

SOUTH WEST WALES REGIONAL WASTE GROUP

SOUTH WEST WALES REGIONAL WASTE PLAN

1ST REVIEW

NON-TECHNICAL SUMMARY



August 2008

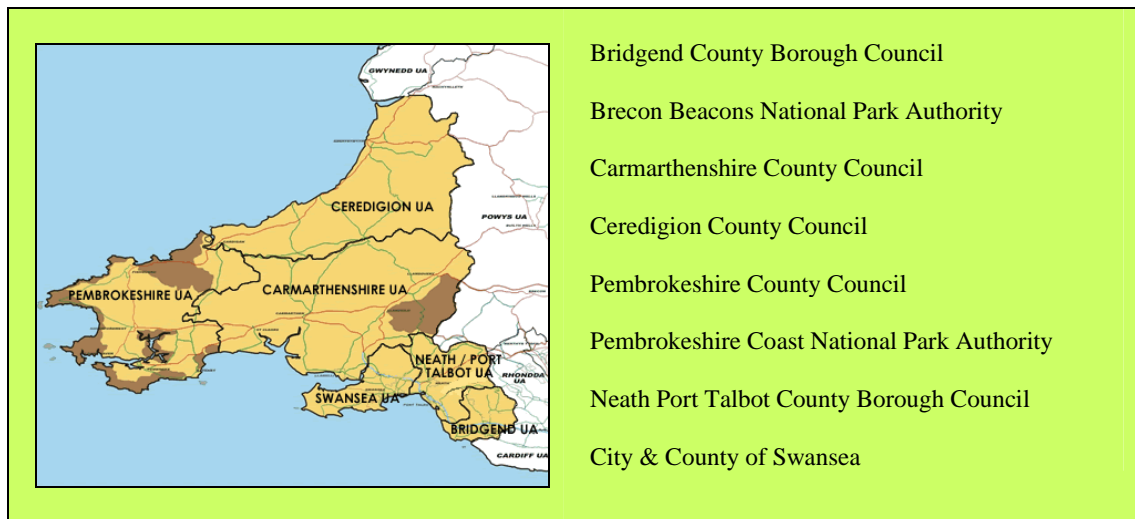


PART A: BACKGROUND & INTRODUCTION

INTRODUCTION

Regional Waste Planning

- 1 This Regional Waste Plan (RWP) 1st Review has been prepared by the South West Wales Regional Waste Group (RWG) in line with the requirements of Planning Policy Wales Technical Advice Note 21: Waste (TAN 21) and later guidance from the Welsh Assembly Government (WAG).
- 2 The South West Wales Group is one of three such bodies set up in Wales to provide regional coordination and a strategic integrated approach to the management of all waste streams. The Group is led by a Regional Member Forum made up of Councillors from the 8 constituent Local Planning Authorities (LPA's) in the region and is supported by a Regional Technical Group of officers from local government, the WAG, Environment Agency Wales (EAW) and other government bodies and representatives from the waste industry and environmental groups.
- 3 The geographical area covered by the RWG is shown below:



The Region

- 4 South West Wales has a resident population of approximately 29% of the population of Wales. The region has a distinct mix of urban and rural areas. The urbanised area is centred on Swansea Bay at the western end of Industrial South Wales and the remaining part of rural West Wales is a mix of service centres, market towns and dispersed rural villages. Such areas present different problems and challenges for the management of waste.

The Reasons for Reviewing the Regional Waste Plan (RWP)

- 5 TAN 21 sets the WAG's requirements for the review of the RWP. In addition to these requirements, there are a number of practical reasons for reviewing the RWP:

- The first RWP was based on forecasts of future waste arisings made in 2002. It has been necessary to review the forecast models in light of new data on arisings, current thinking on future arisings and an up-to-date understanding of the regional context;
- A number of new waste management / resource recovery technologies were not included in the Options developed for the first RWP because, at that time, little information was available about these technologies. More information about these technologies is now available;
- Research into the markets for the products of Mechanical Biological Treatment (MBT) processes can now be factored into the sustainability appraisal;
- EAW has produced an updated Life Cycle Assessment tool which will allow more accurate assessment of MBT and assessment of other new waste management / resource recovery technologies; and
- The first RWP did not fully address the location and distribution of facilities that can serve more than one local authority area. The next three to four years will be critical in determining whether Wales establishes the necessary infrastructure in time to meet European Union (EU) and Waste Strategy targets and to provide the alternatives to landfill that are required. The revision of the RWP thus comes at a critical juncture and it is considered essential that a choice of locations for waste facilities is identified so that more certainty can be provided to the market.

THE POLICY CONTEXT

6 Waste is an international issue and accordingly there are a number of European Union (EU) Directives that affect Member States. The most relevant Directives are:

- Waste Framework Directive;
- Landfill Directive;
- Hazardous Waste Directive;
- Waste Incineration Directive; and
- Integrated Pollution Prevention and Control Directive.

7 EU Directives set the context for National waste legislation, policy and initiatives. The most relevant of these which provide the context for the RWP 1st Review are:

- The National Waste Strategy for Wales (NWSW);
- Planning Policy Wales Technical advice Note 21: Waste;
- Environment Strategy for Wales;
- The Landfill Allowance Scheme (Wales) Regulations 2004;
- The Landfill (England and Wales) Regulations 2002;
- The Hazardous Waste (England and Wales) Regulations 2005 & The List of Wastes (Wales) Regulations 2005;
- The Waste Management (England and Wales) Regulations 2006 – The Agricultural Waste Regulations;
- Pollution Prevention & Control (England and Wales) Regulations 2000; and
- Animal By-Products (Wales) Regulations 2006.

VISION, AIMS AND OBJECTIVES

8 The RWP 1st Review has the following Vision and Aims:

To provide a land use planning framework for the sustainable management of wastes and recovery of resources in South West Wales, with the following aims:

- **To minimise adverse impacts on the environment and human health.**
- **To minimise adverse social and economic impacts and maximise social and economic opportunities.**
- **To meet the needs of communities and businesses.**
- **To accord with the legislative requirements, targets, principles and policies set by the European and national policy framework.**

9 To help achieve these Aims, the RWP has 16 objectives divided into 4 groups:

- Environment and Health;
- Socio-Economic;
- Waste Management Service Delivery; and
- Policy Framework.

UNDERLYING PRINCIPLES

10 It is essential that the RWP 1st Review be guided by sound principles as a basis for the consideration of alternative strategic waste management Options and developing the spatial strategy. The following key principles have been drawn from the European and National policy context and are considered to be fundamental:

- **Sustainability** – ensuring “*development which meets the needs of the present without compromising the ability of future generations to meet their own needs*”;
- **The Waste Hierarchy** – establishing that waste should be managed by, in descending order of desirability, reduction, reuse, recovery of materials, recovery of energy and disposal;
- **Proximity** – the principle that waste should be managed as near as possible to where it is produced; and
- **Regional Self Sufficiency** – the principle that as far as practicable waste should be managed within the region where it is produced.

11 Other considerations identified are: producer responsibility; the precautionary principle; consultation and equal opportunity; and integration and partnership.

WASTE ARISING AND MANAGEMENT – THE CURRENT POSITION

12 The RWP 1st Review provides the framework for dealing with waste arising from all sources in South West Wales needing management, treatment and disposal. The Plan relates to the following principal ‘controlled’ waste streams:

- Municipal Solid Waste (MSW);
- Industrial Waste;
- Commercial Waste;
- Construction & Demolition Waste (C&D);
- Hazardous Waste; and
- Agricultural Waste (the proportion requiring external management only).

- 13 Altogether in South West Wales approximately 4.3 million tonnes of waste is produced each year and that amount is forecast to rise over the next decade. An examination of existing waste management / resource recovery infrastructure across the region shows that the existing capacity of the newer generation of residual waste treatment technologies is very limited. **There is therefore an urgent need to commission new infrastructure in order to meet 2013 targets for landfill diversion.**

PART B: THE REGIONAL WASTE PLAN TECHNOLOGY STRATEGY

DEALING WITH WASTE – THE METHODS AVAILABLE

- 14 A range of waste management methods and technologies can be used to manage waste. These vary in their impact and some are more suited to particular wastes and waste streams than others.
- 15 **Recycling** – the term ‘recycling’ means to reprocess a waste material into a usable item either in the same form as the original product or into a different product. To achieve recycling, the appropriate waste materials (recyclate) must be separated from the mixed waste stream. The separation can be achieved in a number of different ways, for example, householders can take the materials to dedicated facilities (known as bring or ‘drop-off’ sites) such as bottle or paper banks or to Civic Amenity (CA) Sites (increasingly known as Household Waste Recycling Centres). Alternatively, the materials may be collected directly from the households or recyclate may be extracted from mixed MSW by a mechanical process.
- 16 **Composting** – is a biological process in which biodegradable wastes, such as garden and kitchen waste, are decomposed in the presence of air under the action of micro-organisms. The process results in elevated temperatures of the waste, the production of carbon dioxide, water and a stabilised residue. The nature and quality of the residue will depend on the input material, the composting process itself and the market into which the residue is due to be sent. The residue may be marketed as a compost, soil conditioner or mulch.
- 17 **Mechanical Biological Treatment (MBT)** – MBT is a generic term for an integration of several processes, primarily of a mechanical and biological nature, commonly found in other waste management technologies such as Materials Recovery Facilities (MRF’s), sorting and composting plants. An MBT plant can incorporate a number of different processes in a variety of combinations and can be built for a range of purposes.
- 18 The process recovers materials and energy from ‘residual’ waste (i.e. the waste left over after recycling by separation at source). The aim of the process is to further reduce environmental impacts before disposal of the residual waste and to gain additional value from the recovery of materials. Though MBT reduces waste it still leaves a significant residual waste which must go for final disposal either by landfilling or by some thermal treatment. It is not therefore, a ‘stand-alone’ treatment for residual waste but is an intermediate process requiring integration with a waste disposal facility.
- 19 **Mechanical Heat Treatment (MHT)** – MHT is a relatively new term. It is used to describe configurations of mechanical and thermal based technologies, including steam. **Autoclaving** is the most common type of MHT system, which is the application of steam to the wastes in a sealed pressurised vessel. The waste is generally heated to a temperature of between about 130°C and 180°C. The primary output is a floc like material often referred to as ‘fibre’. This comprises the organic components of the waste stream which are broken down into a fibrous material. Metals and plastics may be recovered and recycled. The tonnage sent to landfill from the MHT process will depend on the markets / outlets found for the floc.

- 20 Autoclaving is in common use for the treatment of some clinical wastes and also for certain rendering processes for animal wastes however, its application to MSW is a recent innovation.
- 21 **Energy from Waste (EfW)** – Conventional thermal treatment is already a mature and well established technology. EfW or ‘incineration with energy recovery’ involves the combustion of waste (typically unprepared raw or residual MSW) under controlled conditions, to reduce its volume and hazardous properties, and to generate electricity and/or heat.
- 22 EfW facilities are designed to burn the waste as efficiently as possible and require process control measures for emissions and extensive flue gas cleaning equipment. There is a requirement to deal with the residues of the combustion process. There are two principal solid residues from such systems: the bottom ash, which is the solid remainder of the waste after processing; and the flue gas treatment residues from the air pollution control process. The bottom ash may be recycled into appropriate construction applications or disposed of to landfill.
- 23 The volume of waste needing disposal following combustion is reduced by approximately 90%, limiting the need for landfill. Biodegradable Municipal Waste (BMW) content in the outputs is also reduced to zero.
- 24 **Advanced Thermal Treatment (ATT)** – ATT technologies are primarily those that employ pyrolysis and/or gasification to process MSW. Pyrolysis and Gasification are considered to be multi-stage processes and require additional facilities to prepare the material to a suitable standard. The gasification and pyrolysis of solid materials is not a new concept. It has been extensively used to produce fuels such as charcoal, coke and town gas. It is only in recent years that pyrolysis and gasification has been commercially applied to the treatment of MSW.
- 25 **Pyrolysis** is a medium temperature thermal process where organic derived materials in the waste are broken down under the action of heat and in the absence of oxygen. Pyrolysis is similar to the process which produces charcoal and only carbon based materials can be pyrolysed.
- 26 **Gasification** operates at a higher temperature range than pyrolysis, typically 800-1200°C. Air or oxygen is used to partially combust the waste to achieve higher temperatures. Additionally, water is added to the gasifier and at these high temperatures the water ‘cracks’ into hydrogen and oxygen. As with pyrolysis the gas produced can be combusted to generate electricity and a solid residue (ash or slag) is also produced which usually requires disposal if no markets for recycling are available.
- 27 **Landfill** – This method of waste management is the most familiar and can be described as the deposit of waste onto or into land. Growing concerns about environmental problems associated with landfill coupled with the growing awareness that landfill is wasteful of resources, has led to the current position that landfill is no longer regarded as the preferred option for the management of waste.
- 28 Whilst landfill is no longer the preferred management option, it nevertheless has a continuing role in both the waste management strategies of individual authorities and in the regional strategy for the following reasons:

- There will inevitably be a period of transition when alternative waste management technologies / facilities are being introduced and during this time waste will continue to be buried in existing landfill sites;
 - All other waste management methods leave residual amounts of waste which will continue to be placed in landfill; and
 - It is likely that for some wastes, the Best Practicable Environmental Option (BPEO) will continue to be landfill.
- 29 **Treatment Facilities for Specific Wastes** – Specific waste streams not similar to MSW need specific types of treatment facilities. Such facilities include:
- Battery recycling;
 - Chemical treatment;
 - Construction and Demolition waste recycling;
 - End of Life Vehicle (ELV) treatment;
 - Packaging recycling;
 - Tyre recycling / recovery;
 - Waste Electrical & Electronic Equipment (WEEE) treatment;
 - Thermal treatment of soils;
 - Vitrification; and
 - High temperature incineration.
- 30 None of the identified methods for dealing with waste should be considered in isolation. Moreover, they will have to be considered and utilised in combination in an integrated treatment and disposal strategy.

DEALING WITH RESIDUAL WASTE – IDENTIFYING THE OPTIONS

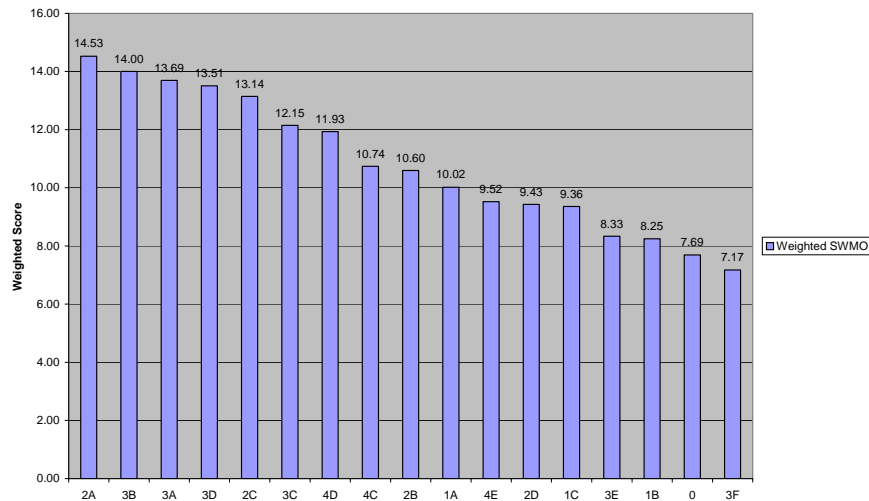
- 31 The first practical reason behind this review is the need to re-evaluate the generation and assessment of the alternative strategic waste management options – the different combinations of waste management technologies that would enable the region to meet or exceed legislative targets.
- 32 The following key issues for the review of the Options were agreed:
- For the first RWP, the ‘Do More’ approach of aiming to achieve the 2020 BMW Landfill Directive target in 2013. **The RWP Review has taken this decision as a starting point (i.e. does not consider Options that do not achieve the 2020 BMW Landfill Directive target in 2013);**
 - In order to take account of better information on new technologies, the markets for their outputs and the new capabilities of the Life Cycle Assessment tool: **EfW has been sub-divided into pyrolysis, gasification and incineration with energy recovery; and autoclave has also been included in the Options;** and
 - For the first RWP, the target year used for the assessment of Options was 2013. **The 2013 target year has been retained for the review.** The advantage of this will be twofold: it will focus the minds of all concerned on the required investment in infrastructure and using 2013 provides consistency and enables comparison with the first RWP.

- 33 Four main Options covering the main treatment technologies for residual waste were developed. Option 0 'Do-Nothing' is included for assessment purposes only. Each main Option is divided into sub-Options. The 19 sub-Options are considered to represent a sufficient range of choices for dealing with waste in the region:
- 34 **Option 1 (A landfill-led Strategy for Residual Waste):**
1A (Pyrolysis) – the management of residual waste through low level thermal treatment using a pyrolysis technology;
1B (Gasification) – the management of residual waste through low level thermal treatment using a gasification technology;
1C (Incineration with Energy Recovery) – the management of residual waste through low level thermal treatment using incineration technologies.
- 35 **Option 2 (An EfW-led Strategy for Residual Waste):**
2A (Pyrolysis) – the management of residual waste through high level thermal treatment using a pyrolysis technology;
2B (Gasification) – the management of residual waste through high level thermal treatment using a gasification technology;
2C (Incineration with Energy Recovery) – the management of residual waste through high level thermal treatment using incineration technologies;
2D (Anaerobic Digestion) – the management of residual waste through high levels of biological treatment using Anaerobic Digestion.
- 36 **Option 3 (MBT-led Strategy for Residual Waste):**
3A (MBT followed by Pyrolysis) – the management of residual waste using MBT with the resultant Refuse Derived Fuel (RDF) treated at a pyrolysis plant;
3B (MBT followed by Gasification) – the management of residual waste using MBT with the resultant RDF treated using a gasification technology;
3C (MBT followed by Incineration with Energy Recovery) – the management of residual waste using MBT with the resultant RDF thermally treated using incineration technologies;
3D (MBT followed by fuel to off-site energy use) – the management of residual waste using MBT with the resultant RDF than transported off-site for co-firing in a cement kiln;
3E (MBT followed by Anaerobic Digestion) – the management of residual waste using MBT including AD;
3F (MBT followed by Landfill) – the management of residual waste through MBT including aerobic composting.
- 37 **Option 4 (An Autoclave-led Strategy for Residual Waste):**
4A (Autoclave / MHT followed by Pyrolysis) – the management of residual waste using autoclave with the resultant fibre thermally treated using pyrolysis;
4B (Autoclave / MHT followed by Gasification) – the management of residual waste using autoclave with the resultant fibre thermally treated using gasification;
4C (Autoclave / MHT followed by Incineration with Energy Recovery) – the management of residual waste using autoclave with 50% of the resultant fibre thermally treated using incineration technologies;
4D (Autoclave / MHT followed by fuel to offsite energy use) – the management of residual waste using autoclave with 50% of the resultant fibre sent to a cement kiln;
4E (Autoclave / MHT followed by Landfill) – the management of residual waste using autoclave with 100% of the fibre is disposed of to landfill.

DEALING WITH RESIDUAL WASTE – ASSESSING & CONSULTING ON THE OPTIONS

- 38 Having identified the range of Options for the review, a number of techniques must be used to assess the strategic waste management Options. These include:
- Life Cycle Assessment (LCA) – to determine the ‘Best Practicable Environmental Option’ (BPEO);
 - Sustainability Appraisal (SA) – developed from BPEO and ‘Sustainable Waste Management Option’ (SWMO);
 - Strategic Environmental Assessment (SEA); and
 - Health Impact Assessment (HIA).
- 39 **Life Cycle Assessment (LCA)** – LCA is used to assess the environmental aspects of waste management activities during their whole life. It has been defined as the “*systematic identification of all environmental benefits and disbenefits that result, both directly and indirectly from a product or process throughout its entire life, from raw materials extraction, to their eventual return to the environment*”. The guidance on SA recommends the use of such a quantitative assessment for appraising the effect of the options on resource use and emissions.
- 40 **Sustainability Appraisal (SA)** – SA is the process and assessment method that is at the centre of developing a Regional Waste Strategy. It is a methodology for appraising strategic waste management options that takes account of environmental, socio-economic and implementation issues through the use of indicators that are weighted by decision makers. In taking account of such a wide range of issues, and through the use of weighted indicators, the SA methodology provides a robust and comprehensive approach to identifying a ‘preferred option’ and transparency in decision-making.
- 41 In order to identify and agree the sustainability objectives and indicators to be applied in this assessment, the RWG reviewed the 22 sustainability indicators used in the preparation of the first RWP and concluded that all remained relevant for the review. The indicators can be broadly categorised as environmental and health, socio-economic, waste management service delivery and public framework objectives.
- 42 The best performing options for both the LCA and SA are from either Option 2 or Option 3 indicating the fact that the preferred waste management method is to thermally treat the residual waste with energy recovery either directly or using a mechanical and biological pre-treatment. In addition, sub-Options 4D and 4C (Autoclave-led strategy for residual waste) also perform well. The Figure shows in ranked order (a higher score is preferable) the valued and weighted SA performance scores for all options for South West Wales.
- 43 Whilst it is difficult to conclusively identify that one option significantly out performs the others, the results for the region indicate that waste management systems incorporating high levels of thermal treatment, or MBT followed by thermal treatment make up the top six options. As all of these options scored well in the SA, and in order to provide flexibility in the waste planning process, the conclusion from the appraisal is that any of the highest scoring options could be considered when reviewing the RWP.

Ranked, Valued and Weighted SA Performance Scores for South West Wales



- 44 **Strategic Environmental Assessment (SEA)** – SEA is a procedure which centres around the production of an ‘Environmental Report’ in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated.
- 45 The overall conclusion of the SEA is that similarly to the other assessments, it is difficult to conclusively identify that one option significantly out performs the others. However, given the landfill emphasis associated with Options 0, 1 and parts of Option 4, on the whole Options 2 and 3 are more likely to ensure that the Landfill Directive and NSW targets will be met by 2013 and potentially beyond.
- 46 **Health Impact Assessment (HIA)** – HIA is “A combination of procedures, methods and tools by which a policy, programme or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population”.
- 47 The conclusions of the Strategic HIA are that:
- The technology analysis points to further residual waste recycling rather than just energy recovery as the better option (i.e. Options 3 and 4) – though Option 2 is also seen as a good option;
 - The spatial analysis, because of the numbers of facilities, size of sites, and the need for more waste lorry movements, points to Option 2 (fewer sites, though larger, and less waste lorry movements overall) on balance being the better option;
 - Overall, taking into account both the technology and spatial analysis, there is no single best public health strategic waste management Option. All three main options (i.e. Options 2, 3 and 4), are good Options from a public health perspective at both the regional and national levels and each of them has strengths and weaknesses; and
 - It has not been possible to identify any differences between the various sub-Options within each of the main Options 1-4 except to note that there are likely to be greater potential negative mental health and social capital and cohesion effects from the potentially greater concern an element of the local population are likely to have with

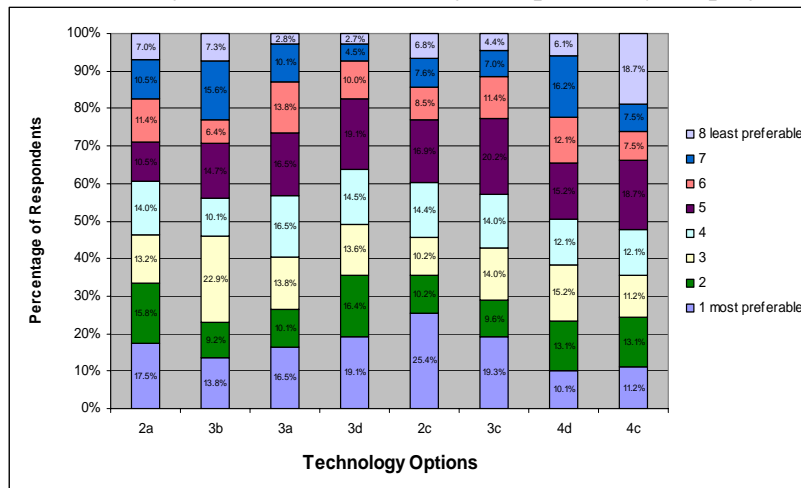
regard to thermal treatment facilities – particularly incineration with energy recovery that might be sited near their neighbourhoods.

48 **Consultation** – Based on the results of the LCA and SA, and given that the SEA concluded that no clear leader emerged from amongst the Options, and given that the strategic HIA concluded that while Options 2, 3 and 4 are good from a public health perspective there is no single best Option, the best performing eight sub-Options in the SA were presented in the RWP 1st Review Consultation Draft as the alternative Options that would enable South West Wales to meet or exceed legislative targets. They included:

- **Sub-Option 2A** – High source segregated recycling and composting levels followed by high levels of Pyrolysis;
- **Sub-Option 3B** – High source segregated recycling and composting levels with all remaining residual waste being treated using MBT followed by Gasification;
- **Sub-Option 3A** – High source segregated recycling and composting levels with all remaining waste being treated using MBT followed by Pyrolysis;
- **Sub-Option 3D** – High source segregated recycling and composting levels with all remaining waste being treated using MBT followed by fuel to off-site energy use;
- **Sub-Option 2C** – High source segregated recycling and composting levels followed by high levels of Incineration with Energy Recovery;
- **Sub-Option 3C** – High source segregated recycling and composting levels will all remaining waste being treated using MBT followed by Incineration with Energy Recovery;
- **Sub-Option 4D** – High source segregated recycling and composting levels with all remaining waste being treated using an autoclave followed by fuel to off-site energy use; and
- **Sub-Option 4C** – High source segregated recycling and composting levels with all remaining waste being treated using an autoclave followed by Incineration with Energy Recovery.

49 The consultation survey asked respondents which of the eight sub-Options was their preferred choice. Sub-Options 3D (*MBT followed by fuel to off-site energy use*), 2A (*Pyrolysis*), 2C (*Incineration with energy recovery*) and 3C (*MBT followed by Incineration with energy recovery*) were the more strongly favoured alternatives.

Responses to the Survey Question – “Which of the options is your preferred choice?”



- 50 The Consultation Report concluded that it would be inappropriate to select one preferred sub-Option and that in order to maintain choice and flexibility in the approach to waste management, all eight best performing sub-Options should be retained and presented as alternative solutions.

THE RWP TECHNOLOGY STRATEGY

- 51 Having identified and assessed the alternative strategic waste management Options for the RWP 1st Review, one or more Options must be selected as the RWP Technology Strategy.

The RWP Technology Strategy – Eight Preferred Options

- 52 The RWP Technology Strategy has been identified on the following basis:
- The LCA and SA identified eight top performing sub-Options;
 - The SEA concluded that no clear leader emerged from amongst the Options;
 - The strategic HIA concluded that while Options 2, 3 and 4 are good from a public health perspective there is no single best Option; and
 - The Consultation Report concluded that all eight best performing sub-Options should be retained and presented as alternative solutions.
- 53 In order to provide adequate flexibility and choice, eight ‘Preferred Options’ have been selected as the RWP Technology Strategy in order to form the framework for the sustainable management of wastes and recovery of resources in South West Wales.

The RWP 1st Review Technology Strategy

High source segregated recycling and composting levels with all remaining residual wastes, where possible, being managed by:

- **High levels of Pyrolysis** (sub-Option 2A); and/or
- **High levels of Incineration with energy recovery** (sub-Option 2C); and/or
- **MBT followed by Pyrolysis** (sub-Option 3A); and/or
- **MBT followed by Gasification** (sub-Option 3B); and/or
- **MBT followed by Incineration with energy recovery** (sub-Option 3C); and/or
- **MBT followed by RDF to off-site energy use** (sub-Option 3D); and/or
- **Autoclave followed by Incineration with energy recovery** (sub-Option 4C); and/or
- **Autoclave followed by RDF to off-site energy use** (sub-Option 4D).

Important Caveats Regarding the RWP Technology Strategy

- 54 Regarding the management of Municipal waste, the RWP Technology Strategy will provide strategic direction for those UA’s that require it. It will not prejudice any existing progress and facilities either where a UA has in good faith gone about its procurement process in line with the first RWP or where a UA has for sound reasons made other plans which have been developed and justified through a process of a local BPEO assessment / Sustainability Appraisal / Strategic Environmental Assessment.
- 55 The NWSW states that one of its primary objectives is “...to make Wales a model for sustainable waste management by adopting and implementing a sustainable, integrated

approach to waste production, management and regulation (including litter and fly tipping) which minimises the production of waste and its impact on the environment, maximises the use of unavoidable waste as a resource, and minimises where practicable, the use of energy from waste and landfill. The eight Preferred Options of the RWP Technology Strategy:

- Are the best practicable environmental and sustainable sub-Options;
- Maximise the use of unavoidable waste as a resource through high source segregated recycling and composting levels; and therefore
- Minimise the use of EfW and Landfill.

Indicative New Capacity Required & Indicative Number of New Facilities Required

56 The modeling undertaken by EAW for the SA of the Options apportioned the total capacity required at various types of waste management facilities in 2013 to each Unitary Authority (UA) area on the basis of the forecast arisings. By comparing the SA data on the total capacity required at waste management facilities in 2013 with data on the maximum licenced capacity at existing waste management facilities and any ‘in the pipeline’ capacity, it is possible to calculate an indicative new capacity that will be required by 2013. By then applying the typical facility capacities used by EAW in the SA to the new capacity required, it is possible to calculate an indicative number of new facilities that will be required by 2013.

Indicative New Non-Landfill Capacity Required in 2013 for South West Wales, by Preferred Option (Tonnes)

Technology Type	Option 2A	Option 2C	Option 3A	Option 3B	Option 3C	Option 3D	Option 4C	Option 4D
MRF + TS	891,091	891,091	891,091	891,091	891,091	891,091	891,091	891,091
IVC	211,497	211,497	211,497	211,497	211,497	211,497	211,497	211,497
Pyrolysis	534,943		300,887					
Gasification				300,887				
Incinerator		448,025			213,969		33,247	
MBT			274,743	274,743	274,743	274,743		
Autoclave							534,943	534,943
Civic Amenity								
Open Windrow	42,874	42,874	42,874	42,874	42,874	42,874	42,874	42,874
C&D Exemption	768,755	768,755	768,755	768,755	768,755	768,755	768,755	768,755
C&D Recycling	768,755	768,755	768,755	768,755	768,755	768,755	768,755	768,755
Total	3,217,915	3,130,997	3,258,602	3,258,602	3,171,684	2,957,715	3,251,162	3,217,915

Indicative Number of New Non-Landfill Facilities Required in 2013 for South West Wales, by Preferred Option

Technology Type	Option 2A	Option 2C	Option 3A	Option 3B	Option 3C	Option 3D	Option 4C	Option 4D
MRF + TS	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
IVC	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3
Pyrolysis	10.7		6.0					
Gasification				5.3				
Incinerator		4.9			2.4		0.4	
MBT			2.5	2.5	3.7	2.5		
Autoclave							3.7	3.7
Civic Amenity								
Open Windrow	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
C&D Exemption	295.7	295.7	295.7	295.7	295.7	295.7	295.7	295.7
C&D Recycling	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
Total	355.1	349.3	352.9	352.2	350.5	346.9	348.5	348.1

Landfill Facilities: Forecast Void in 2013

57 The modeling undertaken by EAW for the SA of the Options also included apportioning the total capacity required at landfills in 2013 to each UA on the basis of the forecast arisings. In addition, EAW made forecasts of landfill void in South West Wales in 2013 and beyond for each of the sub-Options. The following highlights the main issues:

- **Non-Hazardous** – it is estimated that some void will still be available for all Preferred Options in 2012/13. Option 2A preserves the most landfill void with an estimated 2,678,653m³ remaining in 2012/13, whereas Option 4C preserves the least landfill void with an estimated 2,333,170m³. The forecast void for 2013 for all eight Preferred Options means that **South West Wales does not need any new non-hazardous waste landfill capacity by 2013;**
- **Hazardous** – The RWP capacity requirement for hazardous waste landfill in 2013 ranges from 78,542 tonnes / annum (Options 3D and 4D) to 110,372 tonnes / annum for Option 2C. South West Wales does not currently have any licenced or permitted hazardous waste landfills. **South West Wales has a current need for new hazardous waste landfill capacity;** and
- **Inert** – The RWP capacity requirement for inert waste landfill for all eight Preferred Options in 2013 is 106,591 tonnes / annum. South West Wales does not currently have any licenced or permitted inert waste landfills. **South West Wales has a current need for new inert waste landfill capacity.**

58 With regard to Non-Hazardous landfill, it should be noted however, that this forecast must be treated with some caution, as it was based on the assumption that facilities will be commissioned in the period between 2010/11 and 2013. Should the development of such treatment capacity be delayed, the void available in the Region's landfills will be filled sooner than forecast. Furthermore, the fact that landfill void will continue to be required for all Preferred Options beyond the assessment year, will mean that South West Wales will ultimately need new non-hazardous waste landfill capacity.

PART C: THE REGIONAL WASTE PLAN SPATIAL STRATEGY

DEVELOPING THE SPATIAL STRATEGY

- 59 The second practical reason behind this review is the need to develop further the spatial strategy (i.e. the influence the RWP exerts over the location of the required waste management / resource recovery facilities). There are two major drivers behind this element:
- The need to construct new infrastructure in Wales in order to be able to meet the EU Landfill Directive requirements for the diversion of BMW from landfill (and other targets specified in the NWSW); and
 - The need for Wales to meet the EU Waste Framework Directive requirement for publishing plans that include either a geographical map specifying the exact location of waste disposal sites or precise mappable criteria.
- 60 In order to address the requirements of TAN 21 and develop the RWP Spatial Strategy while retaining adequate flexibility for both Local Planning Authorities (LPA's) and developers, the following scope of the spatial strategy was agreed:
- In order to identify a choice of locations / sites suitable for the location of 'in-building' facilities with capacity for greater than one local authority area, **each Unitary Authority provides a list of sites for inclusion in the RWP 1st Review that either has an existing B2 (General Industry) or major industry land use or is allocated in Development Plans for a future B2 or major industry land use;**
 - In order to ensure that there is adequate land to accommodate the required additional capacity / land area requirements for future waste management development, **wherever possible, each Unitary Authority quantifies the availability of land at each of the sites provided;**
 - In order to identify areas of search for additional in-building facilities with capacity for greater than one local authority area, **an area of search map for 'in-building' facilities is published as part of the RWP 1st Review;** and
 - In order to identify existing sites and areas of search for new 'open-air' waste facilities with capacity for greater than one local authority area, **an area of search map for 'open-air' facilities is published as part of the RWP 1st Review**

ESTIMATING LAND AREA & IDENTIFYING SITES SUITABLE FOR NEW IN-BUILDING FACILITIES

- 61 Advances in technology and the introduction of new legislation, policies and practices mean that many modern waste management / resource recovery facilities appear no different to any other industrial building and on the inside contain industrial processes or energy generation activities that are no different to many other modern industrial processes in terms of their operation or impact.
- 62 For this reason, many existing land use class B2 'general industrial' employment sites, existing major industrial areas, and new B2 sites allocated in Development Plans will be suitable locations for the new generation of in-building waste management facilities that will be required in accordance with the Preferred Options of the RWP Technology Strategy.

Estimating Total Land Area Required for New In-Building Facilities

63 By applying the typical land takes used by EAW in the SA to the number of new facilities, it is possible to calculate an estimate of the total land area that will be required by 2013.

Estimate of the Total Land Area Required for New In-building Facilities in 2013 for South West Wales, by Preferred Option (Hectares)

Technology Type	Option 2A	Option 2C	Option 3A	Option 3B	Option 3C	Option 3D	Option 4C	Option 4D
MRF + TS	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
IVC	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9
Pyrolysis	17.9		10.0					
Gasification				17.4				
Incinerator		23.7			11.4		1.8	
MBT			20.6	20.6	30.0	20.6		
Autoclave							16.2	16.2
Total	61.7	67.5	74.4	81.8	85.2	64.4	61.8	60.0

64 In summary:

- The estimated total land area required in South West Wales for new in-building facilities for the eight Preferred Options ranges from between 60 hectares to 85.2 hectares;
- With the exception of Options 4C and 3D, the Options with a single stage for managing residual waste have the lowest land area requirements (i.e. Options 4D, 2A and 2C) at 60, 61.7 and 67.5 hectares respectively; and
- The Options with two stages for managing residual waste have the highest land area requirements (i.e. Options 3A, 3B and 3C) at 74.4, 81.8 and 85.2 hectares respectively.

Identifying a List of Sites Suitable for In-Building Facilities

65 The RWP 1st Review presents a list of sites across South West Wales considered suitable in principle for the location of in-building facilities with capacity for greater than one local authority area. An analysis of the potentially available land area on the sites identified has shown that **in each Unitary Authority for which data is available there is a clear surplus of land area available at the current time to accommodate the highest estimate of the total land area required for new waste management facilities.**

66 Regarding this analysis of the availability of land, the following should be noted:

- The capacity of existing waste management / resource recovery facilities could be increased. Such development would, in effect, serve to reduce the total land area required; and
- New in-building waste management / resource recovery facilities could also be developed within vacant existing industrial buildings. This would also, in effect, serve to reduce the total land area required

67 This analysis will assist in the process of demonstrating an adequate choice of locations for the integrated and adequate network of waste facilities as required by the EU Waste Framework Directive.

IDENTIFYING AREAS OF SEARCH FOR NEW FACILITIES

68 A study to identify areas of search for regional waste facilities across Wales was carried out. The key aims of the study were:

- To identify areas of search for regional in-building facilities across each of the three regions in Wales;
- To identify areas of search for regional open-air facilities across each of the three regions in Wales;
- To ensure that the process of identifying areas of search is subject to an appraisal process that is compliant with ‘*The Environmental Assessment of Plans and Programmes (Wales) Regulations 2004*’ (referred to as the Strategic Environmental Assessment Regulations); and
- To ensure compliance with the Habitats Directive.

Generating and Assessing the Areas of Search

69 The approach to the study to identify areas of search has been to undertake a SA, incorporating the requirements of SEA. In summary, this entailed identifying sustainability objectives and criteria which were weighted and applied to a mapping exercise utilising Geographical Information Systems (GIS) to generate areas of search.

70 The first phase of the assessment process was to identify the SA Framework in order to drive the whole appraisal process, including defining the criteria which was to be used in the GIS analysis. The key components identified for the SA Framework included:

- The identification of SA Objectives;
- The identification of criteria for the GIS Analysis to enable assessment against the SA Objectives;
- The weightings applied to the criteria (allocated to the two broad types of waste management facilities); and
- Results of the analysis to be presented on composite maps.

71 The *SA Objectives* were informed by the baseline and policy review and in particular were drawn from the sustainability appraisals of the Wales Spatial Plan and the existing RWP’s. In order to measure the way in which areas perform against the SA objectives, *criteria* were identified specifically for the GIS analysis. These are effectively questions that can be answered through a GIS analysis (e.g. areas with specific designations or features and/or distances from those specific designations or features). *Weightings* were agreed and applied to each of the criteria and for both the broad types of waste management facilities.

Parameters, Limitations and Assumptions of the Study

72 The study does not address the need for, or appropriateness of, the various types of waste management facility; it simply brings together the various physical and environmental characteristics which will influence the location of waste management facilities.

73 Furthermore, the study is not intended to provide a definitive guide against which planning applications will be judged; it merely assists LPA’s in identifying appropriate locations for waste management facilities, providing the basis from which more detailed investigations

can be undertaken to assess which individual sites are considered appropriate for allocations in Local Development Plans (LDP's).

The Areas of Search

74 The areas of search are presented in two hardcopy maps. Each map comprises:

- **1st areas of search** – identified as areas appropriate for waste management development due to the presence of appropriate site characteristics and few significant environmental constraints;
- **2nd, 3rd and 4th areas of search** – identified as those areas that cannot be excluded from consideration as appropriate areas, but where a greater level of constraint or constraints exists; and
- **Exclusion Zones** – identified as those areas which, on the basis of clear planning policy, have been excluded from consideration as appropriate for waste management development.

Use of the Areas of Search Maps & GIS Data

75 The following two broad principles for the viewing and use of the Areas of Search maps and GIS data must be noted:

- **The sole purpose of the maps and GIS data is to identify Areas of Search at a strategic level for use by LPA's during the LDP preparation process** – as a starting point for more detailed local level assessments to identify appropriate sites for waste management / resource recovery facilities in LDP's; and for this reason
- **The Areas of Search maps and GIS data must not be used by any organisation or individual to determine the appropriateness of proposals for individual waste management facilities.**

76 More specifically, when referring to the areas of search maps the following matters should be taken into consideration:

- **The purpose of the maps is to identify Areas of Search at a regional level which can then be used by LPA's to identify preferred locations or sites for new waste management facilities. The ranking of a particular area effectively establishes the issues that would need to be addressed in more detailed local level assessments during the LDP preparation process to identify appropriate sites for waste management facilities.** If a particular type or combination of waste management facility / facilities is proposed for a particular site, these more detailed assessments may require the quantification of this risk, based on the nature of the waste management facility / facilities. In identifying a location or site it is recommended that there is a need to consider the Areas of Search maps together with other relevant information before a LPA can be satisfied that the location or site is appropriate;
- The areas of search maps have been developed at a Wales wide, strategic level, and as a result there may be local circumstances which it has not been possible to assess (for example, the location of small areas of residential properties or individual dwellings that have not been included in this strategic study). **Waste management facilities are only one aspect of development which LPA's must consider in their**

LDP's, and as a result other pressures and priorities may justify selecting 2nd, 3rd or 4th Areas of Search over a 1st area. It is recommended that the Sustainability Appraisal process, which must be undertaken on all LDP's, is an appropriate mechanism for justifying any such approach;

- **The locations that have been identified as 2nd, 3rd or 4th areas of search cannot be excluded from consideration as appropriate areas.** However, in instances where a greater level of constraint or constraints exists, it must be acknowledged that in turn a greater level of operational mitigation may adequately control potential environmental impacts. Waste management facilities have the potential to be sited in a range of locations if they are appropriately designed, managed and regulated to control any potential impacts;
- **The Area of Search map for in-building facilities does not prejudice the development of new in-building waste management facilities on any existing land use class B2 'general industrial' employment sites, existing major industrial areas, or new B2 sites allocated in development plans** whether or not they fall within an Area of Search – because the principle of B2 or major industry use is already established at these sites; and
- **Within the areas of search maps there are a number of existing waste management facilities that have been identified to be in areas that are, by virtue of the surrounding constraints, shown to be excluded. It should be acknowledged that in some circumstances the associated impacts of a waste management facility are being appropriately mitigated against at these sites.** As a result they may not present an unacceptable risk to the constraining designations or land use characteristics. In these instances it will be for LPA's to assess whether the expansion of operations at these locations is appropriate and that any potential adverse effects can be effectively controlled.

77 In summary, the key principles for the use of the maps and GIS data are as follows:

- **The maps and GIS data will not be used in isolation by LPA's as a definitive guide against which planning applications are judged** (i.e. it will not be used as a Development Control tool to determine the appropriateness of any proposal for waste management facilities);
- **The maps and GIS data will not be used in isolation by LPA's as a definitive guide to site selection** (i.e. it will not be used in isolation to determine the suitability of sites for inclusion within LDP's) – a range of other material considerations will need to be assessed and numerous other factors will need to be considered when planning for waste management; and
- **In identifying suitable sites, LPA's will be required to investigate the potential of all areas within their administrative boundary.**

PART D: SUMMARIES & NEXT STEPS

SUMMARY – THE RWP 1ST REVIEW

- 78 The RWP 1st Review relates to the following principal ‘controlled’ waste streams:
- MSW;
 - Industrial Waste;
 - Commercial Waste;
 - C&D Waste;
 - Hazardous Waste; and
 - Agricultural Waste (the proportion requiring external management only).
- 79 The RWP 1st Review will assist the region in developing an integrated and adequate network of waste management facilities by providing strategic information on the types of waste facilities required and the types of locations likely to be acceptable. It will become a strategic framework for the preparation of LDP’s and a material consideration in the development control process.
- 80 The two elements – The RWP Technology Strategy and RWP Spatial Strategy – have been developed through different processes; they tackle different issues and have been presented separately. **This RWP 1st Review does not bring the two elements together in order to identify which technologies should be located at which site or in which area of search.** The process of combining the two elements is a policy making exercise which can only be undertaken at the local level through the LDP preparation process.
- 81 Article 7(4) of the EU Waste Framework Directive requires Member States to publish waste management plans containing either a geographical map specifying the exact location of waste disposal sites or precise mappable criteria.
- 82 TAN 21 states that while it would be for individual local authorities to determine actual locations of facilities and make provisions in their development plans, the RWP should specify the approximate location or type of location of new facilities: *“The identification of areas or types of location for future facilities will be of particular importance. The RWP would not allocate sites for facilities, but it will indicate areas of need and search for potential sites for future facilities, and where possible, a choice of locations that once agreed in the due local political process and in recognition of existing contractual arrangements, would serve the region”*.
- 83 The RWP Spatial Strategy addresses and fulfils these requirements in the following two ways:
- It demonstrates an adequate supply of *existing* sites for new *in-building facilities* on existing B2 or major industry sites and B2 sites that have already been allocated in development plans to meet the demand for sites for new in-building waste management facilities; and
 - It identifies Areas of Search for use in identifying *new* sites for both *in-building and open-air* waste management facilities, based on precise mapped criteria relating to strategic level spatial issues.

SUMMARY – STRATEGIC ENVIRONMENTAL ASSESSMENT

What is Strategic Environmental Assessment (SEA)?

- 84 The objective of the SEA Directive is “...to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development, by ensuring that...an environmental assessment is carried out of certain plans and programs which are likely to have significant effects on the environment.”
- 85 The SEA Directive defines ‘environmental assessment’ as a process comprising:
- Preparing an Environmental Report in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated;
 - Carrying out consultation on the draft plan or programme and the accompanying Environmental Report;
 - Taking into account the Environmental Report and the results of consultation in decision making; and
 - Providing information when the plan or programme is adopted and showing how the results of the environmental assessment have been taken into account.

Approach to SEA

- 86 Government guidance advises that there are a number of stages in the SEA process:
- Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope;
 - Stage B: Developing and refining alternatives and assessing effects;
 - Stage C: Preparing the Environmental Report;
 - Stage D: Consulting on the draft plan or programme and the Environmental Report;
 - Stage E: Monitoring the significant effects of implementing the plan or programme on the environment.
- 87 The approach taken to SEA has been to undertake Stages A-C separately for the two separate substantive policy elements – the RWP Technology Strategy and the RWP Spatial Strategy. This approach was considered appropriate, adequate and proper for the following reasons:
- The two elements tackle different issues;
 - The two elements have been developed through two different processes;
 - The RWP 1st Review presents these two elements separately;
 - The RWP 1st Review does not bring the two elements together in order to identify which technologies should be located at which site or in which Area of Search; and
 - The process of combining the two elements together in order to identify which technologies should be located at which site or in which Area of Search is a policy making exercise that should only be undertaken at the local level through the LDP preparation process – a process which would be subject to a further SEA.

88 For Stage D the approach has been to publish the RWP Technology Strategy and RWP Spatial Strategy in one document – the Consultation Draft RWP 1st Review – for formal consultation alongside the two Environmental Reports. Finally, Stage E for both the RWP Technology Strategy and RWP Spatial Strategy will become an integral part of the continued, wider, monitoring of the RWP.

Meeting the Requirements of the SEA Directive

89 **Objectives and indicators:** the two Environmental Reports have been produced within the context of the same plans / programs / environmental objectives, the same baseline, the same environmental problems and they address the same topics required by the SEA Directive. For this reason they contain similar objectives and use similar indicators / mapped criteria.

90 **Reasonable alternatives:** Government guidance states that only reasonable, realistic and relevant alternatives need to be put forward. It was considered that the 19 alternative strategic waste management sub-Options were reasonable alternatives for the Environmental Report for the RWP Technology Strategy. The aim of the Areas of Search is to provide alternatives – this situation arises because the RWP Spatial Strategy sets *part*, not all, of the framework for future development consents. One reasonable alternative is the ‘no plan’ alternative (i.e. no Areas of Search) – this alternative would not allow for any strategic, regional level, consideration of the environmental issues before individual UA’s identify appropriate sites for waste management / resource recovery facilities through the LDP preparation process.

91 **Assessing effects:** any likely significant effects on the environment of the 19 sub-Options were identified, described and assessed by forming a judgment on whether or not a predicted effect would be environmentally significant when compared against the baseline conditions. Any likely significant effects on the environment of the Areas of Search were identified, described and assessed in terms of how significant receptors will be avoided as part of the SEA process.

92 **Mitigation:** The measures envisaged to prevent, reduce and as fully as possible off-set any significant adverse effects on the environment of implementing the alternative strategic waste management Options were set out in the Environmental Report and referenced in the RWP 1st Review. Mitigation measures have been built into the process of identifying Areas of Search through the avoidance of highly constrained areas.

93 **Consultation:** The two Environmental Reports were informed by scoping consultations. The RWP 1st Review Consultation Draft document, the two Environmental Reports and the draft strategic HIA were published for consultation in October 2007. The consultation period ran for 10 weeks from 15 October 2007 to 24 December 2007.

94 **Decision-making:** Environmental considerations have been integrated into the RWP 1st Review in the following ways:

- By assessing the alternative strategic waste management Options through a LCA, SA and SEA;
- By referencing the mitigation measures identified for the Preferred Options;
- By generating and assessing Areas of Search through a SA process that incorporated the requirements of SEA, using a GIS;

- The Environmental Reports have been taken into account in identifying the RWP Technology Strategy by referencing the mitigation measures identified for the Preferred Options and in generating, assessing and publishing the Areas of Search;
- The results of the SEA scoping consultations were taken into account in preparing the Environmental Reports;
- The results of the consultation on the RWP 1st Review Consultation Draft document and the two Environmental Reports have been reviewed by the RWG and used to inform changes to the Plan;
- The reasons for choosing the eight Preferred Options of the RWP Technology Strategy in the light of the other reasonable alternatives have been outlined; and
- It has been explained that the reason for identifying the Areas of Search is to provide alternatives.

Monitoring

95 The SEA Directive states that existing monitoring arrangements may be used if appropriate. However, given that TAN 21 requires that RWP's are reviewed every 3 years, rather than extending the scope of the AMR's to include SEA monitoring it would be more appropriate for an SEA Monitoring Report to be produced at the outset of the RWP 2nd Review to inform the review. This is further supported by the lengthy timescales inherent in implementing the RWP 1st Review:

- The target and assessment year used for this RWP 1st Review is 2013;
- LDP's must be reviewed every 4 years; and
- The process of planning and developing individual facilities can take a number of years.

96 A monitoring framework will typically use the SEA objectives and indicators as its basis, as these are developed to be representative of the significant environmental effects anticipated of the Plan. For the outline monitoring framework:

- Indicators have been proposed which provide a possible measurement for each of the SEA objectives. The indicators identified at this stage have been developed on the basis that, when the SEA Monitoring Report is produced, they can be refined and used to establish a causal link between implementation of the RWP 1st Review and the likely significant effects to be monitored;
- The potential influence of external factors has also been considered. This has been difficult for some indicators in that there is a lack of existing data for the potential effects of certain waste management operations; and
- In order to set the scene for monitoring the implementation of the RWP 1st Review, it is also proposed that contextual monitoring of environmental change is also continued based on the aspects that were considered within the baseline assessment for the SEA. To avoid excessive data collection, this should also be focused once any significant environmental effects have been identified.

97 In addition to identifying any significant effects of implementing the RWP 1st Review by analysing the data gathered for the indicators identified in the outline monitoring framework, the SEA Monitoring Report should also consider issues such as:

- Any gaps in the existing monitoring information and proposals for filling any identified gaps;
- Whether indicators are still relevant;
- Reviewing the relevance of data gathered based on the monitoring information gathered to date;
- Any new sources of monitoring information or additional parameters;
- The status of monitoring and any problems encountered;
- Criteria or thresholds for remedial action (e.g. what are the conditions that would be regarded as environmentally undesirable or unacceptable);
- Steps to be taken for any adverse effects found; and
- Any recommendations for the RWP 2nd Review.

SUMMARY – THE CONSULTATION PROCESS

- 98 The RWP 1st Review Consultation Draft document, the two Environmental Reports and the draft strategic HIA were published for consultation in October 2007. The consultation period ran for 10 weeks from 15th October 2007 to 24th December 2007.
- 99 The regional consultation activities carried out amounted to the largest consultation and debate in the region to date on the way forward for selecting and siting the future network of waste management facilities.

The Consultation Report and Consultation Addendum Report

- 100 The *Consultation Report* produced by Hyder Consulting contained recommendations structured in accordance with the 5 key themes of the ‘Themes Document’:
- Theme 1: The Regional Waste Plan 1st Review;
 - Theme 2: The Need for Waste Facilities;
 - Theme 3: Technology Options;
 - Theme 4: The Appraisal Process; and
 - Theme 5: The Implications for Planning.
- 101 The subsequent *Consultation Addendum Report* produced by the RWG contained agreed responses to the consultation feedback – including each of the recommendations in the Consultation Report – together with the changes to be made to the Plan in light of the feedback and responses.

NEXT STEPS

- 102 A range of actions and circumstances will be necessary to achieve the implementation of the RWP 1st Review.

Actions for Local Planning Authorities

- 103 Each LPA should include in its development plan elements of the RWP that are germane to its area and individual LPA’s should determine actual locations of facilities and make provisions in their development plans. The RWP Technology Strategy and RWP Spatial Strategy will be brought together through the LDP preparation process in individual UA

areas in order to identify appropriate sites for waste management / resource recovery facilities.

- 104 A high standard of public consultation will be essential. The Community Engagement Guidance on Waste Infrastructure will be a valuable tool for LPA's during the process of identifying appropriate sites for waste management / resource recovery facilities. This toolkit, produced as a result of a partnership between the Welsh Local Government Association (WLGA), the WAG, the EAW and Waste Awareness Wales (WAW) contains extensive guidance on how and when to consult key stakeholders in the planning and delivery of new waste management facilities.
- 105 Guidelines are set out that individual UA's may wish to follow in bringing together the RWP Technology Strategy and the RWP Spatial Strategy through the LDP preparation process in their individual UA areas in order to identify appropriate sites for waste management / resource recovery facilities.

Actions for Economic Development Bodies

- 106 Economic development bodies should note the following points:
- The RWP Spatial Strategy estimates that the total demand for land area for new in-building waste management / resource recovery facilities in South West Wales ranges from between 60 hectares to 85.2 hectares;
 - The waste management / resource recovery sector provides job and wealth creation opportunities – both directly in upstream resource recovery facilities and in downstream industries that reprocess the recovered materials (recyclates);
 - As the resource recovery sector grows, so too will the markets and competition for the recovered materials – those regions with the best developed network of upstream resource recovery facilities will have a competitive advantage;
 - The eight Preferred Options of the RWP Technology Strategy all involve EfW. This presents significant opportunities for co-locating and networking EfW facilities with energy consuming land uses such as large industrial energy users or district heating systems in industrial estates – energy users would benefit from lower energy costs, long term energy contracts at fixed prices and the prestige of using an innovative and environmentally friendly source of energy;
 - Advances in technology and the introduction of new legislation, policies and practices mean that many modern waste management / resource recovery facilities appear no different to any other industrial building and on the inside contain industrial processes or energy generation activities that are no different to many other modern industrial processes in terms of their operation or impact. For this reason, many existing land use class B2 'general industrial' employment sites, existing major industrial areas, and new B2 sites allocated in development plans will be suitable locations for the new generation of in-building waste management facilities that will be required in accordance with the RWP Technology Strategy;
 - Enabling an integrated and adequate network of waste management / resource recovery facilities must be viewed as an issue of enabling the development of an element of infrastructure that is required by all businesses in the region;
 - Economic development bodies have an important role to play in order that South West Wales meets the requirements set out in EU and national legislation and policy;

- Economic development bodies must proactively engage with the waste management / resource recovery sector in order to enable the sale or release of appropriate land for new facilities; and
- The WAG and UA's own equal amounts of developable land with a B2 planning permission or proposed use and therefore the WAG and UA's equally share the responsibility of enabling the sale or release of appropriate land from within their portfolios for new waste management / resource recovery facilities.

Actions for Waste Disposal Authorities (WDA's)

- 107 There is an urgent need for new Municipal waste management / resource recovery facilities to enable South West Wales to meet the EU Landfill Directive requirements for the diversion of BMW from landfill.
- 108 WDA's will most likely need to work in cooperation to make provision for the new capacity required for Municipal waste by jointly planning for facilities that serve more than one local authority area due to the efficiencies associated with larger facilities. Some WDA's may wish, and be able to, make provision within their boundaries for the new capacity required for Municipal waste. This cooperative working is already underway with the establishment of the South West Wales Consortia.
- 109 If a WDA is pursuing a local strategy that is different to the RWP Technology Strategy, it is likely that the local strategy would need to be robustly justified at the planning application stage of new facilities by reference to a local BPEO assessment / SA / SEA – because the RWP 1st Review will be a material consideration in the planning process.
- 110 A high standard of public consultation will be essential. The Community Engagement Guidance on Waste Infrastructure will be a valuable tool for WDA's during the process of planning and procuring new waste management / resource recovery facilities. This toolkit, produced as a result of a partnership between the WLGA, the WAG, the EAW and WAW contains extensive guidance on how and when to consult key stakeholders.
- 111 The eight Preferred Options of the RWP Technology Strategy all involve EfW. Developers should consider opportunities for co-locating and networking EfW facilities with proposed or existing energy consuming land uses that could benefit from the heat and/or electricity produced – such as large industrial energy users or district heating systems in industrial estates.

Actions for the Waste Management Industry

- 112 Individual waste management companies and industry bodies must proactively engage with individual LPA's during the LDP preparation process in order to communicate their needs and interests. The RWP Technology Strategy and RWP Spatial Strategy will be brought together through the LDP preparation process in individual UA areas in order to identify appropriate sites for waste management / resource recovery facilities – engagement in this process will assist in identifying appropriate sites while taking account of local circumstances.
- 113 Many existing land use class B2 'general industrial' employment sites, existing major industrial areas, and new B2 sites allocated in development plans will be suitable locations

for the new generation of in-building waste management facilities that will be required in accordance with the RWP Technology Strategy. It should be noted that at the current time there is a clear surplus of land on existing land use class B2 'general industrial' employment sites, existing major industrial areas, and new B2 sites allocated in development plans to accommodate the highest estimate of the total land area required for new in-building waste management facilities. It should also be noted that some new in-building waste management facilities could be developed within vacant existing industrial buildings and, in certain circumstances, some of these may lawfully be developed without the need to submit a planning application to the LPA.

- 114 A high standard of public consultation will be essential. The Community Engagement Guidance on Waste Infrastructure will be a valuable tool for waste management companies during the process of planning and developing new waste management / resource recovery facilities. This toolkit, produced as a result of a partnership between the WLGA, the WAG, the EAW and WAW contains extensive guidance on how and when to consult key stakeholders.
- 115 The eight Preferred Options of the RWP Technology Strategy all involve EfW. Developers should consider opportunities for co-locating and networking EfW facilities with proposed or existing energy consuming land uses that could benefit from the heat and/or electricity produced – such as large industrial energy users or district heating systems in industrial estates.

South West Wales Regional Waste Plan 1st Review

Bridgend County Borough Council

Brecon Beacons National Park Authority

Carmarthenshire County Council

Ceredigion County Council

Pembrokeshire County Council

Pembrokeshire Coast National Park Authority

Neath Port Talbot County Borough Council

City & County of Swansea

Countryside Council for Wales

Environment Agency Wales

South West Wales Economic Forum

The Wales Environment Trust

Wales Community Recycling Network

Waste and Resources Action Programme

Welsh Assembly Government – Planning Division

Welsh Assembly Government – Waste Strategy & Implementation Unit

Welsh Assembly Government – Department for Economy & Transport

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