

Contents

Foreword	2
What is this document	2
Who has prepared it	2
Consultation	3
What this does not cover	3
Period covered by Strategy	4
Executive summary	5
General principles	7
Zero Waste	7
Proximity principle	7
Self-sufficiency	8
Best Practical Environment Option (BPEO)	9
Sustainable development	9
Green procurement	10
Market development	10
Other documents	12
Supplementary reports	12
Other aspects	13
Why we need to change	15
How has this been achieved	16
Waste Strategy 2000	16
Best Value Performance Standards	16
Landfill directive	17
Recovery	19
Summary	19
Reduction and Reuse	21
Role of householders	22
Dry recyclables	22
Organic materials	23
Bring banks	25
Household Recycling Centres	26
Residual waste	28
Mechanical Biological Treatment (MBT)	29
Gasification or Pyrolysis	33
Landfill	35
Particular waste streams	37

Foreword

What is this document?

Waste management in Britain will be transformed over the next 20 years and, if the transformation is to be well managed, there will need to be a well thought out local strategy in place to guide all important decisions and commitments.

In March 2001, the Government issued guidance to local authorities on how to prepare a municipal waste management strategy and announced its intention to place a statutory duty on local authorities to produce them. This document, which was already under consideration when the guidance was issued, will nevertheless be offered as a response to that requirement.

Municipal waste is taken to be waste generated by the householder together with other waste that local authorities become responsible for such as fly tipping, beach cleansing, street cleaning, and commercial waste where the producer has asked the local authority to collect it

Who has prepared it?

In Dorset, as in other shire counties, the management of waste is not the responsibility of just one organisation. Within Dorset, there are 7 local authorities and 1 external agency with statutory responsibilities for the collection, treatment, disposal, planning and regulation of municipal waste. These organisations are listed in below.

Who has prepared this Strategy?

The seven local authorities responsible for managing municipal waste in Dorset are:

- Christchurch Borough Council
- Dorset County Council
- East Dorset District Council
- North Dorset District Council
- Purbeck District Council
- West Dorset District Council
- Weymouth and Portland Borough Council

They have prepared this strategy with the valued assistance of:

- The Environment Agency

Consultation

We believe that any such strategy has to be produced with the views and wishes of the householder in mind since the householder has such a crucial role to play in the delivery of new standards in waste management.

Similarly, we need to seek the views of all others that have a stake in this process including the waste management industry who will be expected to provide the expertise, the technologies and much of the investment required to deliver change.

This strategy has therefore been prepared against a background of almost continuous consultation over the last few years. The details of this consultation process are provided in a separate document – see later.

What this does not cover

Firstly, it does not consider the location of any waste management facilities. This will be covered by a new Waste Local Plan, which is now being prepared. At this stage, the need is for a strategy that says what is wanted. The next stage is to produce a plan showing where the facilities can be built.

Secondly, it does not cover industrial and commercial wastes. The collection, treatment and disposal of these are generally not the responsibility of the local authorities that have prepared this document. This does not mean that these wastes can be ignored but the priority at this stage is to develop a strategy for the wastes that we do have a statutory responsibility for. The Waste Local Plan will, however, include provision for these wastes.

The District and Borough Councils are responsible for the collection of waste from the householder, as well as dealing with street cleaning, fly-tipping and abandoned vehicles. They also have a duty to collect commercial waste when requested to do so.

There is only one local authority that is responsible for disposing of waste and that is the County Council.

All of these councils are also active in other aspects of waste management such as waste reduction, recycling and composting. This is explained in more detail later in the document.

In addition, waste management is a highly regulated activity, and this is achieved through controls both on the planning consents given to facilities and through a system of licensing that covers how those facilities can operate.

When anyone wants to build a waste management facility, they will require a planning consent to allow them to use the land for this purpose. The organisation generally responsible for determining this is Dorset County Council. There are, however, limited circumstances where the District and Borough councils can determine planning applications for waste management facilities.

Before a facility can open, it will generally require a waste management licence or a Pollution Prevention and Control (PPC) Permit, and these are granted and then monitored by the Environment Agency (EA). The EA does have a wider role though, which includes the provision of information and impartial advice on waste and waste management issues, and it is in fulfilling that role that the EA's membership of this team has been so vital.

Finally, this document does not cover the waste collected by neighbouring local authorities including those in Poole and Bournemouth. Those local authorities are similarly preparing municipal waste management strategies and we will liaise with them to explore possible areas for combined working.

Period covered by Strategy

This Strategy points the way for developments up to 2020 and some of the facilities that it could lead to will still be operational in 2035. However, the last major facility proposed could be built in 2018 and would take 15 years to write off financially. We therefore believe that the natural life of this strategy is 30 years, that is to say it will cover the period from 2003 to 2033.

Unfortunately, there can be little certainty about anything in waste management as standards and technologies are changing all the time. Some parts of the strategy will be under almost continuous review, and there will inevitably be a major review whenever significant commitments and investments are being considered. Also, as a matter of process, therefore, we intend to carry out a full review every 5 years.

Policy 1

The strategy will cover the period 2003 to 2033 but will be reviewed before major investments and every 5 years as a matter of principle.

Executive summary

In UK terms, the Dorset authorities do well in waste management but we have to do better. This need partly arises from political and public pressure, but is also driven increasingly by statute.

There has been an underlying historic growth rate over the last 20 years of 4%, although the forward projections for housing in Dorset hold out the hope that the rate over the next 20 years might be more like 2.5%. At 4% the amount of waste we have to deal with doubles every 20 years. Whatever the level is, we need to find ways to tackle growth, and resources need to be made available for this purpose. Even then, it will only work as a long-term and sustained process.

We already jointly recycle or compost 27% of household waste but we are required to raise this to 40% by 2005/06. To do this, we would need to provide kerbside collection of dry recyclables (cans, glass, paper, card etc.) for 80% of the homes in Dorset, and then also provide kerbside collection of organic materials (kitchen and garden waste) for 60-80% of homes.

This means that within 10 years, most of the householders in Dorset will have 3 receptacles to separate their waste into. This requires a massive financial investment by the Dorset authorities, which needs to be matched by a massive investment of effort by the householders of Dorset if that financial investment is not to be wasted.

The Dorset authorities are amongst the highest recyclers in the UK at the moment, and yet have been set much

higher targets than most other local authorities. We believe the government has failed to recognise the costs of making such a big leap in performance from such a high starting level.

Accordingly, none of the Dorset authorities believe that sufficient funding will be available for them to be able to hit the targets that have been set either for 2003/04 or 2005/06. We do however expect to hit these prescribed rates of recycling and composting within a few years of the stated deadlines.

This means that we will need facilities for bulking up and preparing the dry recyclables prior to despatch to the reprocessors. We will also need at least one in-vessel composting plant for the organic materials to be in operation in Spring 2003, if regulatory clearance can be obtained in time.

We will need to maintain some, or even most, of the existing bring sites (i.e. the bottle banks in supermarket car parks and the like), although a flexible approach will be adopted on that.

We will also maintain the current provision of 11 Household Recycling Centres and will set up a rolling programme of development to keep them up to date. We will not be developing any additional sites unless they can be included in larger developments.

By 2010, we will need a technology to reduce the amount of bio-degradable waste going to landfill, and the technology we have chosen is Mechanical Biological Treatment – this process is explained later. This will incorporate the ability to screen out waste with a fuel value (paper, plastic

etc.) and we will then burn or otherwise treat that to generate electricity (and possibly usable heat as well). This will allow us to hit the recovery targets in Waste Strategy 2000. We may need 3 of these plants phased in up to 2020, but much will depend on how successful we – or the government and the EU – are in tackling waste growth.

The Dorset authorities believe they will hit the recovery targets contained in Waste Strategy 2000, and will hit the diversion targets required by the Landfill Directive.

As an alternative to MBT, we will also consider the emerging technologies of gasification and pyrolysis but only when they are fully proven in the UK.

Finally, we will continue to need landfill, initially for waste that is not put through an MBT plant, but in the long term, for taking the stabilised residues from the MBT plants.

General principles

Zero Waste

The concept of Zero Waste is being promoted in the UK by Greenpeace and Friends of the Earth, and is being embraced by some local authorities in the UK, including Bath and North East Somerset Council. It has also been adopted by the New Zealand government in its recent waste strategy.

Greenpeace, in its document 'How to comply with the Landfill Directive without incineration' includes a section on 'Zero Waste (or damn close)' and Friends of the Earth have published on its website a Zero Waste Charter which seeks to have organisations, groups and individuals achieving Zero Waste by 2020.

This principle does not, in fact, aim at the production of no waste at all but is more about combatting the pointless disposal of materials. It is not readily defined but the 'zerowasteamerica' website defines it as follows:

Zero Waste – the recycling of all materials back into nature or the marketplace in a manner that protects human health and the environment.

A New Zealand website – zerowaste.co.nz/ - states:

Zero Waste envisions the complete redesign of the industrial system so that we no

longer view nature as an endless supply of materials for making into products that break down within a period and are then discarded into landfills or incinerators.

Thus the philosophy includes not just waste reduction but also reuse, recycling and composting, as well as some forms of recovery, but at its heart is the notion that products should be designed in the first place to ensure that they can be reused, repaired or recycled.

The Dorset authorities embrace much that underpins Zero Waste, but are not inclined to adopt it as a formal commitment. This strategy is primarily an action plan for what we can and will do to improve the management of wastes in Dorset, and although we wholeheartedly support better product design and the extension of producer responsibility, we do not feel these are areas where we can have a direct impact. We will however support these principles wherever we can.

Proximity principle

The current Bournemouth, Poole and Dorset Structure Plan contains the following policy:

'Mineral and Waste Policy C

Facilities for the treatment, management and disposal of waste will be located as close as practicable to the source

of waste arisings, having regard to the scale, location and environmental effects of the development'

This continues to be a sound basis for locating facilities and we believe this strategy achieves that aim by the proposals for:

- A network of 5 drop-off points across Dorset for materials collected by the greatly expanded kerbside collection rounds: this maximises the amount of time the crews can spend on collection and minimises the amount of time spent on transferring the materials to bulking up or processing facilities; there is also a reduction in fuel used by, and pollution emitted from, the vehicles
- 3 MBT plants across Dorset to take residual waste for treatment and reduction in quantity prior to disposal of stabilised residues in landfill.
- Maintaining the network of 11 Household Recycling Centres
- a significant network of local bring banks

It is worth noting that in its truest sense, the proximity principle is not based on administrative boundaries. Thus, if the closest point for disposal for a particular collection round is in an adjacent county, it would make environmental sense to take the waste into that county – but see also the comments on self sufficiency that follow.

On the face of it, the Proximity Principle is very difficult to comply with in terms of facilities for reprocessing collected recyclable materials. These materials are

now disposed of in the international marketplace, and in the last few years, we have seen paper going to China, scrap metals going to Japan and glass going to Argentina all for reprocessing. This is an inevitable consequence of international trading but where we can, we will support proposals for reprocessing plants nearer to home.

Self-sufficiency

There is a understandable concern by most people that their parish or village might become the dumping ground for everyone else's waste, and this can be avoided if every area is self-sufficient in the facilities it provides. The difficulty comes in deciding on how large an area that self-sufficiency should be based on. Should it be parish, district, county or region, and the answer is that it depends on what waste needs to be dealt with. Banks for recycling glass could be provided on a parish basis but a facility for disposing of clinical waste might only be required at a regional or sub-regional level.

We believe this strategy achieves a practical level of self-sufficiency in that roughly 95% of the municipal waste we handle will be dealt with either in Dorset or in the former area of Dorset that includes Poole and Bournemouth. This includes the bulking up of dry recyclables (but not the reprocessing of them), composting of organic wastes, the treatment of residual wastes and the final disposal of stabilised residues.

Best Practicable Environmental Option (BPEO)

Planning Policy Guidance (particularly PPG10) requires an assessment of the Best Practicable Environmental Option (BPEO) to be made in order to justify planned developments. BPEO has been defined by the Royal Commission on Environmental Pollution as

'The outcome of a systematic consultative and decision making procedure which emphasises the protection and conservation of the environment across land, air and water. 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 and at a acceptable cost, in the long term as well as in the short term'.

In determining BPEO the Government expect account to be taken of the following considerations:

The Waste Hierarchy. A diagrammatic representation of the waste hierarchy is set out below.

- Reduction
- Re-Use
- Recovery through
 - Recycling/Composting
 - Energy
- Disposal

Within the Hierarchy, the Government does not expect incineration with energy recovery to be considered before opportunities for recycling and composting have been explored.

Regional Self Sufficiency.

The Government's view is that most waste should be treated or disposed of within the region in which it is produced in our case, that means the South West. Each region should provide for facilities with sufficient capacity to manage the quantity of waste expected to need to be dealt with in that area for at least 10 years – see Planning Policy Guidance Note 10.

Proximity Principle. As stated above, this principle requires waste to be disposed of as close as possible to the place of production. This avoids passing the environmental cost of waste management to communities which are not responsible for its generation, and reduces the environmental cost of transporting waste.

We believe that this strategy achieves the BPEO for municipal waste. We believe this because we have arrived at our proposals through systematic consultation; it achieves what is required in terms of rates of recycling, recovery and diversion away from landfill; it adopts the waste hierarchy; it observes the proximity principle; and it achieves a practical level of self sufficiency.

Sustainable development

In June 2002, the Department for Environment, Food and Rural Affairs, (DEFRA) published its Departmental Sustainable Development Strategy called 'Foundations For Our Future'.

In that document, a number of cross-cutting themes are established, the second of which is Natural resources and waste.

In order to see whether the proposed policies are having the required impact, it also identifies 22 indicators to help measure the impact. The most relevant of these are:

8. Waste arisings and management (UK headline indicator)
9. Household waste and recycling in England

Under Indicator 8, it went on to state that:

'We need to radically change our practices and behaviours so we produce far less waste in the first place, and make a dramatic shift from disposal to re-use and recovery (Section 3.18)'

We entirely support these principles and believe that this strategy makes a valuable contribution to DEFRA's aims.

It also goes on to say (Section 3.19) that DEFRA will continue to work with stakeholders to strengthen producer responsibility, building on efforts to minimise waste and maximise recovery. It then points out that the development of markets will be crucial and refers to the setting up of the Waste and Resources Action Programme (WRAP) to address the demand.

We support the emphasis on strengthening producer responsibility and welcome the setting up of WRAP but

doubt that its current funding is sufficient to change the markets to the required extent.

Green procurement

In this strategy, there is considerable emphasis on the need for householders to change the way they generate and manage waste. If that message is to be promoted with any force or conviction, the Dorset authorities accept that there is a community leadership role they need to play by demonstrating that they have green procurement policies in operation. At the moment, none can say that they have such a policy.

Policy 2

All Dorset authorities will adopt a green procurement and waste management policy within 3 years of the date this strategy is published.

Market development

One of the biggest concerns we have is the markets for the products we collect for reprocessing. Over the last few years, the price for all dry recyclables – with the exception of aluminium – has dropped. The new Best Value Performance Standards will lead to a huge increase in the amount of material collected and a further drop in value can be expected.

In addition, there will be a big increase in the amount on organic wastes that are composted but there is no sign of an

emerging market for the compost or soil conditioners that are produced, and lingering concerns over major agricultural crises such as BSE and Foot and Mouth will not help.

WRAP has been set up to address this but only has £40 million in committed funding, which is not enough to convert England to a genuine recycling economy.

We have considered what role we can play in this but with investments at paper mills running into hundreds of millions of pounds, for example, we have concluded that there is little impact that such a small group of authorities can make. This is a national and international problem and needs to be tackled at government level.

However, we will consider any help we can provide that will help to establish reprocessing capacity for recyclable material either at regional or sub regional level, and with this in mind are supporting an organisation called ReMaDe South West (Recycling Market Development) who are attempting to address market development in the south west of England.

There is also a need to find markets for composted materials, and although this is within the remit of WRAP, the Dorset authorities will seek to establish local markets as part of the drive towards green procurement policies.

Other documents

This document is the overall strategy for Dorset and is intended to tell the full story of what is to be done and why to a level of detail that should suit most purposes but it does not stand alone. In addition there are:

- a number of supplementary reports to accompany this strategy
- other aspects to waste management which are dealt with through the Waste Local Plan and a Best Value Review

Supplementary reports

In order to avoid this document becoming burdened in detail, it only includes as much as is necessary to provide the overall picture, but there will be people who want to know more about certain elements of it. That extra detail is supplied in a set of supplementary reports. Thus the full strategy is contained in a set of documents that is listed in Table 1.

Table 1 – documents that make up the full strategy

Report No.	Title
none	A Municipal Waste Management Strategy for Dorset
1	Recycling Plans
2	Policy and Legislation
3	Technical Issues
4	Environmental and Health Issues
5	Statistics
6	Facilities
7	Waste Reduction and Reuse
8	Particular Waste Streams
9	Consultation

Other Aspects

Waste Local Plan

The development of the strategy has quite deliberately focussed on what needs to be done, in order to come to a decision on what processes, technologies and facilities are needed in order to meet the challenge of the next 30 years. It does not address the location of the facilities that are required but clearly this is also a matter of prime importance.

It is now necessary to deal with location and that is being dealt with by the production of a new Waste Local Plan. This is the responsibility of the County Council, in consultation with the District and Borough Councils. In addition, the Plan is being drawn up jointly with the neighbouring unitary authorities, i.e. the Borough of Poole Bournemouth Borough Council.

Some Waste Local Plans just lay down overall standards that waste management facilities must meet – known as criteria – but, as currently conceived, this plan will set out to define exactly where in Dorset, Poole and Bournemouth these facilities could be sited in order to give as much certainty to everyone who has a stake in this process. Those who have a stake include the people and businesses who might find they will have a waste management facility as a neighbour as well as the developers who will wish to build them.

The current intention is to publish the first version of the plan, known as the First Deposit Draft, in Autumn 2003. There will then be a major consultation exercise and this should lead to the publication of an amended version, known as the Second Deposit Draft, in Autumn 2004.

Normally, this could be expected to lead to a public inquiry to complete the process but there is currently a draft Planning and Compulsory Purchase Bill in Parliament which is likely to lead to changes in the system. This seems likely to cause some delays and it therefore seems that 2005 is the earliest we can expect to have the new Waste Local Plan. This should remain effective until 2016 but it will be formally reviewed every five years or so.

Best Value Review

Best Value is a regime that was introduced in 1999 in order to provide a formal mechanism for measuring how well local authorities are delivering services. The process requires local authorities to challenge why they are providing a service, compare how well they are performing against others, consult with those who have a stake in the service and then identify what areas of the service could be improved. They are then required to draw up a five year action plan to address any weaknesses they may have discovered.

Much of this has been done already in developing this strategy. In particular, the Dorset authorities have considered what level of service needs to be provided; what improvements are needed; and have consulted widely on what people want from this service.

The next stage is to consider the best way to deliver the necessary improvements. As explained earlier, there are seven local authorities responsible for municipal waste management in Dorset, and with such a complex structure, there is always a risk of adopting a fragmented approach to delivery. In fact, Dorset enjoys an

enviable record of joint working, but all involved accept there is no room for complacency.

Accordingly, all seven authorities are now working together on a joint Best Value review of waste management, in order to determine the best way to deliver the changes of the future. This is a complex process in its own right and the intention is to complete the review and publish and adopt the improvement by the end of 2003.

Why we need to change

There is a widespread presumption that we need to change the way that waste is managed in the UK – see below.

'Dump less rubbish, recycle more, Beckett tells local councils Environment Secretary, Margaret Beckett, today called on England's local councils to ensure they offer good recycling facilities that are easy to find to help the nation become cleaner and catch up with higher recycling rates in other European countries.'

DEFRA release, 30 May 2002, from CRN conference

In England, in 2001/02, only 11% was recycled or composted and more than 80% was landfilled. This is a lower rate of recycling and composting than most of Europe, and indeed of the developed world, and with the general feeling that landfilling must be bad for the environment, there has been a steady and sustained pressure to change our practices.

For much of the 1990's, the government reflected this pressure in a series of waste strategies that set targets for local authorities to aspire to, although these targets had no statutory force. This is all now changing, and there are a number of policy and legislative challenges that we need to meet.

These arise from:

- Waste Strategy 2000 which continues to set aspirational targets for recycling and recovery
- Best Value Performance standards which have been set to give statutory force to the earliest of those targets
- The EU Landfill Directive which will force us to rely less and less on landfill as a waste management option

Before reviewing those challenges in detail, it would be as well to review how well we already do in order to put the challenges into context. In 2002/03, the performance of the Dorset authorities was as summarised in Table 2.

Table 2 – percentage recycling/composting in 2002/03

Authority	%
Christchurch BC	13
East Dorset DC	16
North Dorset DC	17
Purbeck DC	13
West Dorset DC	13
Weymouth and Portland BC	13
Dorset CC	27

Note: Dorset CC figure includes performance of the other authorities as well as its own.

It is clear therefore that Dorset already performs much better than the UK as a whole, and is indeed one of the leading group of authorities in the UK, but nevertheless, all Dorset authorities face stiff challenges over the next 20 years.

How has this been achieved?

The Dorset authorities already invest fairly heavily in the processes and facilities that will be needed in the future.

This high level of performance in 2002/03 was achieved through:

- A system of roughly 300 bring-banks throughout the county which collected 12,600 tonnes of cans, paper, card, glass, plastic bottles and textiles.
- The provision of a kerbside collection service to 85,000 homes, which collected 6,000 tonnes of paper, cans, and plastic bottles
- The diversion of 11,000 tonnes of recyclables and 23,000 tonnes of green waste for composting from the Household Recycling Centres
- The collection for recycling of 800 tonnes of mainly paper by some 40 organisations in the voluntary sector

Waste Strategy 2000

This was published in 2000 and set a number of national targets mainly for household and municipal waste.

Firstly, it set targets for the percentage of household waste that should be recycled or composted:

- 25% by 2005
- 30% by 2010
- 33% by 2015

Dorset has already hit the 2005 target, but, as will be seen, the government has

set high performing authorities even higher targets than those contained in the strategy.

Waste Strategy 2000 also sets targets for recovering value from the municipal waste stream as a whole.

These targets are:

- 40% by 2005
- 45% by 2010
- 67% by 2015

These recovery targets include the amount recycled and composted but it can be seen that much more needs to be done even when those recycling and composting targets have been hit.

Extracting additional recovery value is generally taken to mean the recovery of energy from the wastes that are left since there is little other recovery that is practical.

Then, in March 2001, government issued 'Guidance on Municipal Waste Management Strategies'. In this document, government defined the recycling and composting performance of nearly 400 English local authorities for the year 1998/99, and announced what each authority would be expected to achieve by 2003/04 and 2005/06.

Best Value Performance Standards

More than one national strategy had set recycling targets but progress had never been as good as hoped because the targets lacked any statutory force.

In order to make sure this did not happen again, the government has taken

the step of establishing those early targets in the guidance document as standards to be achieved under the Best Value regime, and by virtue of an order placed before parliament in March 2001, made the achievement of them a statutory requirement on all English authorities.

In doing this, the government did not just direct all authorities to achieve the national targets. Instead, it picked out the high performers and gave them even

Landfill directive

This EU directive took nearly 10 years to come into law but the EU finally adopted it in July 1999. It was due to be transcribed into UK law by July 2001, but the regulations were not finally passed by Parliament until June 2002.

It was originally conceived as a climate protection measure because of concern over the amount of methane that is generated by biodegradable wastes in

Table 3

Best Value Standards - Recycling and Composting of Household Waste			
Local authority	2002/03 (actual)	2003/04 target	2005/06 target
Christchurch BC	13%	22%	33%
East Dorset DC	16%	33%	40%
North Dorset DC	17%	33%	36%
Purbeck DC	13%	33%	36%
West Dorset DC	13%	18%	27%
Weymouth and Portland BC	13%	30%	36%
Dorset County Council	27%	33%	40%

higher targets presumably with the intention of using them as pacesetters for the rest. Most of the Dorset authorities fall into this category.

The impact of these Best Value standards is shown in Table 3.

Of the 400 authorities with defined targets, only 18 of them have been told to go as high as 40% - compared to current national performance of 11% - and 2 of those are in Dorset. A further 3 in Dorset have the next highest level of achievement at 36%. This represents an extraordinary level of challenge for all of the Dorset authorities.

landfills. Methane is generated in all biodegradable landfills and is many times more potent in its effects than carbon dioxide.

The directive as it developed ended up with three main thrusts:

- there is to be a progressive and substantial reduction in the amount of biodegradable municipal waste that can go into landfill
- waste that does go to landfill will have to undergo pre-treatment first

- there is to be a tightening of the engineering and operational standards that landfills must work to.

Whilst the third of these thrusts will have some impact on the costs of the waste management options available, it is the first of them that will reshape what we do in the future. The second will also need to be addressed.

The starting point for the proposed reduction is the amount of Biodegradable Municipal Waste (BMW) that was produced – not landfilled - in 1995. Each country can then only landfill the following amounts of BMW:

- by 2010, only 75% of the amount produced in 1995
- by 2013, that is down to 50%
- by 2020, that is down again to 35%

The dates quoted above are on the assumption that the UK is granted a four year derogation by the EU as more than 85% of municipal waste was landfilled in 1995.

Thus the amount that can be landfilled over the next 20 years is tied to the amount produced in 1995, and that starting point is fixed even though waste quantities are increasing. It is this ever-widening gap between what is produced and what can be landfilled that provides the most decisive force for change in the next 20 years.

It is not yet clear how government will allocate the national targets to individual local authorities and guidance has been requested on this. In the meantime, assumptions have been made to ensure that the strategy has been developed with a reasonable prospect of success.

Table 4

	Landfill Directive – Target for reduction of biodegradable waste to landfill	National Waste Strategy targets (non-statutory)		Dorset statutory recycling and composting targets
		Recycling and composting	Recovery incl. recycling and composting	
2003/04				33%
2005/06		25%	40%	40%
2010/11	75%	30%	45%	
2013/14	50%			
2015/16		33%	67%	
2020/21	35%			

Recovery

As stated, the national waste strategy also includes targets for recovery.

With recycling and composting at 40% by 2005/06, the early recovery target of 40% the same year should not be a problem. Because of recovery activities at the Household Recycling Centres, this recovery target could be hit even if the districts do not all hit their recycling targets.

Even the next target of 45% by 2010 should not be too troubling. At the very least, the recycling rate of 40% should be maintained and there is some recovery of soil and rubble at Household Recycling Centres that amounts to 5 or 6% of the municipal waste stream.

It is the target of 67% in 2015 that represents the biggest challenge. Even if recycling rates can be driven higher than 40%, there seems little prospect of achieving 67%. Provision has therefore been made to recover energy from the residual waste stream which should allow overall recovery rates in excess of 70% to be achieved.

Summary

Table 4 summarises the challenges that the Dorset authorities are now required to meet on recycling, composting, recovery and landfill diversion. This leads to three main conclusions.

Firstly, there will need to be a large expansion of the kerbside collection of recyclable material and a widespread introduction of the kerbside collection of compostible material over the next few years together with the provision of the accompanying facilities in order to meet the Best Value standards.

Secondly, there will need to be investment in treatment processes to meet the first and subsequent targets under the landfill directive.

Thirdly, and underlying all of this, there needs to be a campaign on waste reduction and reuse.

These imperatives between them lead to the waste hierarchy that is shown in Figure 1.

Policy 3

The Dorset authorities will adopt the waste hierarchy shown in Figure 1, i.e. reduce, reuse, recovery for recycling and composting, recovery of other value and, finally, safe disposal to landfill.

Firstly, every attempt must be made to reduce the amount of municipal waste that has to be dealt with and to increase the amount we find a re-use for. This is an absolute priority

Secondly, we will then recover as much as is practicable for recycling and composting through increased kerbside collection of suitable material backed up by a continued network of Recycling Centres and Bulky Household Waste sites. This will only be truly effective if there is widespread support by the householder.

Thirdly, we will then seek to recover value from what is left.

Finally, and only after the above have been completed, we will ensure the safe disposal of what remains to suitable landfills.

Reduction and reuse

Although waste growth is one of the most pressing problems we have to deal with, it is not easy to tackle the underlying problems. The increasing amount of waste we generate is a product of our throw-away culture, a lifestyle problem that is driven by national and international forces.

Waste production is partly about supply chain problems – in the case of packaging, there is little the householder can do when it arrives wrapped around products they want to consume – and partly about excessive consumption, all of which might be influenced by mass marketing in the form of junk mail. Local authorities are largely powerless to influence any of these underlying drivers of waste production.

We currently do the following to promote reduction and reuse:

- we encourage home composting to reduce the amount of green waste that gets put into the waste we collect
- we encourage the use of reusable nappies instead of the disposable sort
- we have sales areas on all of our Household Recycling Centres to allow items to be reused instead of being landfilled

There is no doubt that effective action needs to be taken at government level, but we should still support this through action at a local level. There are therefore two thrusts to our approach.

Firstly, we will continue to support government initiatives on effective waste reduction including extension of producer responsibility and the progressive tightening up of recycling targets under EU regulations on packaging, electrical goods and so on.

Secondly, we will provide resources to reinforce that message at a local level. This can only be tackled by a dedicated team who can devote the time and other resources to hammering home the message about producing less waste and a new team of 3 waste reduction officers will be recruited by the County Council. That team will be given the resources to mount targeted information campaigns to spread the message.

Policy 4

Resources will be provided by the County Council to promote waste reduction

Supplementary Report Number 7 covers Waste Reduction and Reuse, but that report cannot be written in depth until the first member of the new team has been in place for long enough to draw up the necessary programme of action. That report will propose the resources needed to tackle this problem.

Role of householders

Although we hope to reduce the amount of waste we deal with, the most pressing need is to improve the already impressive recycling and composting rate of 26% overall to 33% in 2003/04 and then 40% in 2005/06. This has to be achieved in combination with the specific improvement targets set for each of the authorities.

This will require a heavy investment in recycling infrastructure by all of the authorities but this investment will be wasted if we do not have the increasing participation and co-operation of the householders of Dorset. Their help is crucial to the success of:

- kerbside recovery of dry recyclables
- kerbside recovery of organic materials
- continued use of bring banks where appropriate
- continued use of Household Recycling Centres where appropriate

Policy 5

By 2010, the majority of households in Dorset will have a 3 stream waste collection.

Dry recyclables

In order for the District and Borough Councils to hit the targets they have been set under the Best Value regime, all will have to have a substantial number of

households with the facility to separately store dry recyclable material.

Each of these authorities will decide how best to implement this and full details are given in Supplementary Report Number 1.

Policy 5A

The Dorset authorities will collect dry recyclables at the kerbside from 80% of households within 5 years.

The Dorset authorities will promote and encourage the use of the service by households to achieve 75% participation and 75% use.

Firstly, they will need to decide which materials to collect in this way but it could include paper, card, cans, glass, plastics and textiles.

These are very challenging rates of success that have not been achieved on this scale in the UK before, but this system needs to be in place within 2 years.

Secondly, the authorities will decide what containers the materials should be put into. This could be boxes, bags or a combination of the two.

Finally, there is the question of what to do with the materials then. All of the Dorset authorities have agreed that the best way forward is for the dry recyclables to be sorted at the kerbside by the teams that go round and collect



them. Thus glass will be taken out of the box or bag and put into a special container on the lorry. This will be repeated for all of the recyclables. There is more than one type of vehicle that can be used for this purpose and again it will be up to each authority to decide what is best for them.

This is quite an expensive way of collecting the recyclable material but we believe it has 3 significant advantages:

- firstly, we expect to get better quality materials with much lower levels of contamination; indeed, the contaminants should be almost eliminated, and we believe this is one of the keys to the more widespread use of recyclate in the future
- secondly, it will allow glass to be collected at the kerbside
- thirdly, it will engage most of the householders in Dorset in the process of recycling and thereby raise awareness of the importance of doing it; it should also start to raise awareness of the need to reduce waste

In conclusion, the authorities will implement a major drive on the kerbside collection and sorting of dry material for recycling, although each authority has the flexibility to implement it in the way that best suits them.

Figure 2 shows the sort of vehicle that will be used for collecting dry recyclables.

Organic materials

Even the widespread use of kerbside collection for dry recyclables will not hit the targets that have been set and it is therefore necessary to find other materials to recover and reuse.

Analysis of the waste that is taken for landfill shows that more than a third of it is organic waste in the form of garden waste or kitchen waste – see Supplementary Report Number 5 for more detail.

It is therefore necessary for all District and Borough Councils to start a separate collection for these materials as well – see Supplementary Report Number 1 for more details.

Policy 5B

The Dorset authorities will collect organic material at the kerbside from 60-80% of households by 2010.

The Dorset authorities will promote and encourage the use of the service by households to achieve 75% participation and 75% use.

The materials collected will then be sent for composting.

As with dry materials, it will be up to each authority to decide how best to collect this but it inevitably means that most householders in Dorset will soon have three containers to put their waste into:

- one for dry recyclables
- one for organic materials
- one for what is left, i.e. the residual waste

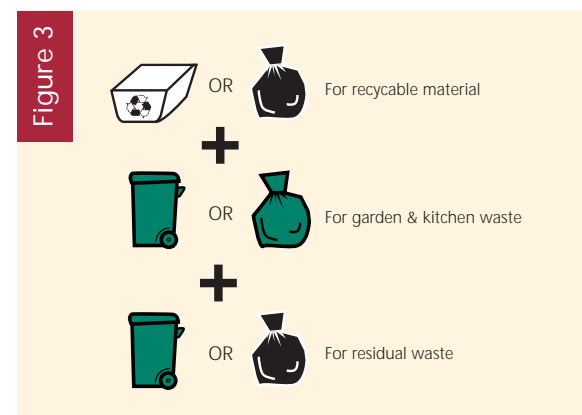


Figure 3 – Storage containers that the householder may eventually need to use

We recognise that this will cause difficulties in some households but this is the only practical way of recovering the necessary quantities of clean, usable materials.

The composting of kitchen wastes, or garden waste that is mixed with kitchen waste, has recently been fraught with difficulties. The problem has arisen in the wake of agricultural crises such as BSE and Foot and Mouth, and this has led to concern over the placing of composted food products in places where animals, including wild animals, can graze on it.

This was covered by Animal By-Products regulations which effectively said that anything containing meat products, or which might have been in contact with meat products, which therefore includes all kitchen wastes, could not be composted in the open in windrows. Instead it must be composted in enclosed containers – known as in-vessel composting. Furthermore, even when composted in this way, the product could not be put on land where animals can get at it. This effectively meant that it could only be landfilled.

The lack of any beneficial use for the product effectively meant that this process was simply a pre-treatment process for landfill, which was not the original intention. In this case, it seemed likely that it would not count as composting for the purposes of hitting the statutory targets and government guidance on this is awaited.

However, the government has now issued new regulations, effective from 1st July 2003, which should, in theory, clear the way for the composting of organic wastes and then allow the use of the resulting product on the land. This will still require the use of in-vessel composting but at least the required treatment standards are now known.

Policy 6

The County Council will provide in-vessel composting facilities to support the separate collection of organic materials.

Subject to regulatory clearance in time, the first of these facilities will be provided by Spring 2003.

As this would at least allow a use for the product, this should mean it can count as composting for the targets that have been set and we have assumed this interpretation in drawing up the strategy.

It is, though, still too early to say what the practical effect of these regulations will be since it is not clear how many of the available in-vessel systems can in fact meet the treatment standards laid down.

See Supplementary Report Number 3 for a fuller explanation of this and see Supplementary Report Number 4 for a review of health and environmental concerns on composting.

Policy 7

The County Council will provide facilities to support recycling activities in Dorset.

Bring banks

Much of the recyclable material collected in Dorset is recovered from the 300 or so bring sites that are operated and maintained by the District and Borough Councils.

With a major expansion of collection from households planned, the future use of these bring sites has had to be considered.

Experience elsewhere has shown that bring sites can still have a significant part to play even where there is substantial kerbside collection. There would certainly be a need for them where the coverage of the kerbside system was not strong but they may also be retained elsewhere. For example, if there is a large celebration in a house one weekend (say a wedding party), there may be a large number of bottles left. There will be too many to put in the recycling container the next week, and the choices are to throw them away as waste (not to be encouraged), keep them and put them in over a few weeks (would not suit too many householders) or take them to the nearest glass banks.

This issue is covered by the Recycling Plans in Supplementary Report Number 1. In general terms, the District and Borough Councils can afford to adopt a flexible approach and retain them where they continue to provide good quantities of materials or remove them where they do not.



Household Recycling Centres

Policy 7A

The County Council will retain 11 Household Recycling Centres and embark upon a rolling programme of improvements so that the sites themselves, and the facilities within those sites, remain as up to date as is practical.

These are also known as Civic Amenity sites, or Bulky Household Waste sites, or even the 'tip' or the 'dump'. See Figure 4 for a view of one in Wilverley Road, Christchurch.

However, they have been given this new name to better reflect what they do. Although they were originally provided to give householders somewhere to take their larger waste items free of charge, the 11 sites in Dorset are extremely successful at diverting materials for recycling and composting. In fact, in 2002/03, they diverted 35,000 tonnes

out of the 61,000 tonnes they received, a recycling rate of 58%. 23,000 tonnes of that was green waste which was composted, and the rest was dry recyclables.

Because they provide a place for wastes that are not suitable for recycling, and some special wastes such as bonded asbestos, fluorescent tubes and batteries, there is no case for closing them just because kerbside recycling is being expanded, but this will undoubtedly change the throughput of these sites.

In particular, there is very little green waste collection in Dorset at the moment, but once that has expanded to the levels envisaged, it seems clear that initially at least, the amount of green waste delivered to these sites will drop. However, we do not expect the need for this facility to disappear.

As with the example of glass referred to earlier, if a householder spends a weekend pruning in the garden, there may be too much to put in next week's organic material container, and the next best thing would be to take the cuttings to the nearest Household Recycling Centre. Thus there will be a continued need for the facilities currently on offer, but probably with reduced use.



Until the full effects of the new kerbside arrangements can be gauged, there does not seem to be a case for providing any additional sites, and no additional stand alone sites are planned. However, there may be a case for incorporating the same type of facilities into larger sites – such as MBT plants – as they are developed. This will be judged on a case by case basis as these plants are planned.

Policy 7B

The County Council will provide a network of local material handling facilities to support the Districts' kerbside and bring recycling activities.

As an example of this, see Figure 5 for an aerial view of Sherborne Waste Management Centre. This combines a Household Recycling Centre, a bulking up point for residual waste collected in the Sherborne area and a reception point for dry recyclables collected in the same area.

Residual waste

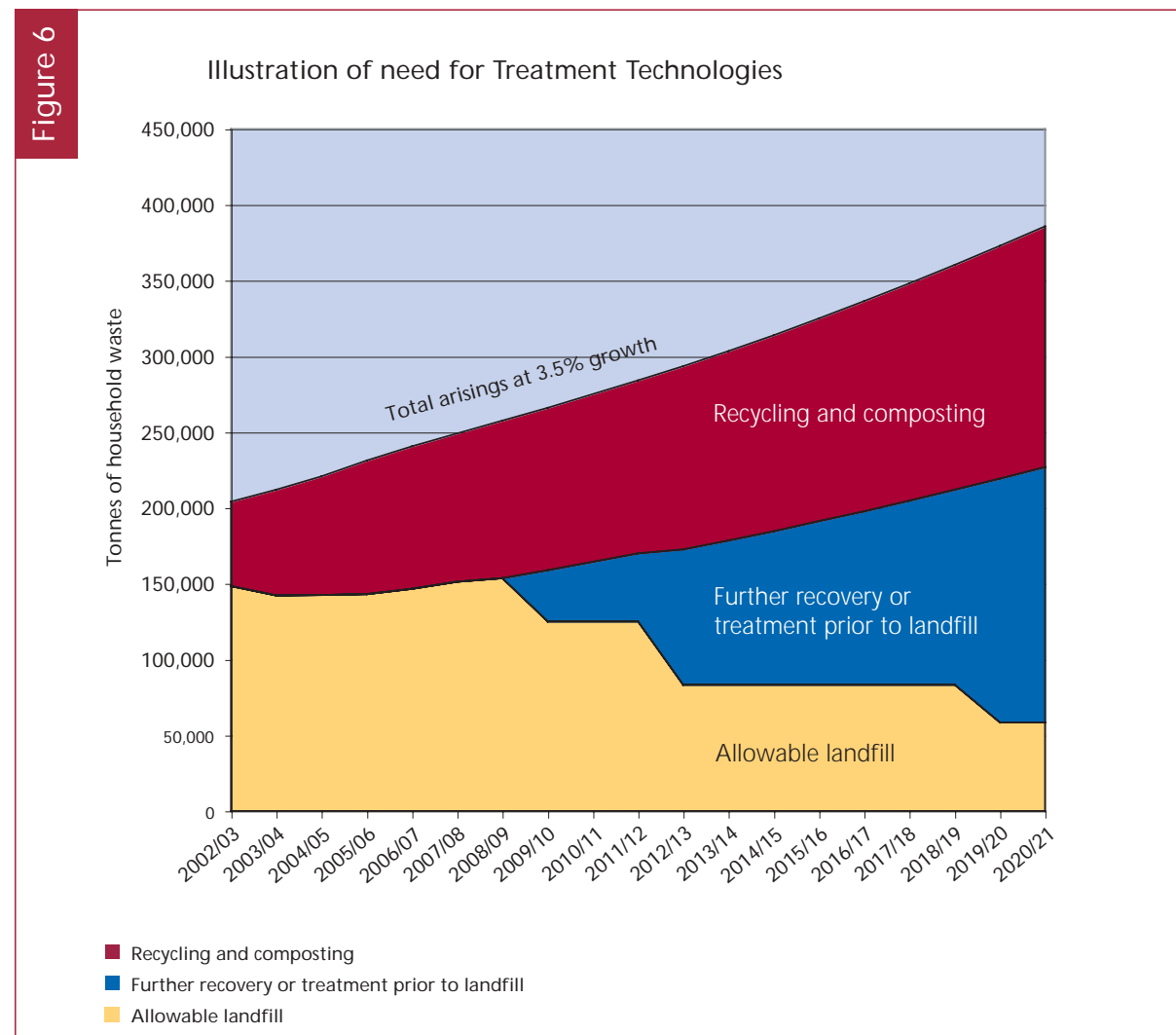
With recycling and composting set to hit 40% and with a further 5% or so being recovered for reuse, there is still 55% of the waste stream left to deal with, and that is what we call the residual waste. Up to now, we have simply landfilled all of that but in the future, that will not only be undesirable, it will also be against government policy and likely to result in sanctions once the landfill directive targets are upon us.

This is illustrated by Figure 6, which shows an ever widening gap between what we recycle and compost

(shaded red) and what we can landfill (shaded yellow). The area between (shaded dark blue) shows the amount we will need to treat in some way either to divert it from landfill or to make it suitable for landfill.

We therefore need to find other ways of dealing with residual waste although landfill will still have its part to play. Two or three processes may be used in future, these being:

- Mechanical Biological Treatment, otherwise known as MBT
- Gasification or Pyrolysis
- Landfill



Mechanical Biological Treatment (MBT)

Firstly, the residual waste goes through the mechanical processes of chopping, shredding and screening. This makes it more uniform and easier to handle and separates it into 3 main parts, these being:

- metals for recycling
- parts with a fuel value, such as paper, card, plastic, wood and textiles
- the rest, which is mainly organic in nature

The MBT process is then completed by dealing with each of these three separated parts.

Recyclables

The recoverable metals amount to about 3% of the residual waste. It is mainly ferrous metal but non-ferrous metals will also be separated out as these have a much higher resale value.

Policy 8

Mechanical Biological Treatment (MBT) will be adopted as the preferred current technology to deal with residual waste.

This is the process that gained the most support in the recent consultation campaign, both at the workshops and amongst those who wrote in.

Figure 7 shows the reception halls of an MBT plant in Hanover in Germany.

The process is described in more detail in Supplementary Report Number 3, but in essence, it is as follows.

Fuel

The parts with a fuel value are collectively known as Refuse Derived Fuel, or RDF, and this can be up to 45% of the residual waste. This will be converted to electricity (and possibly usable heat) either by putting it through another form of thermal conversion process such as gasification or pyrolysis, or by burning it.

This could take place away from the MBT plant and, in theory, it could be sent to power stations, cement kilns and the like. However, there are no signs that a ready external market is developing for RDF, and the current intention is to incorporate an RDF conversion plant within the MBT plants, at least for the first of the plants. This policy can then be reviewed as each subsequent plant is planned.

Since we intend to convert the RDF to electricity/heat within the MBT plants themselves, we need to consider how we are going to do this. As explained later, gasification and pyrolysis have emerged as the preferred way of converting the fuel to energy, but at the moment, these technologies are not commercially proven on this material in the UK. The intention, therefore, is to delay the provision of the first RDF plant for as long as is practicable - bearing in mind always the targets we need to hit - and this should give time for these preferred technologies to become established in the UK.

If these technologies are not proven by the time the development process must start for the first RDF plant, then provision will be made to convert the RDF to energy by burning it using established combustion technologies.

This can then be reconsidered as each subsequent RDF plant is planned.

Whichever technology we employ, the plants will have to operate to the strictest environmental and emissions standards as laid down by EU directives, and these standards would be the same whichever technology we employ to convert the RDF into energy.

This process of converting the RDF to electricity is vital because it is this, in conjunction with the 40% recycling and composting, that allows us to hit the recovery target of 67% in 2015 as required in Waste Strategy 2000.

At some point, it is also needed to help divert more biodegradable material away from landfill in order for us to hit the landfill directive targets. It is not possible to say precisely when this will be because it depends on a number of factors including the rate of waste growth; the level of recycling and composting that we actually achieve; and the way we are allowed to calculate how effective the biological part of MBT is in reducing the biodegradability of waste. We need government guidance on the last point and obviously need to keep the other factors under close scrutiny.

Policy 9

Fuel will be recovered as part of the MBT process and will be converted to electricity (and usable heat if practicable) within the MBT plant itself.



Figure 8 shows an RDF plant (using Energos technology) in Germany that is handling roughly the same amount of RDF as the plants we will need, namely 40,000 tonnes per year.

Organics

Finally, there is the need to deal with the remaining organic material. The intention here is to put this material through an aerobic composting process to remove most of its biodegradability. The landfill directive limits the amount of biodegradable waste that we can landfill, and it is this part of the MBT process that allows us to comply with those limits.

The main part of the composting process will be carried out indoors in highly controlled conditions. The plants will also incorporate air filtration systems to control smells and other emissions. To achieve the best results, there may also be a period of maturing after the initial composting, but this can be carried out outdoors as the capacity for causing problems will have been largely eliminated by then.

The period of maturing outdoors would be subject to strict controls on any

bio-aerosols, and prevention of any risk to groundwater. It would also need to comply with any guidance on animal by-products orders.

Once it has reached the required maturity, the composted material will be sent to landfill. This is likely to be between 35% and 45% by weight of the material that went into the plant in the first place. We believe that this material is only suitable for landfill because it has been produced from mixed household waste with all that contains in terms of contaminants, such as paints, solvents, syringes and so on. We do not feel therefore that it can have any beneficial use, for example as soil conditioner, but it can be safely landfilled as its capacity for forming methane has been virtually eliminated.

If waste quantities continue to grow by an average of 3.5% per year, and if we reach and maintain 40% recycling and composting, we will have something approaching 250,000 tonnes of residual waste to deal with by 2020. Clearly there will be proportionately less if the a lower growth rate can be achieved.

The plan is to build 3 plants of roughly 80,000 tonnes per capacity to deal with



this and to site them as close as possible to where the waste is collected. This will then allow for the minimum transfer of waste by road, since it will only be necessary to transfer the 35-45% of the residual waste stream that is going to landfill.

The first Landfill Directive target is effective in 2010 and the first plant will be needed to hit that target. In order to make sure the plant is fully effective before the target arrives, it would be prudent to have that first plant commissioned in 2009, or even 2008. Planning for that plant needs to start soon, with a view to tendering and starting construction in 2006.

Hitting the second target in 2013 will be very difficult even with one MBT plant operating, and much would depend on whether there had been any significant success in reducing overall waste quantities. Bearing in mind that it can take 4 to 5 years from start of planning to commissioning of an MBT plant, it would be prudent to assume that a second plant will be required by 2012.

The third will not then be needed until nearer 2020, when the third Directive target becomes effective, and the precise

timing will depend on many other factors. Indeed, if there has been notable success in tackling waste growth, the third plant may not be needed till later or at all, and it is this flexibility that appealed to participants in the consultation workshops.

Policy 10

For planning purposes, it will be assumed that 3 MBT plants are required but the need for each will be thoroughly reviewed prior to commitments being entered into.

Figure 9 shows an artists impression of a combined MBT and RDF plant, the RDF being the smaller structure in the foreground.

The focus so far has been on aerobic biological treatment but anaerobic digestion is not ruled out by the above. There is no reason why an anaerobic process should not provide the biological element of MBT rather than the aerobic

composting process currently preferred, and it did get a high level of support in the Wake Up To Waste campaign. However, a preliminary study carried out before the recent consultation campaign showed that an anaerobic process was likely to be effective in hitting targets but was likely to cost significantly more than a composting based system.

Policy 11

Subject to confirmation of likely tonnages and compliance requirements:

- **The first MBT plant will be required around 2008 and before 2010, and should be sited in the west of the county in or around Dorchester**
- **The second plant will be required in 2012 and should be sited in the eastern part of the county to serve East Dorset and Christchurch**
- **The third, if required at all, should be sited to serve North Dorset and Purbeck, and will be built whenever the requirements of the Landfill Directive demand**

In view of the increased cost, with no obvious additional benefits, an anaerobic system was not included in the consultation literature, but all of these

technologies are developing all the time, and if an anaerobic system is proven and competitive when a tendering exercise is carried out, there is no reason why it should not be considered.

As a final point, the MBT plants will also be considered for housing other facilities depending on need at the time each is being planned. Each could contain all or any combination of the following:

- MBT lines for dealing with residual waste
- RDF conversion unit
- In-vessel composting line for dealing with collected organic wastes
- Bulking up and processing facilities for dry recyclables
- Household Recycling Centre

Gasification or Pyrolysis

Policy 12

The development of gasification and pyrolysis in the UK will be monitored to decide whether, at any stage, either would be the most appropriate technology for dealing with residual waste and recovered fuel from MBT plants.

These processes gained almost as much support at the consultation workshops as MBT, and can therefore be considered in due course.

They offered many of the advantages of MBT, particularly the flexibility offered by the fact that the economics appeared to support the building of 3 plants. These plants could also be fitted onto smaller plots of land than MBT plants.

The one real advantage over MBT that emerged was the possibility – not yet proven but claimed by developers – that the amount left for landfill could be as low as 5% rather than the 35% or so from an MBT plant. In fact, these plants will still produce 20% to 30% in total solid residues but developers believe they will find productive uses for most of this. Thus, even though MBT greatly reduces the amount going to landfill, and even though the process had rendered it virtually non-degradable, there was nevertheless a feeling at the workshops that we were continuing to rely too heavily on landfill.

They also have an economic advantage in that the government has ruled that most of the energy generated from gasification and pyrolysis plants counts as renewable energy and therefore enjoys premium rates under the renewable energy obligation. This is not available if we burn the RDF.

The one big disadvantage of these alternative technologies is the fact that they are not in widespread use anywhere, and not in use on a commercial scale at all in the UK.

The message that emerged from the consultation workshops was that we should start with MBT but consider gasification and pyrolysis when they are fully proven in the UK. This is unlikely to happen in time for the first plant but may be possible by the time the second one is being planned.

The technologies themselves are described in detail in Supplementary Report Number 3, but in essence they rely on breaking the waste down in sealed chambers by the application of extreme heat. The heat is applied in the absence of air (gasification) or with only a very small amount of air available (pyrolysis).

This means that the waste does not burn, or only a very small part of it burns. The result of this is that both processes generate a mixture of flammable gases – frequently referred to as syngas – which is then converted into electricity through generators, engines or turbines.

One of the claimed advantages of these processes is that they produce much cleaner emissions and in much smaller amounts making the clean-up costs very much lower than incinerators.

They are also claimed to be more efficient, thus producing more electricity for the same amount of waste than incinerators. Combined with the benefits available under the Renewables Obligation, which is not practically available to incinerators, this makes the new technologies cheaper to build and run.

All of this needs to be tested in the UK market before they will be considered for Dorset.

Gasification or Pyrolysis plants could also contain the extra facilities that were listed for MBT plants.

Landfill

Policy 13

There will be a continuing need for landfill for receiving:

- Residual waste that is not first sent to treatment plants
- Stabilised residues from MBT plants
- Clean-up and other residues from energy or treatment plants

In some parts of the country, one of the main drivers for change is a looming shortage of landfill capacity, but that is not the case in Dorset. Landfill is frequently used for filling in after extractive industries (such as sand, gravel and clay) and Dorset has a high annual extraction of such materials. In Dorset, there could therefore be landfill capacity for many years to come. However, the main thrust of this strategy remains the reduction of landfilling because of the Landfill Directive.

Nevertheless, landfill sites will continue to play a part in waste management in Dorset for the period covered by the strategy.

We already dispose of roughly 150,000 tonnes per year to landfill, and although increased recycling and composting will reduce that initially, the amount will continue to rise overall if the underlying growth rate remains as it is.

Direct landfilling of municipal waste will continue even when MBT capacity has been brought on stream. It is only when all 3 of the projected plants are fully operational that the bulk of the waste will be treated first but even then, there may be some that is still sent direct to landfill. For example, if full compliance with the Landfill Directive is being achieved and a collection round finishes much closer to a landfill than an MBT plant, it may be more sensible to accept that that landfill is the better option. There will be very little of this however.

The next significant need for landfill is for the disposal of the composted and stabilised materials from the MBT plants. The amount will have decreased but at full capacity, and at full rate of growth, the 3 projected plants could still generate around 100,000 tonnes of stabilised waste in 2020.

Finally, there will be a need to deal with the residues of the RDF conversion units in the MBT plants. Each of these will only generate a few thousand tonnes per year but it will probably require disposal in a landfill that accepts hazardous wastes.

The position on landfilling if gasification or pyrolysis are adopted is less clear. Although the developers hope that they will find productive uses for most of the solid residues, this is still a point that needs to be proven. If they do not, then these residues will also have to go to landfill. Some of this may also have to go to a landfill for hazardous wastes.

Finally, there is a need to consider pre-treatment, as required by the Landfill Directive. One of the ways this can be achieved according to the Directive is by making sure that pre-sorting has been carried out to recover recyclable and compostible material. The Environment



Agency issued consultation on this and proposed that the meeting of Best Value standards would demonstrate pre-treatment. We opposed this as being unfair and unjust and instead suggested that the provision of a recycling infrastructure should be the determining factor on pre-treatment. The result of the consultation has not been published to date.

Figure 10 shows the landfill at Beacon Hill in Dorset.

Figure 11 shows the operational area of a landfill



Particular waste streams

The above policies detail how the general flow of municipal waste materials will be dealt with but there is a significant number of particular waste streams, such as clinical and commercial wastes, that require specific policies.

These are all dealt with in Supplementary Report Number 8.

Policy 14

Specific policies will be prepared for all significant Particular Waste Streams.

