Gloucestershire
COUNTY COUNCIL

Waste Core Strategy

Technical Paper WCS-D

Implementing the Waste Hierarchy (including waste minimisation)

Living Draft

January 2008

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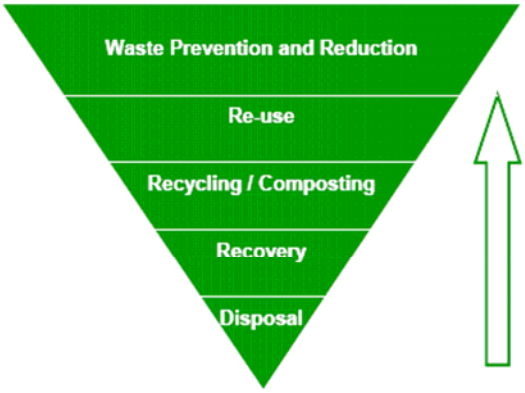
Section 1 Introduction

1. The role of the WCS is to set the context for making appropriate provision for waste management capacity. This context needs to be clear enough to allow the appropriate provision of capacity to be made, but the strategy also needs to flexible enough to respond to changing circumstances in a fast moving industry so that innovation in line with the waste hierarchy is not stifled.

2. This report sets out the work carried out by the Waste Planning Authority in respect of implementing the waste hierarchy in Gloucestershire. The activities towards the top of the waste hierarchy provides the subject matter for this evidence paper.

The Waste Hierarchy



Policy Context

3. Planning Policy Statement 10 'Planning and Waste Management' (PPS10) states that the Government aims to break the link between economic growth and the environmental impact of waste by moving waste management up the waste hierarchy.

4. For more information on the waste hierarchy readers are directed to the National Waste Strategy for England 2007 (page 28). This states that *"recent studies have confirmed that the waste hierarchy remains a good general guide to the relative environmental benefits of different waste management options but that there will be exceptions to this for particular materials and in particular circumstances".*

Evidence Gathering

5. The Waste Planning Authority has been gathering evidence on how best to implement the waste hierarchy in Gloucestershire. A number of specific stakeholder events have been undertaken along with more desk based activities.

6. Stakeholders put forward many important issues in terms of implementing the waste hierarchy. These include:

   - the importance of culture change in respect of waste generation;
   - ensuring that there is a market for recyclable materials;
   - providing locally accessible facilities;
   - financial incentives for reducing waste;
   - lobbying central government to introduce national standards;
   - market forces driving waste industry investment;

- and the need for the County to lead by example.

7. These issues introduce many cross-cutting factors that fall to be addressed in a variety of different arenas. The spatial planning approach seeks to ensure that this is reflected in the WCS.

8. Five strategic objectives are proposed to help deliver sustainable waste management in Gloucestershire. These are set out in detail in Technical Evidence Paper WCS-B 'Spatial Portrait and Vision'.

9. More specific details in respect of the outcomes of stakeholder events can be found in other technical evidence papers. Where relevant throughout this paper readers are directed to these other documents rather than repeating the information.

Sustainable Waste Management Strategy

10. The goal of attaining a sustainable waste management system remains a key objective for the WCS to address. The following draft policy was prepared to replace the overarching policies in the Structure Plan (Policy SD.22) and WLP Policies 1, 2 and 3. It was set out in the WCS Issues & Options papers (Part B, July 2006).

Sustainable Waste Management in Gloucestershire (draft policy from Issues & Options papers)

Provision will be made in a site specific DPD for a network of waste management facilities that comprise a sustainable waste management system in Gloucestershire. Proposals for waste development will only be permitted where they can be demonstrated to contribute to a sustainable waste management system for Gloucestershire.

11. The policy is in two parts. The first relates to the framework for providing sites/areas of search/criteria for waste management facilities. The second part of the policy provides an 'interim' position for determining waste related planning applications prior to the adoption of a development plan document for addressing amenity issues at the planning application stage.

12. However, following a number of events the necessity for this policy is lessened. Namely:

- The Secretary of State's (SoS) Direction (October 2007) on the Gloucestershire Waste Local Plan (WLP), which resulted in site allocations lapsing, and then the subsequent advice of GOSW in respect of preparing a site specific DPD (but viewed alongside the currently adopted Minerals & Waste Development Scheme); and
- The draft policy does not add locally distinct criteria to the decision-making process (the SoS Direction saved WLP 'amenity' policies).

13. In any event the thrust of the policy is provided by the proposed Spatial Vision and Strategic Objectives (see Technical Evidence Paper WCS-B 'Vision and Strategic Objectives'). Consequently it is considered unnecessary to put this policy into the WCS and it therefore does not feature in the Preferred Options document.

Section 2
Minimising waste Production (including on-site re-use)

14. This section deals specifically with the issue of reducing the amount of waste that society produces. This is the priority of the waste hierarchy. In seeking to reduce the amount of waste that has to be managed, the re-use of materials that would otherwise be disposed of is an important matter.

15. Re-use of materials is particularly important in the construction industry where waste from building sites contributes a significant amount annually to the overall waste stream. The issue of reducing waste by re-using materials on-site is therefore a key consideration of the County's current policy on waste minimisation.

Adopted Policy

16. The waste hierarchy is central to the national strategy for sustainably managing waste (PPS10 para 1). At the top of the hierarchy is the aim to prevent waste from arising at source. This is re-affirmed in the National Waste strategy 2007.

17. The waste hierarchy also applies to hazardous waste. National Waste Strategy 2007 states that *"the Government will continue to encourage policies which lead to reductions in hazardous waste arisings"* (Annex C9, para 11). It is clear therefore that minimising hazardous waste, in the same way as for general waste, should form an important element of a sustainable waste management strategy.

18. In terms of construction and demolition waste arisings, PPS10 states that *"proposed new development should be supported by site waste management plans".* DEFRA have issued a consultation document on making Site Waste Management Plans (SWMP) mandatory. At the time of writing this evidence paper it was unclear how SWMPs would be implemented, whether through the planning process or as part of the building control regime. Either way it appears that responsibility will fall upon local authorities to implement the proposals. Consequently the WPA will support local authorities wherever possible in undertaking this task.

19. The current adopted policy for minimising waste in Gloucestershire is set out in the Waste Local Plan

WLP Policy 36: Waste Minimisation

Proposals for development requiring planning permission shall include a scheme for sustainable management of the waste generated by the development during construction and during subsequent occupation. The scheme shall include measures to:

i. Minimise, re-use and recycle waste; and
ii. Minimise the use of raw materials; and
iii. Minimise the pollution potential of unavoidable waste; and
iv. Dispose of unavoidable waste in an environmentally acceptable manner;

Initiatives to reduce waste generation will be encouraged throughout the County.

20. Additionally the Waste Planning Authority have adopted a Supplementary Planning

Document 'Minimising Waste in Development Projects' (Sept 2006).

21. The key requirement of the SPD is that developers of schemes above a threshold size are required to submit a waste statement alongside their planning application. The content of this statement is guided by a '10-point' checklist (see page 6 of the SPD).

Emerging Policy

22. Draft Regional Spatial Strategy Policy W4 states:

RSS Policy W4: Controlling, Re-using and Recycling Waste in Development

All proposals for larger-scale development should include as part of the planning application a report comprising an audit of waste materials on site and proposals for how waste will be managed over the lifetime of the development.

23. The RSS forms part of the development plan and therefore, if adopted in this format, will provide further weight to the requirement for developers to consider the waste issues relevant to their proposal.

Evidence Gathering

24. The WPA have gathered evidence from key groups of stakeholders during a number of specific events:

- Waste Forum March 2006.
- Preparation of the Waste Minimisation SPD
- Issues & Options Consultation July – Dec 2006.
- Gloucestershire First workshops with small/medium size businesses (Nov 2006).
- Workshops for District and County Council development control case officers and property services employees.

25. A key issue for the WCS to address is what is the most appropriate way for a strategy to be developed that seeks to minimise waste arisings.

Waste Forum (March 2006)

26. There were 60 attendees divided into 11 groups. Two key issues that arose were:

- Place more emphasis on waste minimisation
- Include the importance of education to encourage people and businesses to reduce waste

Waste Forum Outcomes **Issue**	**Number of groups supporting**
Importance of education, communication and awareness-raising	8
Use incentives to encourage waste minimisation	7
Use penalties to enforce waste minimisation	6
Producers and retailers have a responsibility to reduce waste, especially packaging	5
Lobby central government to put pressure on producers and retailers to reduce waste	4
Partnership working and a joint approach are important	2
Waste collections should be well designed and managed.	2

27. The importance of education, communication and awareness raising for waste minimisation was raised in the feedback session (*supported by five groups*). People said that retailers and manufacturers must take more responsibility to reduce waste at source, in particular by reducing the amount of packaging.

28. It was acknowledged that there was a limit to what the Gloucestershire Waste Partnership (GWP) could achieve on its own, but that it did have a role in lobbying government to put pressure on manufacturers and retailers to reduce waste (*supported by six groups*). There was support for a stepped approach to waste minimisation: first better facilities and collections, then education (carrot) and finally penalties (stick) (*supported by three groups*).

Preparation of the SPD

29. The Waste Planning Authority undertook extensive stakeholder engagement when preparing the Waste Minimisation SPD. Full details of this work can be found in the document Statement of Public Consultation undertaken prior to Adoption (July 2006).

30. The SPD is based on the premise that firstly waste should be prevented from being produced, and secondly, if it is produced (for example construction waste on building sites) it should where possible be re-used on that site in place of primary materials.

31. A partnership approach was adopted with the District Councils of Gloucestershire in the preparation of the SPD as they are the key decision-maker through which the policy is to be implemented.

32. Stakeholders suggested a number of different threshold sizes of development that would require submission of a waste minimisation statement at planning application stage. These include the following:

- The Department of Trade and Industry (DTI) guide looks at projects in excess of £200,000.
- Using 'major development' as a threshold - The ODPM's Development Control (DC) Statistics for England definition of 'major' development. For residential developments, a major site is one where 10 or more dwellings are to be constructed or, if this is not known, where the site area is 0.5 hectares or more. For other types of development a major site is one where the floorspace to be built is 1,000 square metres or more, or the site area is 1 hectare or more. The Demolition Protocol looks at projects over 500m² using more than 1000 tonnes of material in the new build.
- Wiltshire and Swindon Waste Planning Authorities have prepared a Waste Minimisation SPG using the thresholds: 10+ dwelling units; 500m²+ of retail floor space; 300m²+ of business/industrial floor space; and other developments for transport, leisure, recreation, tourist or community facilities, car parks (including park and ride facilities); and other developments likely to generate significant amounts of waste.

33. Whilst each has merits, on balance the approach that was been used within the SPD is the ODPM standard definition of 'major development'. This was preferred for two main reasons: firstly it makes its implementation by development control officers easier as it ties in with other 'trigger' sizes of planning application; secondly the collection of monitoring data should be easier so that the effectiveness of the approach can be measured, and if necessary amended.

34. Importantly, using a threshold does not preclude smaller developments from abiding by the principles of waste minimisation (as set out in the SPD). The primary purpose of setting a threshold is to ensure that those larger developments that are most likely to generate waste are identified and demonstrably follow the SPD's principles.

35. The use of specific targets for different types of material to be re-used on-site was considered by the Waste Minimisation Expert Group (Sept 2005) to potentially stifle innovation and be difficult for local authority development control officers to practically implement. However, representatives from the Waste Resources Action Programme (WRAP) considered that a 10% by value target of recycled materials should be included as this is one that the Government intends to introduce in 2006.

36. Whilst there was overall support during preparation of the SPD for an approach that seeks contributions from developers towards the waste management implications of their proposals there was not a consensus as to the best way this could be achieved.

37. There was concern that requiring monetary contributions from developers would lead to costs being pushed on to customers who would then in effect pay for waste management twice (i.e. through their council tax as well). It was also commented that it was unreasonable to expect a developer to pay on-going costs of running a waste facility.

38. Waste has traditionally been 'swept under the carpet' in terms of obtaining S106 contributions. The requirement for developers to consider the waste generation aspects/consequences of their proposals however is receiving a wider profile and greater status, as exemplified by the emerging RSS.

WCS Issues & Options Consultation

39. The detailed outcome of the Issues and Options consultation is set out in the Stakeholder Response Report (and attached full schedule of responses). Below is a summary of the key issues:

- All responses agreed waste minimisation is an appropriate objective.
- More than half of the responses preferred the current policy to be revised in order to take account of new issues.
- 96% of respondents considered that developers of large-scale new developments should be responsible for the waste they generate.
- 62% of the responses thought that developers should combine allocating part of their site whilst also making monetary contributions.

40. There was support for the proactive approach to minimising waste in Gloucestershire: one respondent stated it was an *"excellent way forward"*.

41. There was some support for rolling forward the current adopted policy in the Waste Local Plan, as linked to the adopted Supplementary Planning Document on 'Minimising Waste in Development Projects'.

42. Some stakeholders felt that there was scope to revise the adopted policy to include threshold sizes of planning applications for submitting a waste statement. However, others stated that there should be no threshold and that everyone involved in the construction industry and even DIY projects should be required to submit a waste minimisation statement.

Gloucestershire First Workshops

43. These workshops were held on 3rd November 2006 and covered a variety of issues relating to the waste generation and management issues for small/medium sized businesses in Gloucestershire.

44. The issues that came out of the workshops with specific reference to waste minimisation included:

- Industrial Symbiosis. Small/medium sized businesses working together to use each others spare (waste) materials.
- Materials should be seen as a resource not waste.
- Waste education is key issue (linked to comprehensive understanding of waste and benefits of minimising waste being discarded). Education for business, what are the real costs. Promote more commercial awareness, with both service producers and providers.
- Gloucestershire should have a number of trailblazers and exemplary projects.
- Communicate with businesses the economic aspects- cost reduction benefits.
- Reduction in packaging. Where unavoidable it should be standardised (for example coloured glass).
- Target setting – need for clear commercial waste targets (reduction/recycling).
- Get commercial waste into the great debate.

NHS Clinical Waste Minimisation Policy

45. The National Health Service (NHS) have acknowledged the need to minimise the amount of waste that they either dispose of to landfill or incinerate. A document 'Taking the Temperature' (2007) by the NHS Confederation sets out the NHS policy on this issue. It states:

A key policy action for NHS will be to include a life-cycle analysis where all stages of the waste cycle are considered from procurement, transport and final disposal in all waste management strategies, to ensure that waste is being managed in the most sustainable way, with minimal carbon emissions. In addition, a life-cycle analysis should be included in purchasing and supplies decisions to reduce the amount of waste produced.

46. The document also sets out some innovative approaches to waste minimisation, including:

- A waste audit by Whipps Cross University Hospital NHS Trust revealed that 70 per cent of waste in clinical waste bags was actually domestic waste. The facilities-led Trust Environmental Action Group sought the help of London Remade, a not-for-profit organisation, with staff awareness raising and training. On one hospital ward, staff now use small yellow bags at the bedside, so only necessary clinical waste is disposed of. Repeating this in all clinical areas could save the trust £100,000.

- The average printer cartridge is responsible for around 2.5 kg of CO_2 in its manufacture. Scaled up to reflect total printer cartridges used in NHS England, this is approximately equal to 30,000 tonnes of CO_2. Conscious of this environmental impact, the Hertfordshire Partnership teamed up with Environmental Business Products (EBP) to recycle all the empty printer cartridges from its offices and units.

- Barnsley Hospital Foundation NHS Trust has saved around £29,000 per year by recycling or re-using paper, furniture and clinical waste. The savings made covered the salary of a temporary recycling officer who has since being appointed permanently to help identify further savings.

- According to the Kings Fund, around 17 million hospital meals are disposed of each year, equivalent to £18 million in food costs. Eastbourne District General Hospital reduced the amount of food waste from 19% of the whole to 4% by simply by experimenting with the catering system, for example changing ordering times or asking patients what they like to eat.

District/County Workshops for Planning Case Officers

47. There was overwhelming support for including waste minimisation objectives in the WCS. There were however differences of opinion as to whether to roll forward the adopted WLP Policy 36 or to revise it in light of work undertaken on preparing the SPD on Waste Minimisation.

48. The issues raised by attendees are set out in Appendix A of this Evidence Paper, but those most pertinent to WCS preparation are summarised below:

- Too many policies overall and the waste minimisation policy gets overlooked by Districts.
- Could use two separate policies: one for bigger developments and one for smaller developments.
- The SPD introduces a threshold to deal with this issue but it is not in the policy to which the SPD is supplementary.
- The policy could emphasise greater use of recycled materials
- Emphasise the waste hierarchy – use additional text to explain
- Define thresholds/targets within body of text.
- Make sure the whole life of building is included - planning, design, construction, occupation, and demolition.

- The policy should include a commitment to "demonstrate" recycling/re-use etc.
- The policy is too vague - targets may make policy more effective and easier to enforce though it was noted that targets can be difficult to attach and could make the policy outdated quickly.
- Add a Pre/Design Stage – spell out in policy the respective stages of development where waste minimisation should be considered i.e. design, development, occupation.
- Policy should be redrafted to state that there is a presumption in favour of development, which demonstrates waste minimisation. If applicant doesn't provide such evidence the onus is on them to justify why they're not minimising waste.
- Ensure that the onus is on the applicant to fully justify not re using materials/buildings on site or meeting targets.
- SPD and policy to state specific targets for: brownfield; greenfield; type/scale of development.
- Policy should make it clear that waste is a resource to be used. The word resource is more positive as apposed to waste, which is considered negative.
- Professionals, developers, applicants, councillors need to be trained and educated to ensure policy is properly implemented.

49. The priority of the WCS is to minimise waste generation in the first instance. Some stakeholders raised a concern that it was difficult to assume that waste minimisation initiatives will succeed and therefore an unreliable way to plan for future facility requirements. Whilst this is true, as any waste minimisation strategy will require a massive culture change in the way society operates, it should not detract from efforts to reduce the amount of waste produced.

Minimising Hazardous Waste

50. The issue of minimising the production of hazardous waste at source is addressed briefly in the adopted SPD and was also a matter raised during WCS evidence gathering. Additionally, both the Government, through the National Waste Strategy 2007, and the Environment Agency expect to see greater segregation and purposeful treatment of hazardous waste at source to minimise its impacts (October 2006 position statement).

51. Specific details on hazardous waste management are set out in the Technical Evidence Paper WCS-E 'Hazardous waste'.

52. Three approaches have been considered for inclusion in the WCS in terms of encouraging the prevention of hazardous waste generation. These are:

Approach One

Linking the 'hazardous waste' and the 'waste minimisation' sections of the WCS through the supporting text.

Approach Two

Creating a separate policy in the WCS specifically dealing with minimising hazardous waste.

Approach Three

Adding hazardous waste to a wider waste minimisation policy to be set out in the WCS.

53. In the interests of keeping the number of policies in the WCS to a minimum, whilst retaining the importance of the issue through providing a policy approach rather than using supporting text, it is proposed to follow approach three.

Preferred Options for Minimising Waste

54. There is support for both rolling forward the adopted Policy 36 and also for preparing a new policy approach. The latter approach would include thresholds within the policy for submitting a waste minimisation statement alongside a planning application. These thresholds were identified and considered as part of preparing the SPD on Waste Minimisation.

55. Three preferred options have consequently been prepared, all of which draw upon the evidence base for the SPD. All options have their relative merits and all are potentially deliverable.

56. The first (A) is a flexible approach that allows requirements to change over time as new local/regional/national approaches are introduced (effectively rolling forward Policy 36). The second (B) is also a flexible approach, but is based on the 'principles of waste minimisation'. The third (C) is a rigid criteria based policy that reflects the '10 point checklist' set out in the adopted SPD.

57. Please note that for each of these options text would be provided in support of the policy that sets out the principles of waste minimisation. These are:

- To design proposals sustainably;
- To reduce the amount of waste generated from development;
- To conserve natural resources through re-using waste arising from construction;
- To re-use waste materials on-site to reduce transportation;
- To use recycled materials where possible;
- To reduce waste generation during the operational lifetime of the development, and facilitate recycling where waste does arise.

Policy Option A

35. This option effectively rolls forward WLP Policy 36 with a few word changes to strengthen the policy.

Proposals for major development requiring planning permission must include a scheme for sustainable management of the waste generated by the development during construction and during subsequent occupation. The scheme will include measures to:

i. Minimise, re-use and recycle waste; and
ii. Minimise the use of construction materials; and

iii. *Minimise the pollution potential of unavoidable waste; and*

iv. *Dispose of waste that cannot satisfactorily be re-used/recycled in an environmentally acceptable manner.*

The WPA will proactively pursue initiatives to reduce waste generation in Gloucestershire.

Policy Option B

58. This approach is led by the principles of waste minimisation and as such provides a flexible approach to waste minimisation.

All development requiring planning permission shall abide by the principles of waste minimisation. This includes development that produces hazardous waste as a by-product of its processes.
Development exceeding the Government's 'major development' threshold will be required to submit a statement alongside the application setting out how waste arising during the demolition, construction and occupation (including operational processes) of the development is to be minimised and managed. The statement should also demonstrate how the developer has incorporated recycling provision into the occupational life of the development.*

[*for residential development the term 'recycling' also refers to composting activities – either individual or communal]

Policy Option C

59. This approach is more rigid than the first two policy options in that it states what exactly the applicant/developer needs to provide in support of their proposals.

Planning applications for major development shall be accompanied by a statement setting out how waste generated during construction/demolition and subsequent occupation of the development is to be managed. The statement shall include:

- *Evidence that the scheme's design has incorporated reasonable steps to eliminate waste and that sustainable construction techniques have been considered.*
- *A commitment to use materials comprised of recycled content.*
- *The tonnage of waste materials likely to arise, set out by material type (e.g. wood, brick/concrete, soils, plastics etc)*
- *A method for auditing construction and demolition waste including how waste materials arising during demolition and construction will be segregated and re-used on-site wherever possible, or, where this is not possible, re-used off-site.*
- *Evidence that hazardous waste arisings have been minimised, and where unavoidable suitable provision been made for handling on-site.*
- *Demonstration that waste collection authority advice has been obtained on recycling box / residual bin requirements and that there is adequate access for waste collection vehicles and their operatives.*
- *Where appropriate developers will be expected to contribute towards managing the waste likely to be generated from their proposal.*

60. The first two options (A & B) are the more flexible in that their detailed implementation

is provided by the SPD on waste minimisation (adopted Sept 2006).

61. Policy Option C sets out specific criteria that developers are expected to provide in their statements (the criteria summarise those contained in the SPD checklist).

62. Option B provides a concise, strategic and flexible approach that should not quickly become outdated as new techniques, guidance and initiatives come forward. The WPA favours this option as the policy does not seek to duplicate detailed implementation aspects that may change over time.

63. There is a possibility if Option C is followed that as new requirements emerge from regional and national government this policy could become out-dated leaving the issue to be determined on its merits against national policy.

Reasons for Discounting Other Options

64. The WPA discounted rolling forward unchanged the existing WLP policy on waste minimisation as it does not incorporate the latest guidance on waste audits and sustainable buildings. Evidence derived following extensive consultation, stakeholder engagement, partnership working with the District Councils and an Expert discussion group lead to a feeling that the policy should be updated to more closely reflect that work.

Section 3 Recycling and Composting

65. **Recycling** involves altering the physical form of an object or material and making a new object from the altered material.

66. **Composting** is the biological decomposition of organic materials such as leaves, grass clippings, brush, and food waste into a soil amendment. Composting is a form of recycling.

67. There was support from around 90% of respondents to the I&O consultation for waste to be recycled or composted as a priority. Attendees at the joint waste forum (March 2006) considered that stringent targets and more easily accessible facilities were the two key areas to focus on.

68. The types of facilities for undertaking these activities are considered in the Evidence Paper WCS-G 'Waste Management Facility Types'. Issues relating to provision of these facilities are set out in Evidence Paper WCS-F 'Making Provision'.

Markets for Recyclable Materials

69. The issue of 'closing the loop' for recycled materials i.e. seeking to ensure that there are viable markets for the outcomes of these recycling/composting processes is considered here in more detail. This was a key issue raised by a number of stakeholders at the joint waste forum (March 2006) and in the Issues & Options consultation (September 2006).

70. If an outlet does not exist for the material being collected, bulked and sorted then this defeats the object of recycling. Consequently the second WCS Strategic Objective seeks to encourage markets for these materials.

71. To enable economies of scale to be realised will require positive action at the regional level. The South West Regional Waste Management Strategy (RWMS) Policy P4.1 states that *"Local authorities should promote the establishment and development of businesses that process recyclates and re-use waste"*.

72. The submission South East RSS (Policy W9: 'New Markets') states *"The Regional Assembly, SEEDA, Waste Resources Action Programme (WRAP) and other partners will work together to establish regional and local programmes to develop markets for recycled and recovered materials and products."* There isn't an equivalent policy in the South West RSS.

Recyclate Market Report (March 2007)

73. SWRDA has undertaken a comprehensive assessment of the level of recycling activity in the region. Consultants, Oakdene Hollins, were commissioned by the SWRDA to review the outline recyclate market development programme. The aims of the study were provided in the tender invitation document as:

1. Review the outline market development programme

2. Provide a clear and robust economic analysis of the outline programme benefits
3. Identify the most suitable mechanism for delivery
4. Estimate the level of resource required to deliver the programme objectives.

74. For recyclates that are collected in the South West Region and sold into international markets (metals, paper, glass) the study rejects the proposition that RDA intervention is needed to address market failures. Whilst sending recyclates to processors outside the Region represents a lost opportunity to develop new employment opportunities the consultants believe that there is strong evidence to support the national and international trade in some recycled products in order to maximise the environmental benefits. In the case of glass, the report states that it can be transported as far as Australia or South America for remelting as new glass and still provide a far better CO_2 outcome than grinding glass for use locally as a sand or aggregate substitute.

75. The report also rejects the proposal that a market development programme is required for recycled aggregates. A market already exists in the South West Region for approximately 10 million tonnes of recycled aggregates. The consultants do not identify any supply side activities that could materially impact on this complex market, but do conclude that there are some supply side improvements that are best addressed through existing channels, specifically Future Foundations.

76. In the case of biodegradable wastes (organics, bio wastes and compostables) the study concludes that there is a rationale for intervention. Because Local Authorities need to respond to their reducing Landfill Allowance Trading Scheme (LATS) allowances, there will be a number of new energy from waste (EfW) and compost-dependent technologies proposed in the region in the next five years. Without access to credible regional markets for compost(s) and digestates, EfW technologies will have a competitive advantage. The relative scoring of technology options used by Cornwall County Council when selecting SITA as the waste management contractor is evidence of this.

77. As energy from waste projects can be unpopular, RDA intervention to support market development specific to certain types of compost-dependent technologies may be a value-adding activity for the waste disposal authorities in the Region.

78. For plastics and wood recyclates the evidence base is incomplete and the report is unable to draw conclusions. For these materials the consultant's study proposes that the regional evidence base is improved before any work programme designed at market intervention is started.

79. A DEFRA press release (14/2/06 http://www.defra.gov.uk/news/2006/060214b.htm) seeks a greater strategic role for local authorities in delivering a 'resource' economy. This could mean, for example, engaging with local businesses to give advice and to facilitate business waste recycling schemes, stimulating markets for recycled goods through procurement

decisions as well as encouraging more recycling collection points in places like shopping centres, workplaces and schools.

80. Another key aspect is developing a recycling culture by shifting our thinking so that the recycling of resources is part of our everyday activities whether at home, at work or during leisure.

81. A key aspect of a recycling strategy is therefore the purchasing of the products. In order to close this loop there needs to be a buyer. There is therefore an opportunity for the County to lead by example through purchasing office products made partially or wholly from reclaimed materials.

82. This ties in with GCC's 'getting our own house in order' strategy, which demonstrates that GGC is committed to continually improving its sustainable procurement credentials and will ensure that sustainability is a factor to be considered in all corporate contracts.
In order to minimise waste and practice sustainable procurement, there are two main factors to be considered at the specification and purchasing stages:

1. Specifying **materials and services that minimise waste.** Issues to consider include durability, order quantities, reusability and recyclability, reduced packaging, efficiency of operation or even the impacts of delivery and transportation. Examples include double-side printers, rechargable batteries, or hardwoods rather than treated softwoods. On large contract agreements, it would be appropriate to set performance targets for products and services.

2. Specifying recycled materials. Only by doing this will you be truly involved in recycling, which is, after all, a cycle. Ask yourself : '*Are you in the loop?*' Many recycled products perform just as well as, or sometimes even better than, conventional materials.

83. The requirement in the waste minimisation SPD to include 10% by value of materials with recycled content in construction projects is a good example of how GCC is pursuing this agenda.

Destination of MSW Recyclates in Gloucestershire

84. The destination of some of the main recyclables collected in Gloucestershire is set out in Table 1 (below). Please note that this list is only indicative and not exhaustive.

Table 1: Indicative Destination of Recyclables

Material	Destinations include:	Uses include:
Paper	Kent, Cheshire, China	Pulped for paper
Glass	West Midlands, Wales	Melted for new glass products
Cans - Aluminium	Warrington, Swindon, West Midlands	Back into aluminium products
Cans- steel	Port Talbot, Cinderford, South Wales	Back into steel products
Plastic Bottles	Preston, Birmingham, Hong Kong	Grind and use for pipes and other products
Textiles	West Midlands, Devizes, charity organisations	Re-distributed and re-sold
Card	Gloucestershire	Packaging
Oils	Gloucestershire	Refined and used as lubricant

85. More information on waste data can be found in Technical Evidence Paper WCS-A 'Waste Data'.

Preferred Options

86. This evidence is translated into two different policy approaches *for encouraging markets for recyclable materials*:

Option A

The waste planning authority will encourage development of a 'resource economy'. Proposals for the development of markets for recycled materials, in particular, initiatives to assist small to medium sized businesses to re-use/recycle their discarded materials will be supported by the WPA.

Option B

In encouraging the development of a 'resource economy' the waste planning authority will work in partnership with Gloucestershire First, the Gloucestershire waste partnership, the waste disposal Authority and the Gloucestershire Environment Partnership etc. to promote the development of markets for recycled and recovered materials and products.

87. It is recognised that the delivery mechanisms for these policies fall outside of matters that the WPA can control. Key organisations to help take this policy further are WRAP, ReMade South West, Envirowise and the Industrial Symbiosis Programme. Additionally, some development proposals for processing materials may weel be a B2 (general industrial) land-use and thereby fall to the district local planning authorities to determine. In such circumstances the WPA would potentially be a consultee and would, where appropriate, support such schemes in principle.

Targets and Indicators

88. A level of 10% of the materials value of construction projects to be derived from recycled content is set out in the Gloucestershire's adopted supplementary planning document on 'Minimising Waste in Construction Projects'.

89. Public sector organisations have a stated requirement for recycled content in one or more key contract areas, for example highways maintenance has Best Value Performance Indicators for using recycled material instead of primary aggregates.

90. Another indicator could be the number of Waste Management Licences, PPC permits and Planning Permissions granted to waste management facilities employing innovative or newly developed technologies for recycling materials.

Section 4
Recovering Value from Residual Waste

91. Not all waste is suitable for recycling or composting. Once recycling and composting has been maximised the issue of recovering value from the residual waste needs to be addressed.

92. Recovery is defined as any waste management operation that diverts a waste material from the waste stream and which results in a certain product with a potential economic or ecological benefit.

93. The EU framework directive[1] on waste specifically defines the term "recovery" as comprising operations listed in Annex IIB of the Directive. These are:

- R1 Use principally as a fuel or other means to generate energy
- R2 Solvent reclamation/regeneration
- R3 Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)
- R4 Recycling/reclamation of metals and metal compounds
- R5 Recycling/reclamation of other inorganic materials
- R6 Regeneration of acids or bases
- R7 Recovery of components used for pollution abatement
- R8 Recovery of components from catalysts
- R9 Oil re-refining or other reuses of oil
- R10 Land treatment resulting in benefit to agriculture or ecological improvement
- R11 Use of wastes obtained from any of the operations numbered R 1 to R 10
- R12 Exchange of wastes for submission to any of the operations numbered R 1 to R 11
- R13 Storage of wastes pending any of the operations numbered R 1 to R 12 (excluding temporary storage, pending collection, on the site where it is produced)

94. It should be noted that some of these definitions relate to activities normally termed 'recycling' or 'composting'. Consequently, in the WCS the issue of recovering value relates to residual waste, i.e. that which cannot reasonably be re-used, recycled or composted.

95. Recovery involves transforming the waste products into a useful fuel, e.g: landfill gas; sewage gas; biogas from agricultural waste; digestible domestic or industrial waste. Technologies that extract this energy do so through thermal or biological processes, including: energy from waste; pyrolysis; gasification; anaerobic digestion etc.

96. However, the companion guide to Planning Policy Statement 22 'Renewable Energy'

[1] EU Council Directive 75/442/EEC on waste, as amended by Council Directive 91/156/EEC, Art.1(e)

(PPS22) notes that *'Due to the nature of these technologies, they are not generally well suited to integration in urban environments. For example, most energy from waste plants are situated in close proximity to landfill sites, sewage works or farms, and these are unlikely to be found in urban areas. Many energy from waste schemes also require flare stacks or chimneys to dispose of by-products, and may involve equipment of an industrial scale.'* (PPS22 companion guide, paragraph 6.16).

97. PPS22 companion guide (paragraph 6.21) notes that local planning authorities should encourage the installation of renewable energy schemes in urban areas, but should be realistic in their expectations. There are a number of practical considerations limiting the suitability of various renewable technologies for urban settings. Among these may be issues of noise, odour, traffic or visual impacts. More information in respect of the planning requirements for different types of waste management technologies is set out in Technical Evidence Paper WCS-G 'Waste Facility Types'.

98. Recovery is an important element of the waste hierarchy and one that needs to be addressed, particularly in respect of meeting Landfill Allowance Trading Scheme (LATS) targets for MSW. At the joint waste forum (March 2006) there was stakeholder support for inclusion of a policy on energy recovery in the WCS, for example one stakeholder emphasised the importance of energy recovery from waste as a potential replacement for diminishing supplies of fossil fuels. Additionally the GOSW response to the WCS I&O papers highlighted the stance of central government on the need for more energy from waste facilities to meet biodegradable waste diversion from landfill targets.

99. The National Waste Strategy 2007 provides advice on planning for waste infrastructure and recovering energy from waste. It notes that such an approach is necessary for *"waste which cannot sensibly be re-used or recycled"* (Chapter 5 paragraph 17).

100. The National Waste Strategy goes on to state, in respect of health issues, that: *Concern over health effects is most frequently cited in connection with incinerators. Research carried out to date shows no credible evidence of adverse health outcomes for those living near incinerators. The relevant health effects – primarily cancers – have long incubation times, but the available research demonstrates an absence of symptoms relating to exposures twenty or more years ago, when emissions from incineration were much greater than they are now. Very demanding EU standards for dioxin emissions now apply. The Health Protection Agency has published a short position statement on the health impacts for municipal waste incineration which reaches similar conclusions. (Chapter 5, Paragraph 22, pg77).*

101. Additionally the National Waste Strategy notes that: *Evidence from neighbouring countries, where very high rates of recycling and energy from waste are able to coexist, demonstrates that a vigorous energy from waste policy is compatible with high recycling rates. In the Government's view, the key to ensuring that both are achieved*

is, firstly, excellent quality consultation between stakeholders, at an early stage when local waste strategies are being developed; and, secondly, planning and building facilities with an appropriate amount of flexibility built in. This means flexible – e.g. modular – buildings, and also flexible contracts, which do not lock in fixed amounts of waste for treatment which might become obsolete. (Chapter 5, paragraph 23, pg.78).

Municipal Waste Management Strategy (Residual Element)

102. The economics of municipal waste management is a matter that is being considered in detail by the WDA as part of the Joint Municipal Waste Management Strategy (JMWMS). The JMWMS is being prepared concurrently with the WCS (it was adopted by GCC in October 2007). The outcome of that process will inform which specific technology options the WPA needs to plan for.

103. The JMWMS (Volume 2 'Draft High Level Action Plans') states that it is estimated that even with the implementation of waste minimisation schemes, enhanced recycling & composting collection schemes and a good communication programme, we will still generate approximately 170,000 - 190,000 tonnes of residual waste (i.e. after recycling & composting) in 2020 that requires treating. If waste reduction strategies are effective this could reduce to around 150,000 tonnes, however in the worse case scenario we may need to treat up to 270,000 tonnes of residual waste each year by 2020.

104. It is clear that even a high recycling and composting strategy will require a residual waste treatment solution by 2012/13 in order to meet our LATS targets, and avoid reliance on trading Landfill Allowances or being heavily fined.

105. There are five broad technology options that the WDA are considering for the treatment of residual waste (as approved by GCC Cabinet in October 2007):

- Mechanical biological treatment with residues to landfill;
- Mechanical biological treatment with residues to combined heat and power facility;
- Autoclaving technology with residues to combined heat and power facility;
- Combined heat and power facility (Modern Thermal Treatment (MTT); and
- Advanced thermal treatment (gasification, pyrolysis).

106. The first three technologies offer pre-treatment of the residual waste and require outlets for the materials created by the processes. This includes a "refuse derived fuel" that can be used as a substitute for fossil fuels and some recyclables such as metals.

107. The County Council is developing a residual waste management project to plan in more detail how we will deal with our residual waste. The WDA intend to publish a residual waste management business case in 2008, which will determine:

- the preferred technology that will meet Landfill Directive biodegradable municipal waste diversion targets;
- the preferred location(s);
- how we will deliver and finance this technology; and
- the timeline, commissioning, reliability, and sustainability of markets for output materials.

108. The WDA's current cost benefit and environmental assessment suggests that each residual waste treatment technology offers a varying range of benefits and disbenefits. All technologies will divert biodegradable waste from landfill however; the performance of MBT and autoclaving is dependent on finding outlets for the materials produced.

109. Therefore the WDA are planning to:

- Decide on a preferred waste treatment technology that will extract additional recyclables and further value from residual waste by 2008;
- Provide residual waste management treatment capacity;
- Reduce the amount of active biodegradable waste from landfill at least in line with the requirements of the Landfill Allowance Trading Scheme (see targets) to:

  107,428 tonnes by 2009/10;

  71,555 tonnes by 2012/13; and

  50,069 tonnes by 2019/20;
- Seek and/or develop markets for recovered materials generated by the preferred waste treatment technology; and
- Provide landfill capacity for waste that cannot be recovered.

110. The WPA will be guided by the content of the Residual Procurement Plan in terms of the preferred technology and timescales. Consequently the WPA and WDA have liaised closely in the preparation of the respective strategies in order to ensure a joined up approach that delivers a sustainable waste management strategy appropriate for Gloucestershire's circumstances. Further information in respect of these ongoing discussions is set out in Evidence Paper WCS-K 'Joint Working with the WDA'.

Commercial & Industrial Waste

111. In respect of other waste streams the financing and building of facilities to undertake waste to energy (or other recovery) operations is principally a matter for the waste industry. Market forces are therefore a key driver for determining the technologies that are employed and the size of facility required.

112. Discussions held between the WPA and waste operators in the county have not revealed a demand for specific strategic facilities to recover energy from residual C&I waste. Notwithstanding this, the Evidence Paper WCS-A 'Waste Data', has highlighted that there is potentially a need for facilities to divert C&I waste from landfill, which could include energy from waste technologies. However, due to there currently being little market demand to pursue a particular technology it is considered that any policy relating to

recovery of value from waste should be couched in general (as opposed to technology-specific) terms.

113. The companion guide to PPS22 'Planning for Renewable Energy' sets out in its section 7 the various waste technologies that could be employed as part of an overall waste management system. The intention of Gloucestershire's WCS is to revise the waste technology policies contained in its adopted WLP as part of preparation of the development control DPD. This was set out in the approved M&WDS (May 2005), a stance which was reaffirmed by retaining that approach in the revised development scheme (March 2007).

114. The role of the WCS is to enable sufficient opportunities for the provision of waste management facilities to come forward in appropriate locations (PPS10 companion guide para.2.9). Please refer to Evidence Paper WCS-F 'Making Provision' and Evidence Paper WCS-C 'Broad Locational Analysis', which cover these issues in more detail.

Preferred Options

115. The evidence gathered to date indicates that there are four options in respect of recovering value from waste. The first two (Options A & B) are derived following the consideration in this evidence paper.

Option A - general 'recovery' policy (i.e. not process-specific) - This approach applies county-wide. For example rolling forward the existing WLP Policy 15 taking into account the National Waste Strategy 2007:

Proposals for the development of residual waste facilities will be permitted in appropriate locations where it can be demonstrated that:

- the facility would be part of a sustainable waste management system; and
- in demonstrating sustainablity the facility will not manage waste that could reasonably be recycled or composted; and
- it would realise energy recovery and disposal routes for residues would be satisfactory; and
- the facility would meet the relevant policies and criteria of the development plan.

Option B - MSW specific technology approach - This approach requires the addition of a paragraph to the end of Option A to address specific MSW requirements from the JMWMS Residual Procurement Plan.

Proposals for the development of residual waste facilities will be permitted in appropriate locations where it can be demonstrated that:

- the facility would be part of a sustainable waste management system; and
- in demonstrating sustainablity the facility will not manage waste that could reasonably be recycled or composted; and

- it would realise energy recovery and disposal routes for residues would be satisfactory; and
- the facility would meet the relevant policies and criteria of the development plan.

Proposals for the development of _____ (INSERT PREFERRED TECHNOLOGY AS STATED IN RESIDUAL PROCUREMENT PLAN) to manage municipal solid waste will be permitted in appropriate locations provided it accords with the above criteria.

116. The following two alternatives (Options C & D) have been developed following consideration of provision issues (see Technical Evidence Paper WCS-F 'Making Provision') and locational issues (see Technical Evidence Paper WCS-C 'Broad Locational Issues').

Option C - Residual Treatment Facilities – *Site Specific Approach*

Strategic sites for waste treatment facilities will be allocated in a site specific development plan document. Such facilities will be located in accordance the broad locational approach identified in the Waste Core Strategy, and accord with the following criteria:

a) industrial estates and employment land (allocated or permitted for B2 uses);

b) previously developed land;

c) existing waste management facilities.

Planning applications for local residual waste treatment facilities will be determined using the three criteria set out above.

Physical and environmental constraints, including the impact on neighbouring land uses, will be key considerations for both local and strategic sites.

Option D - Residual Treatment Facilities – *Broad Location Approach*

Strategic sites for accommodating waste treatment facilities should be situated within the broad locational area identified in the Waste Core Strategy. Within that area facilities are directed towards:

a) industrial estates and employment land (allocated or permitted for B2 uses);

b) previously developed land;

c) existing waste management facilities and mineral sites.

Planning applications for local residual waste treatment facilities will be determined using the three criteria set out above.

Physical and environmental constraints, including the impact on neighbouring land uses, will be key considerations for both local and strategic sites.

Appendix A
Waste Minimisation Training Session

Below are the notes taken from each table at the development control case officer training session on the 27th February 2007.

Comments from Workshop 1:

Assessing an example of a waste statement against the SPD checklist

Table 1

The WMS is fairly comprehensive, but in certain places, under certain headings it is a bit vague.

The waste statement would be much easier to read and an assessment made of it much more easy if it were set out following the format of the checklist on page 6 of the SPD. Evidence of repetition because of the confused layout.

The WMS is particularly vague on the issue of the reuse of materials on site. Not enough information has been provided.

The WMS is very detailed on certain aspects (e.g. Waste storage boxes) where perhaps the information is easier to provide. e.g. paragraphs 2.5 – 2.6 waste storage where Building Regulations documents have been followed and discussions taken place with the Waste Collection Authority in respect of their particular requirements and methods of collection.

The development is of a significant size, (80 residential dwellings / 2 blocks of 10 flats / 1000 sq. m of office floor space / 6 retail units / community centre) the WMS could have included more information on all aspect of waste minimisation in the development – proportionate to its size and how much waste will be generated.

Even though these requirements are potentially putting more pressure on DC Officers who have yet another checklist to deal with. The SPD is a good start for Gloucestershire as these requirements are coming through anyway via national legislation and national and regional policy.

Table 2

Generally the statement was considered to be okay.

Identify client or contractor responsibilities for producing WMS – should the author have minimum qualifications?

Balance between general issues and specifics is difficult to judge. In the case of this example, there is a mixture of general and specific issues, but it is not easy to determine a suitable mix in all cases. This would improve as experience is gained over time.

Some evidence of individual (site specific) thought in the statement, but could be a bit 'off the shelf'. There is a danger that this could be a tick-box exercise if WMS's are not case specific.

How will they prove that they will do what they say? – What records are required to be kept? Monitoring and enforcement processes – It may

be appropriate to use building control officers to assist in monitoring implementation.

Construction/demolition tonnages. Difficult to understand where these came from (are they estimates?). To what extent are we concerned with accurate data and how close to actuals should estimates be?

The statement needs to be a living document – it should move with the process and be updated to reflect changes in circumstances.

The statement should concentrate on priority materials. Follow the 80:20 rule.

Table 3

The statement addresses the issues in the SPD.

General Comments about SPD: Incorporating recycled materials maybe an issue in developments in Conservation Areas/involving Listed Buildings i.e. the suitability of recycled products.

Concerns raised regarding enforcement: Manpower needed to properly ensure that the statements are implemented. Who will audit the sites? Skills gap in-house – e.g. is 30% recovery target enough, in some developments yes but others it may not be. Therefore how do we know when rates are too low and we should push for higher rates? How do you enforce the recycling targets which aren't reached?

Possible solutions: Monitor 1 in 10 developments, condition the approval of specific recycled materials rather than referring to targets.

Concern that this yet another requirement for applicants to factor into their developments but agreed that Planners are in a good position to raise awareness

Concern that Planning could be overlapping a Building Control function.

The types of design/layout solutions required, as highlighted in Carlos Novoth's (Stroud District Council Waste Manager) presentation, are clearly related to Planning and are very tangible/practical measures that can be incorporated into new developments to help minimise waste.

Table 4

The example statement is generally OK, appears to reflect requirements of the SPD.

Weak on the operational and occupation aspect.

The architect needs at initial stage of design to consider issues of waste minimisation.

Statement indicating that targets and actions will be carried out "where possible" should be avoided as it becomes too easy to not deliver.

It could include more details about waste minimisation related to the specific layout of the proposed development

Design and Access Statement – aware that applicants are required to submit a lot of supporting information - waste minimisation information could be requested as part of the statutory design and access statement.

Concern becomes generic – group was concerned that applicants would submit bland non-specific statements - need to emphasise

that the statement fully reflects the proposed development.

Skills to assess content – officers were concerned that they didn't have requisite skills to assess the quality of the statement, as they are not waste planners.

Applicants may challenge the need for this information at appeal.

Delays due to need to re consult on applications. Need to be careful that the requirement for this information doesn't result in delays

Enforce – there was concern that aspect of this and other statements may be difficult to enforce and monitor.

10% recycled material by value - Cost is a key issue as applicants are likely to be resistant if there is significant cost implications

Applicants for smaller developments may find this a greater burden but cumulatively small development can give rise to considerable waste and is as important to require statements on small sites as it is on larger developments.

Comments from Workshop 2:

Including a revised waste minimisation policy in the emerging Waste Core Strategy

Table 1

The group considered that WLP Policy 36 was a reasonably good policy in itself. There was not a great deal lacking in it and not too much to be added or changed. However the problem at district DC level was that the policy was just not used. If County level policies were referred to it was generally those in the Structure Plan. Generally there are so many policy considerations (even in the district local plan) that this policy is often overlooked or not considered.

Policy 36 requires a scheme for the sustainable management of waste during the construction and occupation phases. The design stage needs also to be addressed.

The policy is aimed at all development i.e. anything requiring planning permission. The question was asked: Is this realistic? The SPD introduces a threshold to deal with this issue but it is not in the policy to which the SPD is supplementary.

Table 2

The policy could emphasise greater use of recycled materials

Could use two separate policies: one for bigger developments and one for smaller developments.

Emphasise waste hierarchy – use additional text to explain

Define thresholds/targets within body of text. Provide an overview of SPD targets, but refer to main SPD document for detail.

Make sure whole life of building is included - planning, design, construction, occupation, and demolition.

Clarify term 'raw material'. Does this mean just virgin material or should it include recycled raw materials too?

Table 3
The policy should include a commitment to "demonstrate" recycling/re-use etc

The policy should include a target or a percentage to aim for.

Concern about phrase 'minimise use of raw materials'. What does this mean?

The policy doesn't consider energy implications of recycling. It should emphasise on-site waste management

Should emphasise design and layout in the policy and infrastructure e.g. communal composting

There are different local priorities across the County and different districts will attach different weight to this policy. Some district's may give more weight to other factors e.g. securing provision of open space in developments rather than recycled materials.

Table 4
The policy is too vague - targets may make policy more effective and easier to enforce though it was noted that targets can be difficult to attach and could make the policy outdated quickly. (see comments below re targets)

Add a Pre/Design Stage – spell out in policy the respective stages of development where waste minimisation should be considered i.e. design, development, occupation.

Policy should be redrafted to state that there is a presumption in favour of development which demonstrates waste minimisation. If applicant doesn't provide such evidence the onus is on them to justify why they're not minimising waste. Ensure that the onus is on the applicant to fully justify not re using materials/building on site or meeting targets.

SPD and policy to state specific targets for:

- Brownfield
- Greenfield
- Type/Scale of Development

Policy should make it clear that waste is a resource to be used. The word resource is more positive as apposed to waste, which is considered negative.

Positive / Proactive specific awareness buy in – Overall Green Policy

General point - professional, developers, applicants, councillors need to be trained and educated to ensure policy is properly implemented.