELVs) Directive

The End of Life Vehicles Directive was incorporated into English Law through the End of Life Vehicles Regulations 2003 and the End of Life Vehicles (Produce Responsibility) Regulations 2004. The first of these regulations imposes strict standards on facilities disposing of vehicles to ensure potentially polluting substances are not permitted to leak into the ground or water courses and that they are removed from the vehicles prior to treatment. While improving environmental protection this legislation is likely to result in a reduction in the numbers of facilities able to accept vehicles and an increase in the price charged for accepting the vehicles.

The End of Life Vehicles (Produce Responsibility) Regulations 2004 require that 85% of the weight of vehicles is recovered by 2006 and 95% by 2015. The new regulations will require that the manufacturers of vehicles make arrangements for free disposal of end of life vehicles. This is expected to take effect from 2007. In the interim period the responsibility to finance the disposal of vehicles will remain with the last owners or, where a vehicle is abandoned, with the local authority.

The Local Authorities are presently working with the police on Project Onager, through which information is shared between Authorities to ensure that abandoned vehicles are removed quickly. This helps to prevent crime and speed up the process of trying to find the last registered keeper. Currently this proves extremely difficult as the person shown on the DVLA records often claim to have sold the vehicle to an individual who has not registered their ownership. The government is looking at proposals to make the registered keeper fiscally responsible for the vehicle unless they can prove that they have notified the DVLA of change of ownership. This would make the process of identifying the last registered keeper much easier hence making recovery of costs more certain.

Waste Strategy Policy Statement 19 (WSPS19)

The Local Authorities will work together to discourage the abandonment of vehicles and to ensure that vehicles once abandoned are treated in full compliance with the end of life vehicles regulations while still providing best value

The Local Authorities will make representations to request that the government ensures that no extra cost burden will fall to Local Authorities

- Proposes minimum recycling efficiencies, which focuses on the output of the recycling process.
- The producers would be responsible for costs related to the collection, treatment and recycling however for spent portable batteries, the collection costs could be shared with the national, regional or local authorities.
- Producers are allowed to use a "visible fee" on new battery sales for a maximum of four years after implementation.

The Commission estimates that the additional annual costs of the proposed collection and recycling rates per household will be between EUR1 - 2.

The strategy will be revised when further information on how the UK intends to implement the Batteries Directive becomes available.

3.4 Forthcoming European Directives

The Batteries Directive

- 3.4.1 EC Directive 91/157/EEC already requires the separate collection of certain batteries including vehicle lead acid batteries, of which around 90% are currently recycled. In Devon these can currently be deposited by householders at County Council Recycling Centres for recycling. However, the European Commission has adopted a Proposal for a new Batteries Directive, which will require the collection and recycling of all batteries placed on the EU market. No date has yet been set for implementation and it is likely to be after 2010 at the earliest.

The Proposal aims to: -

- Establish a closed-loop system for all batteries to avoid their incineration or disposal in landfill when they reach the end of their lives.
- Sets minimum rules for the functioning of national collection and recycling schemes in order to enhance the proper functioning of the internal market and guarantee a level playing field for all the actors involved in the battery life-cycle.

In order to prevent batteries from entering the waste stream, the proposed Directive puts forward a number of different measures and targets:

- Ban on landfilling/incineration of automotive and industrial batteries
- Set collection targets for portable batteries, as a ban would be difficult to enforce due to their smaller size and wider range of users.
- Member States will be required to set up national collection systems to allow consumers to return spent portable batteries free of charge. The proposed target is 160 grams per inhabitant per year. (Roughly to four - five portable batteries per person per year).
- Portable nickel-cadmium batteries are of special concern due to the cadmium they contain and it is proposed to set an additional collection target of 80% of all portable nickel-cadmium batteries generated annually in each Member State.

Waste Strategy Policy Statement 20 (WSPS20)

The Local Authorities and Environment Agency will work together to assess the implications of the forthcoming Batteries Directive as well as all future waste related Directives and implement them in Devon as required in accordance with Government policy and guidance.

4.0 Other Wastes

4.1 Other Municipal Waste

There are a number of other municipal wastes not dealt with here in detail. These are beach cleansing waste, litter, road sweepings, commercial waste collected by the district councils, and parks and gardens waste. These are dealt with in the Recycling Plans of the District Councils.

4.2 Hazardous wastes

4.2.1 'Hazardous waste' is waste that is so dangerous that its management must be subject to special controls. These are set out in the Hazardous Waste Directive (91/689/EC) and have been implemented into UK law by the Special Waste Regulations 1996. There have recently been changes to classify additional materials as hazardous and the Special Waste Regulations are being revised to the Hazardous Waste Regulations to incorporate these additional materials. Additional materials which will be classified as 'hazardous' include single use cameras with batteries, ash containing dangerous substances, end-of-life vehicles, equipment containing CFC and HCFCs (i.e. fridges & freezers), television and computer monitors, fluorescent lighting. The amended regulations are expected to come into force in 2005/06.

4.2.2 Currently hazardous waste such as small amounts of chemicals and some types of paints are accepted from members of the public at the major County Council Recycling Centres, providing they are in a sealed labelled container. Small amounts of asbestos are also accepted at nominated Recycling Centres around the County, again under controlled conditions. District Councils also have a duty to collect fly tipped waste which may include hazardous wastes. The costs of collection, treatment and disposal of these type of wastes are likely to increase significantly, particularly as the number of landfill sites accepting hazardous waste under the requirements of the Landfill Directive will decrease. Hence there may be a need to transport this waste out of Devon for treatment and disposal should there be no sites in Devon licensed to accept this type of waste.

Waste Strategy Policy Statement 21 (WSPS21)

The Local Authorities will need to implement any measures necessary to comply with the Hazardous Waste Regulations.

4.3 Clinical wastes

4.3.1 The District Councils will collect clinical waste direct from householders undergoing treatment if requested to do so by the local health authority. Clinical waste falls into five categories. Grade A includes human tissue, blood and animal carcasses, Grade B includes discarded syringes and needles etc, Grade C includes microbiological cultures, Grade D includes drugs and Grade E includes items used to dispose of urine, faeces and dressings, as well as dog faeces.

4.3.2 At present the Local Authorities bear the cost for household clinical waste collection and disposal. However there may be scope to recharge the relevant health authorities for this service and this is being investigated further.

4.3.3 In 2003/04 over 600 tonnes of clinical waste was collected and disposed of in Devon. Currently dog faeces and some low grade (Grade E) clinical waste are landfilled, whereas higher grades are sent out of the County for thermal treatment or incineration.

4.3.4 From late 2004 all clinical waste collected by the District Councils will be sent for thermal treatment or incineration, apart from dog faeces which will still be sent to landfill.

4.3.5 The Local Authorities and Environment Agency will encourage increasing the use of re-useable items where sterilisation can be undertaken effectively but recognise the limitations of reducing, re-using or recycling clinical waste.

Waste Strategy Policy Statement 22 (WSPS22)

All clinical waste (apart from dog faeces) will be sent for thermal treatment or incineration from Summer 2004.

4.4 Fly tipped waste

- 4.4.1 Under the Environment Protection Act 1990, Local Authorities along with the Environment Agency have powers to remove fly-tipped waste in certain circumstances, that is any form of waste that has been illegally deposited. There is an agreed protocol which determines which agency should respond to any given incident, with the District Councils generally collecting non-hazardous fly-tipped waste. This tends to occur in the countryside and has increased significantly since the introduction of the Landfill Tax.
- 4.4.2 In 2002/03 the amount of waste recorded as fly tipped in Devon was nearly 100 tonnes but the actual figure is much higher than this as some fly tipped waste is picked up as part of a normal dustbin collection and hence is not recorded separately. There are concerns that this figure will rise significantly as the cost of waste disposal increases.

Waste Strategy Policy Statement 23 (WSPS23)

The Local Authorities will work with the Environment Agency to reduce the amount of fly tipped waste by the publicising of the environmental damage and subsequent costs of clearance of fly tipped waste, as well as improved enforcement and subsequent numbers of prosecutions.

4.5 Trade Waste

The priority for Devon's local authorities is dealing with domestic waste. However, many requests are received with respect to how to deal with trade (commercial and industrial) waste and particularly how to recycle it. In the interests of global sustainability it is important that all types of waste regardless of their source are minimised, re-used, recycled or have energy recovered from their processing. There are some examples of local authorities contributing to dealing with trade waste, for example;

- Trade cardboard and garden waste are accepted under a pre-paid ticket system at selected recycling centres
- Exeter City Council have produced an Industrial and Commercial Waste Minimisation and recycling Directory
- Devon County Council, Exeter City Council and the Environment Agency are supporting an Envision project to enable Marsh Barton Industrial Estate businesses to minimise their waste
- South Hams and West Devon Councils are involved in "greening" businesses as part of the Rural Regeneration programme and Sustainable Tourism initiatives.

The local authorities and the Environment Agency will continue to develop links with businesses to further sustainable waste and resource management.

4.6 Sustainable Tourism

Approximately 32 million tourist nights are spent in Devon each year, equivalent to nearly 8 million visitors, with a total spend of £1,300M. However, this yearly influx of visitors brings with it a considerable potential to produce an extra waste management burden on the county.

Devon's tourism Action Plan includes a policy to Encourage Good Environmental Practice with a priority to encourage waste minimisation and examine the opportunities to provide appropriate recycling facilities for small tourism businesses. The local authorities and the Environment Agency will endeavour to engage the tourism industry and tourists themselves in more sustainable waste management practices.

5.0 Transportation of Municipal Waste

- 5.1 All municipal waste in Devon is currently collected and transported using road transport. This includes those wastes collected for recycling as well as the residue sent for disposal. Both recycling and residue waste is bulked up at sites within the County to minimise both the environmental and economic costs of transport.
- 5.2 There is scope to use refuse vehicles fuelled either by LPG or even non-fossil fuels and this should be investigated further. Similarly there is scope to use rail transport for some wastes and again this needs to be given further consideration.

Waste Strategy Policy Statement 24 (WSPS24)

The Local Authorities will work together with the Environment Agency and the waste management industry to investigate alternative forms of transporting waste both within and outside of the County, taking account of both the environmental and economic factors.

6.0 Best Practicable Environmental Option (BPEO)

6.1 This is defined in Waste Strategy 2000 as ‘the outcome of a systematic and consultative decision-making procedure which emphasises the protection and conservation of the environment across land, water and air. The BPEO procedure establishes, for a given set of objectives, the option that provides the most benefits or the least damage to the environment as a whole, at acceptable cost, in the long term as well as in the short term.’

6.2 Currently there is no single commonly accepted method for assessing the BPEO. However the Environment Agency has developed a Life Cycle Assessment software tool known as ‘Wisard’ (Waste Integrated Systems Assessment for Recovery & Disposal). This software allows users to compare the complex environmental effects of different waste management options using impartial national data.

WISARD takes into account the impacts of each residual waste management scenario on:

- Climate change
- Acidification
- Ground level ozone formation
- Water eutrophication [the accumulation of nitrogenous or organic compounds (from compounds such as leachate) in lakes and rivers leading to the growth of algae which cause oxygen depletion and therefore loss/change of species]
- Depletion of non-renewable resources and
- Human toxicity.

In addition a range of local factors have been taken into account including:

- Land take
- The extent of odour, dust, noise, litter and vermin problems

- The extent of water pollution
- Visual and landscape impacts and
- Collection transport distance.

To analyse socio-economic and operational objectives AEA Technology’s WASTEFLOW cost and performance model was used. This uses the discounted cash flow technique to compare different scenarios on a like for like basis. The objectives considered were:

Socio-economic

- To provide local employment opportunities
- To provide opportunities for public involvement/education
- To minimise costs of waste management

Operational

- To ensure reliability of delivery
- To conform with waste policy

The impacts caused by each of the scenarios are measured, weighted and collected for each set of criteria (environmental, socio-economic and operational) giving a total score out of 1 and a resultant ranking, where 1 is the “best practicable environmental option”.

6.3 The WDA have engaged independent consultants AEA Technology to assess the BPEO using current best practice guidelines.

6.4 Preliminary indications are that the BPEO for residual waste in Devon is energy from waste (gasification and pyrolysis) with energy from waste (incineration) the next best practicable environmental option. Table 14 shows the results assuming a 60% recycling rate in 2020.

Table 14

Objectives	Landfill	EfW(I)	EfW (P/G)	MBT/AD	MBT/RDF (L)	MBT/RDF (I)
Environmental	0.30	0.46	0.48	0.24	0.13	0.41
Socio-economic	0.10	0.17	0.17	0.10	0.08	0.17
Operational	0.08	0.05	0.11	0.10	0.08	0.08
Total	0.48	0.68	0.76	0.44	0.29	0.66
Rank	4	2	1	5	6	3

Key

EfW(I)	Energy from Waste Incineration
EfW(P/G)	Energy from Waste Pyrolysis or gasification
MBT/AD	Mechanical Biological Treatment with Anaerobic Digestion

MBT/RDF(L)	Mechanical Biological Treatment with no market for the resulting Refuse Derived Fuel which is landfilled
MBT/RDF(I)	Mechanical Biological Treatment with the resulting Refuse Derived Fuel incinerated for energy recovery

7.0 Costs

7.1 In 2003/04 the total cost of municipal waste management in Devon was approximately £32 million, of which the County Council spent £20 million on recycling and disposal with the District Councils spending the rest on waste collection and recycling.

7.2 As part of the Best Value Review of the County Council Waste Management service, consultants AEA Technology Ltd were employed to cost meeting the statutory recycling targets and the Landfill Directive diversion targets through thermal recovery processes.

7.3 The increase in costs for meeting the 2005/06 Best Value statutory recycling and composting targets is estimated to be 45%, with the County Council expected to have an increase in costs of 30% and the District Councils to see a cost increase of some 70%.

7.4 By 2020 it is estimated that costs will have risen to in the region of £52 million per annum to manage the municipal waste in Devon. This figure assumes that all recovery and diversion targets have been met.

7.5 AEA Technology Ltd have analysed which residual waste treatment options can be employed to meet the recovery and biodegradable waste (BMW) targets and compared the relative costs. The analysis assumes the growth rates in Table 4 and that the targets for recycling and composting in WSPS 9 are met. The options compared are as follows:

- landfill (4 sites, 2 extensions and 2 existing transfer stations);
- energy from waste (incineration) (2 facilities and 4 transfer stations);

- energy from waste (pyrolysis or gasification) (4 facilities and 4 transfer stations);
- mechanical biological treatment (MBT) with Anaerobic Digestion (4 facilities and 3 transfer stations);
- and MBT with and without using the processed residue for energy as refuse derived fuel (RDF) (4 facilities and 4 transfer stations).

The conclusions are as follows and are also detailed in tabular form below.

- Recycling and landfill alone will not meet the targets
- All the energy from waste options meet the targets
- The MBT(AD) option just meets the targets
- The MBT/RDF meets the targets only if the residue can be used for fuel
- The cheapest scenario is energy from waste (incineration) with pyrolysis/gasification next cheapest. The MBT options are more expensive.

The New Waste Disposal Contract

7.6 The current waste disposal contract is with Viridor Ltd. The new contract will be tendered in 2005 with the contract starting on 1st April 2010. The new contract will be evaluated on the content of this strategy.

7.7 The new contract will be a target based contract including specified recovery rates as outlined in this Strategy. The contractor will be expected to provide all the infrastructure required to meet the recovery targets, and include within his tender exactly how the targets will be achieved, details of which will form part of the tender analysis.

Table 15 - Costs of dealing with residual waste

	Landfill	EfW(I)	EfW (P/G)	MBT/AD	MBT/RDF (L)	MBT/RDF (I)
Meets 2010 Recovery target	x	✓	✓	✓	✓	✓
Meets 2015 Recovery target	x	✓	✓	✓	x	✓
Meets 2010 BMW target	x	✓	✓	✓	✓	✓
Meets 2013 BMW target	x	✓	✓	✓	✓	✓
Meets 2020 BMW target	x	✓	✓	✓	x	✓
Cost £m from 2010 to 2020	£206m	£183m	£188m	£234m	£274m	£204m

Key		MBT/RDF(L)	MBT/RDF(I)	BMW
EfW(I)	Energy from Waste Incineration	MBT/RDF(L)	Mechanical Biological Treatment with no market for the resulting Refuse Derived Fuel which is landfilled	Biodegradable Municipal Waste
EfW(P/G)	Energy from Waste Pyrolysis or gasification	MBT/RDF(I)	Mechanical Biological Treatment with the resulting Refuse Derived Fuel incinerated for energy recovery	
MBT/AD	Mechanical Biological Treatment with Anaerobic Digestion			

8.0 Local Authorities & Environment Agency - development of internal waste reduction & recycling policies

- 8.1 In 1996 the County Council employed Global Action Plan, an environmental charity, to develop the initiative named 'Action on Waste'. The outcome of this was that the total amount of waste leaving County Hall reduced by 37%. There is a twin bin scheme in operation with white paper put into the green bin taken for recycling. There are also paper and glass recycling banks on the County Hall campus, can banks and a cardboard skip and composting facility. Staff are encouraged to minimise their waste with electronic communications replacing paper memos. Duplex printers are being installed with staff being encouraged to re-use one sided paper for note and message writing. A number of 'environmental promoters' are currently being trained to encourage sustainable practices throughout all the Council offices, including promoting 'Action on waste'. A policy to buy recycled paper for County Council offices across the county has been implemented. However there is scope to buy more recycled products and this needs to be investigated further, such that recycled products are bought where practicable.
- 8.2 The Environment Agency obtained ISO14001 recently and monitors its internal environmental performance. Each Region has an Environmental Management Officer. Targets are set for waste, water, transport, materials used and procurement. At the Devon office at Exminster there are paper and card recycling schemes, waste minimisation initiatives, cans and plastics recycling and a composting facility on site. Business services run regular audits of the waste streams and measure performance. A 'green circle' of staff regularly meet to suggest improvements. Awareness campaigns are run regularly and there are suggestion boxes.
- 8.3 South Hams District Council have an Environmental Policy and have signed up to an agreement to reduce resource consumption in the Council. To this end there is a Waste Minimisation Team who organise recycling of cans, fluorescent light tubes, paper, bottles and jars. They have also implemented water and energy saving initiatives. There has been a 40% reduction in water consumption.
- 8.4 North Devon District Council have an Environmental Policy which states that they will introduce an Environmental Management System. Currently the Council recycles paper, cardboard and cans, toner and printer cartridges. The parks department composts green waste which is used as a soil improver.
- 8.5 Torbay Council have an Agenda 21 Plan. Currently the Council recycles paper and is trialling a co-mingled collection of plastic bottles, cans and card.
- 8.6 Exeter City Council have a draft Internal Waste Policy which promotes the purchasing of recycled products. The Council recycles office paper, newspapers, magazines, cardboard, printer cartridges, fluorescent light bulbs, and mobile phones. Organic waste is composted in wormeries and the grounds maintenance section composts waste arising from parks and open spaces. The Council also has a waste minimisation strategy.
- 8.7 West Devon Borough Council composts its parks and gardens waste which is made available to allotment holders. There is a policy in place to purchase recycled paper, recycling of office paper, plans for a green purchasing policy, and the Council has signed up to the Peat Charter.

Waste Strategy Policy Statement 25 (WSPS25)

The Local Authorities and the Environment Agency will take steps to ensure that waste produced by their own organisations is kept to a minimum and recycling opportunities are maximised. Similarly they will seek to apply 'green' procurement strategies where practicable.

9.0 Waste Local Plan

- 9.1 One of the current responsibilities of the County Council as the Waste Planning Authority is to produce a Waste Local Plan. This document sets out the County Council's detailed land-use policies and proposals for waste management facilities in Devon. It aims to enable the adoption of more sustainable methods of dealing with the different types of waste produced in the County. Its policies provide a framework for a move away from the current reliance on landfill towards ways of managing waste which can recover value from it by recycling, composting and energy recovery. All planning applications for waste management facilities will be determined in accordance with the Plan unless material considerations indicate otherwise.
- 9.2 The First Deposit Version of the Devon County Waste Local Plan was published in January 2003. This Plan covers the period up to 2016. Views expressed during the consultation period in Spring 2003 will be reflected in the Redeposited Version of the plan to be published in the summer of 2005.
- 9.3 The First Deposit Draft Waste Local Plan includes the following policy :-
- 'Where the infrastructure required to serve the new development is inadequate or not in place, contributions will be sought from the developer for the provision of new waste management facilities and/or the enhancement of existing facilities. In the case of larger developments, these facilities may include Civic Amenity and Recycling Centres and Community Composting Schemes.'
- It is essential that any new development takes into consideration waste recycling facilities, either by providing facilities as part of the design or making a contribution towards larger facilities.
- 9.4 The Planning and Compulsory Purchase Bill came into force in September 2004 and introduced a new Development Plan System which will see local plans replaced by Development Plan Documents (DPDs) which will form part of the County Council's Waste Development Framework. The Waste Local Plan will be saved for a period of three years from its adoption, during which time replacement DPDs will be prepared.