



WASTE MANAGEMENT

**DEPOSIT LOCAL DEVELOPMENT PLAN
UP TO 2021**

October 2008

RHEOLI GWASTRAFF

**CYNLLUN ADNEUO DATBLYGU LLEOL
HYD AT 2021**

Hydref 2008



**CAERPHILLY COUNTY BOROUGH
LOCAL DEVELOPMENT PLAN
Up to 2021**

**BWRDEISTREF SIROL CAERFFILI
CYNLLUN DATBLYGU LLEOL
Hyd at 2021**

**BACKGROUND PAPER 4
WASTE MANAGEMENT

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**LDP DEPOSIT
October 2008**

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INTRODUCTION

1 THE WASTE ISSUE

- 1.1 Wales historically has had an over reliance on landfill for the disposal of its waste. Much of the waste that is sent to landfill is capable of being reused, recycled, composted or treated in different ways to recover valuable materials and energy from it.
- 1.2 We should be thinking about waste and its management, in terms of moving away from disposal towards reduction, reuse and recycling. It is not a sustainable long-term option for Wales to rely on landfill to dispose of its waste as changes in EU, UK and Welsh legislation require us to divert increasing amounts of waste from landfill because:
- Sending our 'rubbish' to landfill is a waste of valuable resources that have the potential to be reused and made into new products.
 - Landfill sites can pollute the local environment and emit methane as biodegradable waste decomposes, and this is a powerful greenhouse gas.
 - Methane from landfill sites can be captured and used for energy production, but this is not 100% efficient and some still escapes into the atmosphere. Reducing the amount of biodegradable waste sent to landfill will reduce the amount of methane emitted and is a key measure in tackling climate change.

2 EU WASTE TREATMENT TARGETS

- 2.1 Tough targets have been set at EU, UK and Welsh Government level to divert waste from landfill and increase recycling and composting. For example, Welsh Local Authorities must achieve 40% recycling and composting of municipal waste by 2010, compared to current levels of 27.5%. The key drivers behind this target are the EU Landfill Directive, the Landfill Allowances Scheme (LAS) Wales (2004) and the Welsh Waste Strategy, Wise About Waste (2002), which ultimately aim to reduce the amount of recyclable and biodegradable (paper, cardboard and organic materials) waste sent to landfill to reduce our impact on global warming and to protect the land and water from pollution.
- 2.2 However, if a Local Authority fails to meet its targets, it will be heavily fined. Fines are predicted to be £200 for every tonne of target biodegradable waste that is not diverted from landfill, which could equate to fines of up to £6 million per local authority area. Local authorities across Wales are now urgently addressing the issue of long term waste disposal and are considering alternative treatment solutions for biodegradable waste.

3 CHANGE OF APPROACH

- 3.1 We must change the way we deal with our waste in order to comply with these various requirements. These drivers and the fact that our existing landfill sites are filling up presents each Region with an opportunity to plan for alternative, more sustainable methods for dealing with waste in the future. Finding other landfill sites as direct replacements for those that are filling up is not a sustainable option.
- 3.2 Modern waste management facilities need to be developed throughout Wales to sort and segregate waste to increase the opportunity to re-use, recycle and compost.

3.3 Those types of waste which cannot be re-used, recycled or composted, will need waste management facilities which can treat that waste before it is sent to landfill to reduce the biodegradable content.

3.4 It is accepted that landfill facilities will still be required, but only as part of a more sustainable network of waste management facilities, and only to deal with residues after treatment.

4 TYPES OF WASTE

4.1 Waste is a broad term that can be broken down into the following key categories:

- Municipal Waste
- Commercial and Industrial Waste
- Construction and Demolition Waste
- Hazardous Waste
- Agricultural Waste

4.2 When considering the options of what to do with our waste, we must incorporate all wastes and not just the household element.

Municipal Waste

4.3 Most of this waste is household waste such as kitchen waste, garden waste, glass and paper which is generated by the general public. Councils have the responsibility of managing this type of waste. If Councils provide a collection service for businesses their waste is also classed as Municipal Waste.

Commercial and Industrial Waste

4.4 This includes waste such as packaging and by-products resulting from production processes which is generated by commercial and industrial premises.

Construction and Demolition Waste

4.5 This is waste which is generated as the result of repair, maintenance and the redevelopment of roads and buildings and includes materials such as brick, concrete, hardcore, topsoil, glass, plastics and metals. It also includes excavated site materials such as soils, sand, gravel or clay.

Hazardous Waste

4.6 Hazardous waste can be classed as any solid, liquid, or gas waste material that, if improperly managed or disposed of, may pose substantial risk to human health and/or the environment. This includes waste such as industrial effluent residues, asbestos etc. Such waste must be disposed of correctly in line with current legislation and guidance.

Agricultural Waste

4.7 This includes a whole array of solid and liquid materials used on a farm. Some examples of agricultural waste are sheep dip and other animal health products, packaging wastes such as silage wrap and feed bags, machinery and vehicle waste, plus hazardous wastes such as agrochemicals, antifreeze, oil etc.

5 THE IMPLICATIONS FOR PLANNING

- 5.1 Whichever option is chosen to deal with residual waste, additional residual waste facilities will be needed including the treatment facilities themselves plus the associated materials recovery facilities, transfer stations and composting facilities.
- 5.2 This also means that land must be found for each of them. Each scenario will have different requirements in terms of the amount of land and number of locations it will occupy.
- 5.3 When deciding where waste management facilities should be built two key principles will underpin our decisions:
- Proximity - Treatment facilities should be built as near as possible to the sources of the waste and to other waste facilities to limit the effects on the environment of transporting waste.
 - Regional Self Sufficiency - Most waste should be treated or disposed of within the Region where it is generated. The Region should, as far as possible, provide facilities with enough capacity to manage the future levels of waste that are likely to be generated within the Region.

6 READER'S NOTE

- 6.1 **Please note that there are many “waste treatment-specific” technical terms contained in this paper and that Explanatory Glossaries are appended at the end of the document.**

7 FORMAT OF THE BACKGROUND PAPER (BP)

- Section A LEGISLATION AND POLICY CONTEXT: A summary of EU, UK, and Welsh Assembly Government policy guidance and the main issues arising for the LDP
- Section B THE REGIONAL WASTE PLAN: A description of the technology and spatial strategy of the emerging Regional Waste Plan and the main issues arising for the LDP. An assessment of future demand over existing provision
- Section C GUIDANCE ON ACTIONS FOR LOCAL PLANNING AUTHORITIES: The application of national and regional guidance to the LDP
- Section D MAIN WASTE GUIDANCE ISSUES ARISING FOR THE LDP: A description of the LDP waste strategy and main policy areas
- Appendix A Assessment of Cwmbargoed Washery Site
- Glossary of Terms
- Glossary of Acronyms

SECTION A

WASTE LEGISLATION AND POLICY CONTEXT

EUROPEAN LEGISLATION AND POLICY

- A.1 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 identified below:

Waste Framework Directive – requires Member States to establish an integrated and adequate network of disposal installations, taking account of the best available technology not involving excessive costs. It also requires that waste management plans relating to the type, quantity and origin of waste to be recovered or disposed of and suitable disposal sites or installations are produced - including either a geographical map specifying the exact location of waste disposal sites or precise mappable criteria.

Landfill Directive – includes a requirement to limit the amount of Biodegradable Municipal Waste (BMW) sent to landfill.

Hazardous Waste Directive

Waste Incineration Directive

Integrated Pollution Prevention and Control Directive

NATIONAL LEGISLATION AND POLICY

- A.2 The 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 and the LDP are identified below:

The National Waste Strategy for Wales (NWSW) – specifies various targets for the management of wastes and contains information relevant to the process for producing Regional Waste Plans. The targets are classified as either: UK targets where Wales must meet targets for the UK set in EU Directives; Primary Wales specific targets where WAG and its key partners (e.g. local government) have a direct influence over their outcome; and finally Secondary Wales specific targets where WAG's influence is less.

Planning Policy Wales Technical Advice Note (TAN) 21 – details the process for producing Regional Waste Plans. It also identifies the requirements that UDPs (and now LDPs) should seek to address. Therefore, Local Planning Authorities in Wales should ensure that in preparing UDPs they will:

- ensure that proposals and policies in UDPs will facilitate the delivery on the ground of the waste management objectives in the national waste strategy, so that Wales' obligations under European legislation will be met;
- adopt a sustainable approach to waste management within their UDPs by assessing proposals and policies against the principles, and utilising the techniques, set out in Section B;
- make provision for an integrated and adequate network of waste management facilities with sufficient facilities to treat, manage or dispose of all the waste produced (although it may be necessary for some facilities to be shared with other authorities);
- co-operate through joint working arrangements to:
 - ensure that the aim to provide Wales with an integrated and adequate framework or network of waste facilities can be actually achieved, thus meeting the requirements of the EC Directive; and,

- assist in producing Regional Waste Plans that will assess the need for new waste management capacity and agree the allocation of that capacity to each member authority;
- ensure that UDPs provide clear proposals, policies and guidance for new waste infrastructure by indicating suitable locations or types of location that may be acceptable for waste facilities to ensure that the right facilities are in the right place at the right time within the context of the Regional Waste Plan;
- ensure that policies in UDPs proposing any new, major development should incorporate an adequate and effective provision of waste management facilities;
- ensure effective consultation with all sectors of the community by involving them at the earliest stage and by providing sufficient information to allow them to make informed choices about how they would wish to see waste managed in their locality.

Environment Strategy for Wales – includes an outcome that appropriate waste management facilities are in place to minimise the amount of waste going to landfill by 2013 and states that this will mean producing energy from waste that cannot practically be recycled.

The Landfill Allowance Scheme (Wales) Regulations – transposed the Landfill Directive requirement to limit the amount of BMW sent to landfill by setting each Waste Disposal Authority (WDA) in Wales decreasing annual BMW landfill allowances in order that Wales and allows WAG to impose financial penalties on any WDAs that exceed landfill allowances or fail to comply with reporting requirements.

The Landfill (England and Wales) Regulations – banned the practice of co-disposing of hazardous and non-hazardous wastes in the same landfill.

The Hazardous Waste (England and Wales) Regulations and the **List of Wastes (Wales) Regulations** – increased the number of wastes classified as 'hazardous' to include items such as waste TVs, computer monitors, fluorescent tubes, and pesticides.

The Waste Management (England and Wales) Regulations 2006 'The Agricultural Waste Regulations' – prohibit unregulated burying and burning of agricultural waste on farms and require farmers and growers to: send or take their waste for disposal off-farm at licensed sites; and / or register a licensing exemption with the EAW to recycle waste on-farm; and /or apply to the EAW for a licence to continue on-farm disposal.

REGIONAL WASTE PLAN – 1st REVIEW: IMPLICATIONS

- A.3 The Regional Waste Plan (RWP) is intended to provide a land-use planning framework for the sustainable management of wastes and recovery of resources in South East Wales and will have the status of a material consideration in the planning process.

The RWP considers a number of different options for dealing with waste in the region.

The key aims of the RWP is to identify the most appropriate new approaches for managing waste within the region, and to identify areas of search or potential locations for the management of this waste. This will undoubtedly include new recycling, composting and residual (the waste left after we have recycled and composted) waste treatment facilities.

The RWP seeks to address:

- The need to divert waste from landfill by increasing the amount of waste that is recycled and composted and providing treatment facilities for the remaining waste
- The need to provide adequate landfill capacity for ultimate disposal of residues (post treatment)
- The need for each region to be self sufficient in dealing with its own waste
- The need to enable waste to be managed close to its source or point of origin and thus minimise transport impacts
- The need to manage waste without endangering human health or harming the environment
- The need to identify types of locations likely to be acceptable for these facilities

SECTION B

THE REGIONAL WASTE PLAN – 1st REVIEW

INTRODUCTION

- B.1 The RWP 1st Review is a non-statutory plan prepared through a voluntary joint arrangement of local authorities with the assistance of other key stakeholders. Once endorsed by each of the 11 constituent Local Planning Authorities in the region and agreed by the Welsh Assembly Government, the RWP 1st Review becomes a strategic framework for the preparation of Local Development Plans and a material consideration in the development control process.
- B.2 The RWP 1st Review relates to the following principal controlled waste streams:
- Municipal Solid Waste;
 - Industrial Waste;
 - Commercial Waste;
 - Construction & Demolition Waste;
 - Hazardous Waste; and
 - Agricultural Waste (the proportion requiring external management only).
- B.3 The RWP 1st Review contains two separate main elements:
- the 'RWP Technology Strategy' – which provides strategic information on the types of waste of management / resource recovery facilities required in South East Wales; and
 - the 'RWP Spatial Strategy' – which provides strategic information on the types of locations likely to be acceptable.
- B.4 These two elements have been developed through different processes; they tackle different issues and have been presented 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. The process of combining the two elements is a policy making exercise which can only be undertaken at the local level though the LDP preparation process.

REGIONAL WASTE PLANNING

- B.5 The RWP has been prepared by the South East Wales Regional Waste Group in line with the requirements of Planning Policy Wales Technical Advice Note 21: Waste and later guidance from the Welsh Assembly Government.
- B.6 The South East Wales Regional Waste 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 Members Steering Group made up of Members from the 11 constituent Local Planning Authorities in the region and is supported by a Regional Waste Technical Group of officers from local government, the Welsh Assembly Government, Environment Agency Wales and other government bodies and representatives from the waste industry and environmental groups.
- B.7 The first RWP for South East Wales was agreed by the Members Steering Group, endorsed by all of the local authorities in the region and published in March 2004. Technical Advice Note 21 requires that a RWP is reviewed every 3 years.

FROM WASTE DISPOSAL TO RESOURCE MANAGEMENT

- B.8 South East Wales has in the past approached waste as problem that is most conveniently and cost effectively disposed of in landfill. It is now widely recognized that this disposal approach is unsustainable in the long term because of growing volumes of waste, because of the risk of environmental pollution and because of the burying of valuable resources.
- B.9 Waste must now be approached as a resource from which value can, and should, be recovered. This recovery approach will see the value in waste being realized through the reuse, recycling or composting of products and materials and the production of energy. New facilities will need to be developed in South East Wales to recover value from the waste produced in the region.
- B.10 Of particular concern at the current time is the urgent need for new waste management / resource recovery facilities to enable South East Wales to meet the EU Landfill Directive requirements for the diversion of Biodegradable Municipal Waste from landfill. The number and type of existing facilities in Caerphilly CBC area are shown in **Table 1** below. The Caerphilly CBC area has none of the following types of facilities: Chemical Treatment Facility, In-vessel Composting, MBT, Mobile Plants, Physical Treatment, Physico-Chemical Treatment, Sewage Treatment / Landfarm, or Thermal Treatment.

Table 1: EXISTING WASTE MANAGEMENT INFRASTRUCTURE IN CCBC

Number / Capacity of Licensed & Permitted Non-Landfill Facilities, 2005/06 by Category

	Civic Amenity	ELV / Scrap Yard / Metal Reprocessing	MRF	Transfer	Windrow Composting	TOTAL
Number of Facilities	6 #	11	1	10	1	28
Capacity of Facilities (tonnes)	70,000 #	77,565	23,250	340,554	34,999	541,495

Source: Draft RWP 1st Review – # updated

THE RWP TECHNOLOGY STRATEGY

- B.11 Strategic waste management options are alternative combinations of waste management technologies that would enable the region to meet or exceed legislative targets. Individual technologies for managing waste cannot be considered in isolation – they need to be utilised in combination in an integrated recovery and disposal strategy for all waste streams.
- B.12 In order to review the RWP Technology Strategy, four main alternative strategic waste management Options covering the main treatment technologies for residual waste were generated. The four main alternative strategic waste management Options were:
- Option 1 – A landfill-led strategy for residual waste. This Option is for high levels of source separated recycling followed by low levels of energy from residual waste – where ‘low’ is interpreted to mean the minimum amount of additional material required to increase the level of Biodegradable Municipal Waste diversion to meet 2020 EU Landfill Directive targets. All residual commercial, industrial and agricultural wastes will be disposed of to landfill.

- Option 2 – An Energy from Waste-led strategy for residual waste. This Option is for high levels of recycling and composting followed by high levels of energy from residual waste – where ‘high’ is interpreted to mean the maximum feasible amount of residual waste will go to Energy from Waste.
 - Option 3 – A Mechanical Biological Treatment-led strategy for residual waste. This Option is for high levels of recycling and composting followed by high levels of Mechanical Biological Treatment – where ‘high’ is interpreted to mean the maximum feasible amount of residual waste will go to Mechanical Biological Treatment.
 - Option 4 – An Autoclave-led strategy for residual waste. This Option is for high levels of recycling and composting followed by high levels of treatment using an Autoclave – where ‘high’ is interpreted to mean the maximum feasible amount of residual waste will go to Autoclave.
- B.13 Each main Option was divided into sub-options. 19 sub-options were considered to represent a sufficient range of choices for dealing with waste in South East Wales.
- B.14 The Options were assessed using the following techniques:
- Life Cycle Assessment – to determine the ‘Best Practicable Environmental Option’;
 - Sustainability Appraisal – to determine the ‘Sustainable Waste Management Option’;
 - Strategic Environmental Assessment; and
 - Strategic Health Impact Assessment.
- B.15 Based on the results of the Life Cycle Assessment and Sustainability Appraisal, and given that the Strategic Environmental Assessment concludes that no clear leader emerges from amongst the Options, and given that the strategic Health Impact Assessment concludes that while Options 2, 3 and 4 are good from a public health perspective there is no single best Option, the best performing seven sub-Options in the Sustainability Appraisal have been presented for consultation as alternative RWP Waste Technology Strategies that would enable South East Wales to meet or exceed legislative targets:
- **Sub-Option 2a** – High source segregated recycling and composting levels with all remaining residual wastes, where possible, being managed by high levels of Pyrolysis.
 - **Sub-Option 2c** – High source segregated recycling and composting levels with all remaining residual wastes, where possible, being managed by high levels Incineration with energy recovery.
 - **Sub-Option 3a** – High source segregated recycling and composting levels with all remaining residual wastes being managed by Mechanical Biological Treatment followed by Pyrolysis.
 - **Sub-Option 3b** – High source segregated recycling and composting levels with all remaining residual wastes being managed by Mechanical Biological Treatment followed by Gasification.
 - **Sub-Option 3c** – High source segregated recycling and composting levels with all remaining residual wastes being managed by Mechanical Biological Treatment followed by Incineration.
 - **Sub-Option 3d** – High source segregated recycling and composting levels with all remaining residual wastes being managed by Mechanical Biological Treatment followed by Refuse Derived Fuel to off-site energy use.
 - **Sub-Option 4d** – High source segregated recycling and composting levels with all remaining residual wastes being managed by Autoclave followed by Refuse Derived Fuel to offsite energy use.

- B.16 All seven sub-Options presented for consultation as alternative RWP Waste Technology Strategies:
- have a 'front end' recycling and composting rate for Municipal waste set at 50% in 2013 – this exceeds the current maximum National Waste Strategy for Wales target of achieving at least 40% recycling and composting of municipal waste by 2009/10;
 - are designed to achieve the 2020 EU Landfill Directive target for the diversion of Biodegradable Municipal Waste from landfill by 2013; and
 - ensure that targets for the management of the other principal controlled waste streams are also met – i.e. recycling targets for Construction and Demolition waste and landfill diversion for Industrial and Commercial Waste.

- B.17 The National Waste Strategy for Wales 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”.*

- B.18 The seven sub-Options put forward for consultation as alternative RWP Waste Technology Strategies are the best practicable environmental sub-Options. Even though all seven sub-Options involve Energy from Waste, the use of unavoidable waste as a resource is maximised and the use of Energy from Waste and landfill is minimised because all seven sub-Options involve high source segregated recycling and composting levels.

- B.19 The RWP 1st Review has set out calculations for each of the seven sub-Options which:
- apportions the total capacity required at various types of waste management / resource recovery facilities in 2013 to each Unitary Authority area on the basis of forecast arisings;
 - calculates an indicative new capacity required and an indicative number of new facilities required for new non-landfill waste management / resource recovery facilities by 2013 in each Unitary Authority area; and
 - forecasts the remaining landfill void in 2013 in South East Wales.

These seven sets of calculations for Caerphilly CBC are reproduced in **Table 2** overleaf. Between them these calculations create a range of land requirement for the LDP to meet in terms of provision for “In-Building” facilities.

- B.20 The forecasts of remaining landfill void in 2013 in South East Wales indicate that the region:
- will not need any new non-hazardous waste landfill capacity by 2013;
 - has a current need for new hazardous waste landfill capacity; and
 - will need new inert waste landfill capacity around the end of the decade.

Table 2: ESTIMATED NEED FOR WASTE / RECYCLING 'IN-BUILDING' FACILITIES

Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	Rank 6	Rank 7
Option 2A	Option 3B	Option 2C	Option 3A	Option 3D	Option 3C	Option 4D
Pyrolysis	MBT followed by gasification	Incineration with energy recovery	MBT followed by pyrolysis	MBT followed by fuel to offsite energy use	MBT followed by incineration with energy recovery	Autoclave followed by fuel to offsite energy use
4.1 ha	9.1 ha	3.7 ha	8.2 ha	6.9 ha	10.4 ha	3.9 ha

Source: Draft RWP 1st Review, Appendix E, table 6a for each of the seven options for CCBC Area

Fuller description of these options are to be found in Para. B.15 above.

THE RWP SPATIAL STRATEGY

- B.21 The second practical reason behind the RWP 1st Review is the need to develop the RWP Spatial Strategy – the influence the RWP exerts over the location of the required waste management / resource recovery facilities.
- B.22 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. Having failed to ensure that such plans containing maps or precise mappable criteria are in place within the required time frame, the UK government has negotiated a 3-year delay in infraction proceedings up to July 2010. It is not likely that there will be Wales-wide coverage of adopted LDPs containing such maps or precise mappable criteria by 2010 and therefore the WAG is seeking to achieve an adequate level of detail in the RWP 1st Review documents across Wales in order to meet the EU requirements and avoid infraction fines.
- B.23 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.”*
- B.24 During the course of the RWP 1st Review process, the WAG indicated that they wish to see the review include:
- *“The identification of existing sites and areas of search for new “open air” waste facilities with capacity for greater than one local authority area.”*
- B.25 With regard to new in-building facilities serving more than one local authority area, the WAG indicated that they would like the review go further than simply including Areas of Search maps. For these facilities they wish to see:
- *“The identification of a list providing a choice of locations / sites (e.g. named industrial estates, business parks etc) suitable for the location of additional*

“within building” waste facilities with capacity for greater than one local authority area...Each local authority should identify a list providing a choice of preferred potential locations or sites for additional waste facilities with capacity for greater than one local authority area for inclusion in the RWP.”

- B.26 The RWP Spatial Strategy contains two elements:
- Estimates of the total land area required for new in-building waste management / resource recovery facilities, an analysis of the potentially available land area for new in-building facilities on *existing* land use class B2 'general industrial' employment sites, major industry sites and B2 sites that have already been allocated in development plans, and a list of these sites.
 - Areas of Search' maps for use in identifying *new* sites for in-building and open-air waste management / resource recovery facilities.
- B.27 Advances in technology and the introduction of new legislation, policies and practices mean that many modern waste management / resource recovery facilities on the outside look no different to any other industrial building and on the inside contain industrial de-manufacturing 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.
- B.28 The estimated total land area required in South East Wales for new in-building facilities by 2013 for the seven sub-Options ranges from between 48 hectares to 108 hectares. The analysis of the potentially available land area on existing B2 or major industry sites and B2 sites that have already been allocated in development plans has shown that in each Unitary Authority area for which data is available there is, at the current time, a clear surplus of developable land with a B2 planning permission or proposed use to accommodate the highest estimate of the total land area required for new in-building waste management facilities. In South East Wales there is a total of 749 developable hectares of land with a B2 planning permission or proposed use.
- B.29 The generation and assessment of Areas of Search has been undertaken through a Sustainability Appraisal process that incorporated the requirements of Strategic Environmental Assessment, using a Geographical Information System to produce Areas of Search maps. The process involved:
- The identification of Sustainability Appraisal Objectives.
 - The identification of mappable criteria to enable assessment against the Sustainability Appraisal Objectives – effectively questions about spatial issues that can be answered through a Geographical Information System analysis, such as areas with specific designations or features and / or distances from those specific designations or features.
 - The application of weightings to each of the criteria to reflect the level of potential or constraint – applying separate weightings for in-building facilities and for open-air facilities.
 - The production of composite maps based on the weighted criteria using a Geographical Information System – producing separate maps for in-building facilities and for open-air facilities.

Areas of Search

- B.30 The aim of the Areas of Search is to identify potential areas where waste management facilities may be located across the Region. The Areas of Search provide a range of

possible potential locations at a strategic level; any areas identified would have to be subject to further individual appraisal by the Local Authority if they were in future chosen to host a facility.

B.31 The Areas of Search first identified a number of important considerations which will affect the siting of waste management facilities. These were taken into account during the assessment process and include:

- Large area of Special Protection Area along the mouth of the Severn.
- Large areas of National Park, AONB and High and Outstanding valued landscapes.
- Large areas of flood zone are located along the mouth of the Severn and along the south coast.

B.32 In order to identify suitable possible potential locations a method of evaluation has been developed:

- 1 The identification of indicators that will rule out waste development as a matter of policy, such as nationally designated landscape, historical or ecological areas. These have had a weighting of 5 applied to them.
- 2 The identification of indicators that may rule out waste development as a matter of policy, such as Agricultural land (Grades 1, 2 and 3) Green Belt. These have had a weighting of 3 and 4 applied to them.
- 3 The identification of "Positive" indicators such as previously developed land or industrial, waste or mineral sites. These areas represent areas of search or possible potential location where waste management facilities would tend to be located and where they would generally be acceptable in planning policy terms; these have had a weighting of 1 and 2 applied to them.

B.33 Objectives for Areas of Search:

- 1 To ensure prudent use of land and other resources
- 2 To reduce greenhouse gas emissions
- 3 To minimise adverse impacts on air quality
- 4 Protect and enhance the landscape, townscape and cultural heritage of Wales
- 5 To minimise adverse effects on water quality
- 6 Avoid increasing flood risk
- 7 Protect biodiversity
- 8 Provide employment opportunities and support long term jobs and skills
- 9 Minimise adverse effects on residential properties
- 10 Minimise the increased cost of waste management
- 11 Protect Local amenity
- 12 Minimise adverse effects on public health and avoid increasing health inequalities

B.34 For the assessment of the Areas of Search the facilities required were divided into two types. These are:

Open Air Facilities

- Landfill
- Landraise (landfill above ground to create hills)
- Windrow composting

In Building Facilities

- Mechanical Biological Treatment
- Biological Mechanical Treatment
- Anaerobic Digestion

- Gasification
- Pyrolysis
- Incineration with Energy Recovery
- Autoclave
- In-Vessel Composting

B.35 An analysis of the Indicators and Objectives has produced two maps showing the areas of search for Open Air Facilities and In-Building Facilities. The two maps will be used by Local Authorities to assist in the identification of suitable locations for such facilities within their administrative boundaries. However, each location would be subject to further assessment prior to any decision being made.

B.36 Each map comprises:

- 1st areas of search – identified as areas appropriate for waste management facilities due to the presence of appropriate site characteristics (such as proximity to the road network) 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 they are not appropriate for waste management facilities.

Use of the Areas of Search Maps

B.37 The following two broad principles for the viewing and use of the Areas of Search maps and data must be noted:

- The sole purpose of the Areas of Search maps and data is to identify Areas of Search at a strategic level for use by Local Planning Authorities during the Local Development Plan preparation process – as a starting point for more detailed local level assessments to identify appropriate sites for waste management facilities in LDPs.
- Because the sole purpose of the Areas of Search maps and data is to identify Areas of Search at the strategic level, the Areas of Search maps and data must not be used by any organization or individual to determine the appropriateness of proposals for individual waste management facilities. The Areas of Search maps and data must not be used by Local Planning Authorities as a development control tool.

SECTION C

GUIDANCE ON ACTIONS FOR LOCAL PLANNING AUTHORITIES

BACKGROUND

- C.1 TAN 21 states that a key element in the RWP will be agreement of the apportionment of facilities to local authorities, that each Unitary Authority should include in its Development Plan elements of the RWP that are germane to its area, and that it will be for the individual local authorities to determine actual locations of facilities and make provisions in their Development Plans.
- C.2 During the course of the RWP 1st Review process, the WAG indicated that in the preparation of LDPs they seek the following outcome:
- *“...each local authority identifies in their Unitary or Local Development Plans several choices of locations or sites suitable for facilities with capacity for greater than one local authority area ensuring that there is an over-provision of locations / sites to provide market flexibility for the private sector”*
- C.3 To this end, the WAG indicated that they also seeking the following outcomes for the RWP 1st Review:
- *“The inclusion of an implementation plan within the RWP that includes the steps that will be taken by each local authority to ensure that the necessary land is identified in their Unitary and Local Development Plans for all types of waste facilities, including those that only serve an individual local authority”; and “The inclusion of a set of detailed criteria for the identification of suitable locations or sites that can be used by each constituent Local Planning Authority when identifying a choice of locations and sites for waste facilities in their local developments plans. The detailed criteria can be devised at an all Wales level in consultation with the Welsh Assembly Government”.*
- C.4 This section therefore sets out guidelines that individual Unitary Authorities may wish to follow in bringing together the RWP Technology Strategy and the RWP Spatial Strategy through the LDP preparation process in their individual Unitary Authority areas in order to identify appropriate sites for waste management / resource recovery facilities.
- C.5 For development plan preparation purposes, it should be noted that while the capacity requirements in the RWP Technology Strategy are for 2013. The performance provided by the RWP Technology Strategy will satisfy all current targets until 2020.

GUIDANCE FROM WAG

C.6 The WAG has given the following advice and example text for documents produced as part of the LDP preparation process.

LDP Stage	LDP Regulation	Content	WAG Advice
Preferred Strategy Document	14 / 15	Objective	<p>An example objective:</p> <p><i>“To ensure that the LPA has adequate provision for facilities to meet its waste management needs for X types of waste for a range of sites in accord with the in-principle preferred locations identified in the RWP 1st Review.”</i></p>
Preferred Strategy Document	14 / 15	Strategic Policy	<p>A strategic policy will need to:</p> <ul style="list-style-type: none"> • Set out how much additional capacity or additional waste sites will be required within the LA area during the plan period • Include a clear indication of how locational choices will be made (e.g. the criteria at Para 6.3.6 in this discussion paper). <p>An example policy: <i>“A range of facilities are proposed at Y types of locations to ensure adequate provision of Z capacity.”</i></p> <p>This policy gives a range of potential sites to fulfill the capacity requirements, gives flexibility to industry and is supported by clear assessment criteria identified in the RWP 1st Review.</p> <p>It would need to be clarified that there are likely to be more sites allocated than required to facilitate the implementation of the RWP. Over-provision is necessary in order to give flexibility to the industry to ensure the level of investment facilities required to meet needs and achieve targets.</p>
Preferred Strategy Document	14 / 15	Spatial Option	<p>Potential locations for strategic facilities (i.e. those with capacity to serve more than one authority area) should be informed by reference to the RWP and could be identified on a key diagram and / or a list.</p> <p>If spatial options are not considered as part of the Preferred Strategy Proposals Document then there will need to be a fall-back reference to the RWP and the Strategic Policy.</p>
Deposit LDP	17 – 21	Deposit Policy	<p>Deposit Policies should include site specific allocations for both facilities with capacity to serve more than one authority area and for local facilities where possible.</p> <p>These will be allocated with reference to a local assessment using criteria identified in the RWP 1st Review and should demonstrate adequate provision or choices.</p>

GUIDANCE ON IDENTIFYING A CHOICE OF LOCATION OR SITES

- C.7 Taking account of the RWP Technology Strategy and the RWP Spatial Strategy:
- identify a choice of locations or sites for in-building facilities suitable for all waste-streams (including hazardous waste) – including facilities with capacity to serve only the local area and with capacity to serve more than one local authority area; and
 - identify a choice of locations or sites for open-air facilities suitable for landfills for inert, non-inert and hazardous waste – including facilities with capacity to serve only the local area and with capacity to serve more than one local authority area.
- C.8 Advances in technology and the introduction of new legislation, policies and practices mean that many modern waste management / resource recovery facilities on the outside look no different to any other industrial building and on the inside contain industrial de-manufacturing 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 B2 employment sites and major industrial areas will be suitable locations for the new generation of in-building waste management facilities this will be required in accordance with the RWP Technology Strategy.
- C.9 Given that B2 employment sites and major industrial areas are likely to be suitable locations for most new in-building facilities, and given that PPW requires that development plans should “*identify a range and choice of sites to meet different economic and employment needs*” and “*contain appropriate policies in support of the development of innovative business or technology clusters and eco-industrial networks*”, the following sequential approach could be used to identify a choice of locations or sites for in-building facilities:
1. First, examine whether the B2 and major industry sites within the area could adequately accommodate all new in-building waste management facilities.
 2. If there is found to be a shortfall in B2 and major industry sites suitable for accommodating new in-building waste management facilities, then having regard to the Areas of Search maps, search for other suitable locations or sites.
- C.10 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 Areas of Search maps and GIS data is to identify Areas of Search at a strategic level for use by LPAs during the LDP preparation process – as a starting point for more detailed local level assessments to identify appropriate sites for waste management facilities in LDPs.
 - Because the sole purpose of the Areas of Search maps and GIS data is to identify Areas of Search at the strategic level, the Areas of Search maps and GIS data must not be used by any organization or individual to determine the appropriateness of proposals for individual waste management facilities. The Areas of Search maps and GIS data must not be used by LPAs as a development control tool.
- C.11 The following detailed principles for the viewing and use of the Areas of Search maps and GIS data must also be noted.
- C.12 The locations that have been identified as 2nd, 3rd or 4th Areas of Search must not be excluded from consideration as appropriate areas, for the following reasons:
- Waste management facilities are only one of many types of development which LPAs must consider in their LDPs, and as a result other priorities and pressures may justify selecting 2nd, 3rd or 4th Areas of Search over a 1st Area of Search.

The Sustainability Appraisal process undertaken during the preparation of LDPs will be an appropriate mechanism for justifying any such approach.

- Only mappable criteria relating to *strategic* level spatial issues were used to generate the Areas of Search maps. Therefore, more detailed *local* assessments may conclude that, regardless of the Area of Search ranking, a particular site could be developed for waste management facilities with no potential impacts.
- On those particular sites where a greater level of constraint does exist it must be acknowledged that in turn a greater level of operational mitigation may adequately control potential environmental impacts. Waste management facilities can be located almost anywhere if they are appropriately designed, managed and regulated to control any potential impacts.

C.13 The Areas of Search maps and GIS data must not be used by LPAs in isolation as the definitive guide to site selection; the ranking of a particular Area of Search 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 local assessments may require the quantification of this risk based on the nature of the proposed waste management facility / facilities. These more detailed local assessments must, for each site:

- Address each of the strategic level spatial issues that determined the Area of Search ranking – and in so doing may conclude that, regardless of the Area of Search ranking, a particular site could be developed for waste management facilities with no potential impacts, or that adequate mitigation measures will control any potential impacts, or that a particular site should not be developed for waste management facilities.
- Assess a range of other considerations that need to be assessed when planning for new waste management facilities, including site availability, access, altitude, topography, existing land uses, etc.
- Assess any potential cumulative effects on sensitive receptors of a number of sites within an area being developed for new facilities.

C.14 The Areas 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 for in-building facilities – because the principle of B2 or major industry use is already established on these sites.

C.15 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 LPAs to assess whether the expansion of operations at these locations is appropriate and that any potential adverse effects can be effectively controlled.

C.16 It may be appropriate to take into consideration the following local issues when identifying a choice of locations or sites for in-building facilities:

- site suitability;

- site / building vacancy and availability – including opportunities for re-using vacant industrial sheds and quarries and for redeveloping brownfield sites, industrial areas and ports;
- site infrastructure (including electricity grid connections for EfW facilities);
- site ownership;
- existing and proposed neighbouring land uses;
- the nature of existing businesses / waste facilities on the location / site;
- the presence of existing Planning Permissions / Waste Management Licences / Pollution Prevention & Control permits;
- opportunities to expand existing in-building and open-air facilities or to site a new type of facility alongside an existing facility;
- opportunities for co-locating and networking EfW facilities with energy consuming land uses such as district heating systems or large industrial energy users;
- planning-in opportunities for the future expansion of facilities;
- existing and proposed transport infrastructure – including opportunities for integrated multi-modal road, train, canal and sea connections;
- opportunities for co-locating waste management / resource recovery / reprocessing / re-manufacturing facilities to form environmental technology clusters – the concept of such Eco-parks is endorsed by TAN 21, further information can be obtained from the Wales Environment Trust; and the cumulative effect of waste management facilities and other development on sensitive environmental receptors;
- the cumulative effect of waste management facilities and other development on the well-being of the local community, including any significant adverse impacts on environmental quality, social cohesion and inclusion or economic potential
- the EU Habitats Directive requirements for Appropriate Assessment – the two Environmental Reports produced during the RWP 1st Review process, provide relevant information that will assist LPAs, as a Competent Authority, to assess the requirement for an Appropriate Assessment at the appropriate stage when specific land use allocations and development proposals have been formulated.

C.17 When identifying a choice of locations or sites for both in-building and open-air facilities, it may be desirable to allocate specific sites for specific municipal waste management facilities. Planning officers should liaise with Unitary Authority waste managers regarding any site requirements arising from collaborative arrangements for procuring municipal waste management facilities. On this issue, the following points should be noted:

- The RWP Technology Strategy provides strategic direction for those Unitary Authorities that require it. It does not prejudice any existing progress and facilities either where a Unitary Authority has in good faith gone about its procurement process in line with the first RWP or where a Unitary Authority 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.
- Some authorities may wish, and be able to, make provision within their boundaries for the new capacity required for municipal waste. Some authorities may wish to work in cooperation with neighbouring authorities to make provision for the new capacity required for municipal waste.
- Whether authorities make provision within their boundaries or jointly, the procurement arrangements for municipal waste facilities will be at different stages.

C.18 A great number of assumptions underpin the modelling work that was used to develop the RWP Technology Strategy. As with any modelling process, the model must be based on a set of working assumptions and will be subject to practical limits. The figures for the new capacity required and the number of new facilities required must be

treated as indicative, for planning purposes only and as representing a snapshot in time. The figures for the total land area required for new in-building facilities must be treated as an estimate, for planning purposes only and as representing a snapshot in time. In practice the capacity of new facilities, the number required and the land take will depend on many interrelated factors including economics, site sizes and availability, permitted capacity and shift patterns at individual facilities, etc. For these reasons, individual Unitary Authorities may justify differing from the regional apportionment by undertaking more detailed modelling to take account of more detailed information on local circumstances and cross boundary arrangements, etc.

- C.19 As a general guide to typical site sizes, LPAs may wish to note that the following mean typical facility capacities and mean typical land takes for in-building facility types likely to serve more than one local authority area can be calculated from data used by the EAW in the SA:
- Urban authorities – mean typical facility capacity of 180,000 tpa and mean typical land take of 6ha;
 - Rural authorities – mean typical facility capacity of 80,000 tpa and mean typical land take of 3ha.

GUIDANCE ON DRAFTING LDP POLICIES

- C.20 TAN 21 states that development plans should include a balance of site-specific and criteria based policies to provide as much information as possible on the locations likely to be acceptable for development of waste treatment and disposal facilities.
- C.21 LDPs should include a policy identifying a choice of locations / sites for new in-building and for new open-air facilities. The spatial extent of these locations / sites should be shown on the proposals maps.
- C.22 LDPs may also include a policy making specific allocations of land for specific new waste management / resource recovery facilities. Local Development Plans Wales states that *“the identification of sites for specific uses...should be founded on a robust and credible assessment of the suitability and availability of land for particular uses or a mix of uses and the probability that it will be developed”*.
- C.23 LDPs are also likely to include topic-based policies that set out the general criteria against which planning applications for new waste management / resource recovery facilities will be considered.
- C.24 It should be noted that, in regard to the strategic level issues tackled by the RWP, the PPW Companion Guide states that national development control policy on the following matters is set out in PPW and should therefore only be referenced in LDPs rather than repeated as local policy:
- The waste hierarchy, the proximity principle and regional self-sufficiency;
 - Ensuring that waste is recovered or disposed of without harming the environment, without endangering human health, without risk to water, air, soil, plants or animals, without causing a nuisance through noise or odours and without adversely affecting the countryside or places of special interest, including areas of acknowledged importance in relation to the natural and cultural heritage; and
 - Encouraging any necessary movement of waste by rail and water rather than by road wherever economically feasible.
- C.25 LPAs may consider it appropriate to draft topic-based policies to address one or more of the following issues:

- planning applications for facilities within the identified choice of locations / sites;
- planning applications for facilities that fall outside the identified choice of locations / sites;
- the suitability of B2 and major industry sites for in-building facilities;
- opportunities for re-using vacant industrial sheds and quarries and for redeveloping brownfield sites, industrial areas and ports;
- the suitability of farm / countryside locations for open-air composting and in-building anaerobic digestion facilities;
- opportunities to expand existing in-building and open-air facilities or to site a new type of facility alongside an existing facility;
- the different land use impacts of in-building facilities and open-air facilities;
- the need for inert, non-inert and hazardous waste landfills;
- the need for facilities to manage different waste streams (including hazardous waste);
- transport infrastructure, including minimising road traffic impacts and maximizing opportunities for integrated multi-modal road, train, canal and sea connections;
- opportunities for co-locating and networking EfW facilities with energy consuming land uses such as district heating systems or large industrial energy users;
- opportunities for co-locating waste management / resource recovery / reprocessing / remanufacturing facilities to form environmental technology clusters. The concept of such Eco-parks is endorsed by TAN 21, further information can be obtained from the Wales Environment Trust;
- opportunities for new facilities to deliver community benefits; and
- minimising visual impact and local concerns through high quality design (architectural / landscaping).

GUIDANCE ON DRAFTING LDP SUPPORTING TEXT

- C.26 In regard to the strategic level issues tackled by the RWP, TAN 21 states that development plans should include text which:
- demonstrates that proper account has been taken of the RWP;
 - explains how the RWP impacts upon the development plan policies and proposals and how the proposals and policies in the development plan help to facilitate implementation of the RWP;
 - demonstrates the authority's place in the development of regional networks of waste management facilities, and will need to consider future needs and potential new demands within the regional framework;
 - demonstrates the waste hierarchy, proximity and self-sufficiency principles in all strategic waste planning;
 - makes explicit the capacity of the area to deal with waste, and also make accurate and quantified assessments about their own waste arisings, with reference to EAW data that is available at the time of plan preparation; and
 - demonstrates that there is adequate provision for waste management facilities to meet the targets in EU Directives.
- C.27 This supporting text should be drafted in such a way that is mindful of the need to demonstrate the soundness of the LDP against the 10 criteria set out in Local Development Plans Wales for assessing soundness, particularly in regard to the following criteria:
- Consistency Test C1: *"It is a land use plan that has regard to other relevant plans, policies and strategies relating to the area or to adjoining areas"*;
 - Consistency Test C2: *"It has regard to national policy"*;
 - Coherence & Effectiveness Test CE2: *"The strategy, policies and allocations are realistic and appropriate having considered the relevant alternatives and are founded on a robust evidence base"*; and

- Coherence & Effectiveness Test CE4: *“It is reasonably flexible to enable it to deal with changing circumstances”*.

SECTION D

MAIN WASTE GUIDANCE ISSUES ARISING FOR THE LDP

Introduction

- D.1 Section D sets out guidelines that individual Unitary Authorities may wish to follow in bringing together the RWP Technology Strategy and the RWP Spatial Strategy through the LDP preparation process in their individual Unitary Authority areas in order to identify appropriate sites for waste management / resource recovery facilities. Section D has also explained the requirements of WAG guidance, and in particular, TAN 21.
- D.2 The LPA should include in its development plan elements of the RWP that are germane to its area and individual LPAs should determine actual locations of facilities and make provisions in their development plans in order to implement the requirements of the RWP. The RWP Technology Strategy and RWP Spatial Strategy will be brought together through the LDP preparation process in individual Unitary Authority areas in order to identify appropriate sites for waste management / resource recovery facilities.

Themes

- D.3 Within the topic of Waste Management/Resource Recovery the following themes are relevant to the creation of the LDP:
- Employment Generation
 - Municipal Waste Streams and regional solutions
 - Specific site designations to serve more than one authority
 - Areas of Search / Identification of sites, for “In-Building” Facilities
 - Areas of Search for Open-Air Facilities

Employment Opportunities

- D.4 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).
- D.5 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.
- D.6 It should be noted that the seven sub-Options put forward for consultation as alternative RWP Waste Technology Strategies all involve Energy from Waste. 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. The LDP Renewable Energy Background Paper describes that EfW is a fully sustainable treatment option.
- D.7 Enabling an integrated and adequate network of waste management / resource recovery facilities must be viewed as an issue of enabling the development of infrastructure that is required by all businesses in the region – minimising the cost to business of transporting waste for management.

Municipal Waste Streams

- D.8 There is an urgent need for new Municipal waste management / resource recovery facilities to enable South East Wales to meet the EU Landfill Directive requirements for the diversion of BMW from landfill.

- D.9 Some WDAs 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. This cooperative working is already underway and Caerphilly has recently joined a consortium of four other local authorities, including Cardiff, Newport, Monmouthshire and the Vale of Glamorgan. They have been working jointly to initiate the procurement of a regional waste treatment facility in South East Wales, and this task has been given the name of 'Project Gwyrdd'.
- D.10 Project 'Gwyrdd' is being developed and structured to maximise landfill diversion by providing a solution for residual wastes that cannot be practically recycled or composted. It will be capable of providing for Wales a significant contribution to the achievement of 2012/13 EU Landfill Directive legal limits for biodegradable municipal waste as part of an integrated solution involving high recycling and composting achievements across the partnership and the rest of Wales.

Specific Sites for facilities to serve more than one Authority area

- D.11 Sometimes sites present themselves where there will be opportunities to create facilities which could serve more than one local authority's area. In this context it is considered appropriate to identify the site of the Coal Washery in Cwmbargoed specifically for the location of Waste Management Facilities. This site straddles the border of Caerphilly CBC and Merthyr Tydfil CBC and lies on the edge of the Ffos y Fran Coal Recovery operation and has direct access to the rail network. The LDP candidate site at Cwmbargoed is a particularly large site with the potential area within the County Borough being in excess of 24 ha. However, currently it is by no means certain how much of the site will need to remain committed to the Coal Washery function and for how long during the plan period. The desk-top assessment of this site can be found in **Appendix A**.

Areas of Search / Identification of sites, for "In-Building" Facilities

- D.12 Table 2 on page W10 above has indicated that land in a range of from 3.7 ha to 10.4 ha is required to meet the needs of additional waste treatment facilities in the County Borough. The following paragraphs explain how the needs for waste facilities are to be met through the LDP provisions.
- D.13 Advances in technology and the introduction of new legislation, policies and practices mean that many modern waste management / resource recovery facilities on the outside look no different to any other industrial building and on the inside contain industrial de-manufacturing 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 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. 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.
- D.14 In addition to the Coal Washery site, the employment sites which might be considered suitable in which to search for locations for in-building facilities are identified in **tables 3 & 4** overleaf. In addition to these sites the RWP 1st Review has identified a hierarchy of Areas of Search within the Borough where it will be appropriate for developers to seek for such sites. In this context it is considered that conditional employment policies applicable to class B2 use are sufficient for in-building facilities also. The available free land within the identified B2 sites amounts to over 75 hectares (see **table 3** overleaf) but the area of search for the location of "in-building" facilities extends to the protected built sites (see **table 4** below and overleaf) as well as stand alone unprotected class B2 use

sites. This quantity of vacant land is considered fully sufficient both for the need for waste facilities and for standard B1, B2 and B8 employment. For example, during the period 2000 to 2005 the total amount of employment land developed was 12 ha producing 620 jobs.

Table 3: Use Class B2 sites which contain vacant land greater than 1 ha in area:

	Site Name	Location	Available Area in Ha
HOVRA	Land at Heads of the Valleys	Rhymney	5.2
NCC	Land at Oakdale Business Park (plateau 1)	Oakdale	30.2
	Land at Oakdale Business Park (plateau 2)	Oakdale	7.0
	Land at Oakdale Business Park (plateau 3)	Oakdale	3.4
	Land at Oakdale Business Park (plateau 4)	Oakdale	4.3
	South Extension, Penyfan	Croespenmaen	2.4
	Land at Hawtin Park (north parcel)	Pengam	4.5
	Land at Dyffryn Business Park (north parcel)	Ystrad Mynach	4.9
	Land at Dyffryn Business Park (south parcel)	Ystrad Mynach	6.3
	Penallta Extension	Hengoed	1.6
SCC	Land at Caerphilly Business Park	Caerphilly	3.6
	Land at Nine Mile Point	Cwmfelinfach	1.1
	Land at Trecenydd Industrial Estate	Caerphilly	2.2
	Land at Western Industrial Estate	Caerphilly	1.1
		TOTAL	77.8

Source: Caerphilly CBC, emerging LDP employment allocations

Table 4: Sites to be protected for Use Class B2 development:

	Site Name	Location
HOVRA	Land at New Tredegar Heads of the Valleys Capital Valley Maerdy Angel Lane Bowen	New Tredegar Rhymney Rhymney Rhymney Aberbargoed Aberbargoed
NCC NCC cont	Plateau 2, Oakdale Business Park Penyfan North Celynen Hawtin Park Dyffryn Business Park Croespenmaen Britannia St. David's New Road Penallta Newbridge Road Tram Road Switchgear Penmaen Woodfieldside Caerphilly Road	Oakdale Croespenmaen Newbridge Gellihaf Ystrad Mynach Croespenmaen Pengam Pengam Tiryberth Ystrad Mynach Pontllanfraith Pontllanfraith Pontllanfraith Pontllanfraith Pontllanfraith Pontllanfraith Ystrad Mynach
SCC	Pantglas Caerphilly Business Park Prince of Wales Nine Mile Point Blackvein Newtown Park Road Rogerstone Park Bedwas House Pontygwindy Road Trecenydd Western	Bedwas Caerphilly Abercarn Cwmfelinfach Wattsville Crosskeys Risca Pontymister Bedwas Caerphilly Caerphilly Caerphilly

Source: Caerphilly CBC, emerging LDP protection policy for employment sites

Areas of Search for Open-Air Facilities

- D.15 The RWP 1st Review has also identified a hierarchy of Areas of Search within the Borough where it will be appropriate for developers to seek for sites suitable for open air facilities. In this context it is considered that the LDP will also need to contain a proper criteria-based protection policy context which will identify local constraints in order to guide development proposals to the optimal locations.

CONCLUSIONS

- D.16 The proposed policy framework for Waste Management issues therefore includes the identification of suitable class B2 allocations and existing class B2 industrial estates. It also includes a framework of Protection Policies through which determination of proposals for Waste Management facilities beyond these sites may be assessed. There has also been a site identified which is considered capable of containing facilities which would serve more than one Local Authority Area.
- D.17 This policy framework is considered to accord with and implement the following key components of the Plan Strategy:
2. Allow for development opportunities in the Heads of the Valleys Regeneration Area
 4. Exploit brownfield opportunities where appropriate
 8. Reduce the impact of development upon the countryside

ASSESSMENT OF CWMBARGOED WASHERY

A Candidate site, northwest of Fochriw

INTRODUCTION

- As.1 In response to the Council's invitation for the public to identify possible new development sites for consideration for inclusion in the LDP, the owners of Cwmbargoed Washery put their site forward as a location for waste management facilities.

ASSESSMENT

- As.2 This industrial site straddles the border between this borough and Merthyr Tydfil Borough and the area within the County Borough extends to just over 24.3 ha. The site has a coal washery capability with its own rail-head but other associated land uses have been accommodated in the past. The need for the coal washery is likely to be maintained through much of the plan period because of the nearby Ffos-y Fran coal recovery project. Therefore, currently it is by no means certain how much of the site in this Council's area will need to remain committed to that function and for how long.
- As.3 A preliminary site assessment exercise was carried out by the Strategy and Development Plans Team in consultation with the Council's Environmental Health Division, Transportation Planners from the Highways Division, and the Countryside and Landscape section of the Planning Division. A summary of the results were as follows:
- The General Planning Assessment found as follows:
 - A brownfield site which lies outside settlement boundaries.
 - Not considered suitable for the normal range of urban land uses, because of its remoteness and the impact that current land uses would present for such uses.
 - Therefore it is unsuitable for any land use apart from that already given consent and possible waste management facilities, because of good road and rail access, and distance from residential areas.
 - Transportation Planners concluded that the site would be suitable for its intended purpose on highway grounds because good access is already in place.
 - Environmental Health Officers concluded that there might be issues with odour and litter from the proposed use, but provided these were controlled, the site would be suitable for the intended purpose.
 - Countryside and Landscape Officers concluded that the majority of the site would be suitable for the intended use but that the following areas and issues needed protection or survey:
 - The planted trees along the northern boundary and along part of the eastern boundary should be maintained and enhanced in order to screen the site from the Roman Road.
 - The ponds within the site should be retained and surveys carried out to ascertain their biodiversity value.
 - There is potential for habitats for protected European species such as Great Crested Newts, Bats, and ground nesting birds such as Skylark and Lapwing. Comprehensive surveys will be required to these possibilities.

- As.4 Utilising the assessment criteria proposed in draft LDP waste policies the following can be said to be the main strengths and weaknesses of the site in relation to the proposed land use:

Location outside of C1 And C2 Flood Designations

The site lies in Flood Zone A and therefore no serious problems would arise from this quarter

Proximity to Adequate Transportation Infrastructure

The site benefits from good road and rail access

No detriment to Residential Amenity

The site is located at some considerable distance from residential areas

No detriment to range / quality of designated Public Open Space

No designations nearby

No detriment to Protected Environmental Features

The presence of valuable features has been described in the Countryside and Landscape assessment above and these identified issues will need to be addressed as appropriate in any development proposal

No detriment to Environmental Quality

Subject to controlling issues of litter and odour and drainage arrangements there would be no problems from such proposals

No significant detriment to other Land Uses

There are no significant detriments envisaged to the use of the majority of the site for Waste Management proposals

CONCLUSIONS

- As.5 Because of its large size and location remote from urban areas, the site would be an ideal location in principle for waste management facilities.
- As.6 The only major possible weakness is its relative remoteness from the large urban areas of South East Wales and hence from those locations which produce the most significant amount of waste materials.
- As.7 However, the need for the coal washery is highly likely to be maintained through much of the plan period because of the nearby coal recovery project. Therefore, currently it is by no means certain how much of the site will need to remain committed to that function and for how long during the plan period.

GLOSSARY OF TERMS

Anaerobic Digestion

A **resource recovery** process where **biodegradable waste** is treated by means of bacterial action in the absence of oxygen to produce **digestate** and **biogas**.

Animal By-products

The EU Animal By-Products Regulation (1774/2002) states that animal by-products are the entire bodies or parts of animals, or products of animal origin, not intended for human consumption.

Autoclave

A pressurised steam **treatment** process.

Best Practicable Environmental Option

The **BPEO** procedure establishes the waste management option, or mix of options, that provides the most benefits or the least damage to the environment as a whole, at acceptable cost, in the long-term as well as in the short-term.

Bio-aerosols

Airborne micro-organisms.

Biological Mechanical Treatment

A generic term for a **resource recovery** process which integrates several processes commonly found in other waste management facilities such as **MRFs**, and **composting** facilities. **BMT/MBT** facilities can incorporate a number of different processes in a variety of combinations and can be built for a range of purposes. A common aspect of all **BMT/MBT** plant used for **MSW** management is to sort mixed waste into different fractions using mechanical means and to **recover** materials for **recycling**.

Biodegradable Waste

Waste that is capable of being broken down by plants (including fungi) and animals (including worms and micro-organisms).

Biofilter

Biofilters use moist organic materials (including compost, soil, peat, and chipped wood/wood bark) to trap the compounds in exhaust gases that then become a food source for the ecosystem living on the organic materials.

Biogas

Gas produced by **biodegradable waste** as it breaks down by biological and chemical reaction. The gas can be used as a fuel and/or in a **Combined Heat and Power** system.

Biological Treatment

Any biological process that changes the properties of waste (e.g. **anaerobic digestion**, **composting**). Biological treatment includes landspreading activities that are licensed.

Bring Recycling

Recycling schemes where the public bring material for recycling to centralised collection points, (e.g. bottle and can banks) at **civic amenity sites**, supermarket car parks and similar locations.

Civic Amenity Site

A generic term for a facility provided by the local authority that receives **household waste** delivered by the public. Wastes handled include bulky items such as furniture, white goods, garden waste and general household wastes as well as recyclables. Some **CA** sites have facilities to receive certain **hazardous** household wastes, e.g. lead acid batteries and oil. Also called **Household Waste Recycling Centres**.

Clinical Waste

Healthcare waste such as blood, tissue, needles, soiled dressings, drugs etc. that is infectious or could cause harm in some other way. It may be produced from hospitals, medical, nursing, dental, veterinary, pharmaceutical or similar practices or from home treatment, e.g. diabetes.

Combined Heat and Power

The use of a power station to simultaneously generate both heat and electricity. The steam or hot water generated in the process is utilized either in industrial processes or in community heating.

Composting

A **resource recovery** process where **biodegradable waste** (such as garden and kitchen waste) is converted, in the presence of oxygen from the air, into a stable granular material which, applied to land, improves soil structure and enriches the nutrient content.

Controlled Waste

The UK term for **wastes** controlled under the Waste Framework Directive. Controlled waste includes **household waste**, commercial waste, industrial waste and agricultural waste.

Digestate

The solid and/or liquid residue produced by **Anaerobic Digestion**. Can be used as a fertiliser/compost.

Dioxins

A family of chemicals produced by, among other ways, the burning of PVC plastics at low temperatures (less than 700°C). Some are known to be carcinogenic.

Disposal

According to the waste **hierarchy** the final disposal of waste through **landfill**, **landraise** or **incineration** without **energy recovery** is the least preferred way of managing waste.

Diversion

A term used to refer to avoiding **disposal** of waste in **landfill** and instead diverting it into other waste management methods, especially **reuse**, **recycling**, **composting** and **Mechanical Biological treatment** and **thermal treatment**.

Doorstep Collection

Waste collected from the householder or business doorstep for the purposes of **reuse**, **recycling** and **composting**.

End of Life Vehicles

Scrap cars and other vehicles.

Energy from Waste

A **resource recovery** process where energy in the form of heat and/or power is recovered from burning waste. Energy can be produced from waste through **incineration**, **gasification**, **pyrolysis**, the combustion of **refuse derived fuel**, the combustion of **biogas** produced during **anaerobic digestion**, and the combustion of **landfill gas**.

Epidemiology

The medical and scientific study of the causes of disease and ill health.

Exempt facility

A waste management / resource **recovery** facility registered with, but not licensed by, the Environment Agency. Exempt facilities are subject to general rules (e.g. on the types and quantities of wastes received).

Gasification

A resource recovery process. Gasification can be seen as between pyrolysis and incineration in that it involves the partial oxidation of a substance. This means that oxygen is added but the amounts are not sufficient to allow the fuel to be completely oxidized and full combustion to occur. The temperatures employed are typically above 750°C. The main product is a syngas, which contains carbon monoxide, hydrogen and methane. The other main product produced by gasification is a solid residue of non-combustible materials that contains a relatively low level of carbon.

Hazardous Waste

A broad term for a wide range of waste materials that present different levels of risk. Some present a serious and immediate threat to the population and the environment, for example those that are toxic, could cause cancer or infectious disease. Others, such as fluorescent tubes or cathode ray tubes in televisions, pose little immediate threat but may cause long-term damage over a period of time.

Household Waste

It includes domestic waste from household collection rounds, waste from services such as street sweepings, bulky waste collection, litter collection, **hazardous** household waste collection and garden waste collection, waste from **civic amenity sites** and wastes separately collected for **recycling** or **composting** through **bring recycling** schemes and **kerbside recycling** schemes. Household waste is a sub-group of **municipal solid waste**.

Household Waste Recycling Centre

A term for a facility provided by the local authority that receives **household waste** delivered by the public. Wastes handled include bulky items such as furniture and, white goods, garden waste and general household wastes as well as recyclables. Some **HWRCs** have facilities to receive certain **hazardous** household wastes, e.g. lead acid batteries and oil. Also called **Civic Amenity sites**.

Incineration

The burning of waste at high temperatures in the presence of sufficient quantity of oxygen to fully combust / oxidise the waste. Typically, incineration temperatures are in excess of 850°C. The waste is converted into carbon dioxide and water. Any non-combustible materials (e.g. metals, glass) remain as a solid, known as bottom ash, which contains a small amount of residual carbon. Incineration is used either to reduce the volume of the waste (in the case of **MSW**) or its toxicity (e.g. for organic solvents and **PCBs**). Most modern incinerators are a **resource recovery** process where energy in the form of heat and/or power is recovered from burning waste – see **Energy from Waste**.

Inert Waste

Chemically inert, non-combustible, non-**biodegradable waste** and non-polluting waste defined in the **EU Directive** on the **Landfill** of Waste.

Integrated Pollution Prevention & Control

The European Integrated Pollution Prevention and Control applies an integrated environmental approach to the regulation of certain activities. Emissions to air, water and land, plus a range of other environmental effects, must be considered together. Regulators must set permit conditions so as to achieve a high level of protection for the environment as a whole. These conditions are based on the use of the 'best available techniques' that balances the costs to the operator against the benefits to the environment. **IPPC** aims to prevent emissions and waste production and where that is not practicable, reduce them to acceptable levels.

In-vessel Composting

A term used to cover a wide range of composting systems all of which enclose the activity and therefore allow a higher degree of control over the temperature, oxygen and moisture than is possible with **windrow composting**.

Kerbside Recycling

Collection of recyclable or compostable wastes usually from the pavement (hence the name), outside premises, including collections from commercial or industrial premises as well as from households.

Landfill

Licensed facilities where waste is permanently deposited for **disposal** into land. According to the **waste hierarchy** the final **disposal** of waste through landfill is the least preferred way of managing waste.

Landfill Allowance Scheme

The Landfill Allowances Scheme (Wales) Regulations were made by the National Assembly for Wales on 8 June 2004. They were made under powers conferred by the Waste and Emissions Trading Act 2003. This Act implements in the UK Article 5 of the **EU Directive** on the **landfill** of waste (1999/31/EC). The purpose of the LAS is to require waste **disposal** authorities in Wales to limit the quantities of **BMW** that they landfill in accordance with an allowance allocated to them by the **WAG** in accordance with Section 4 of the Act.

Landfill Tax

A tax that applies to **inert** and non-inert waste, **disposed** at a **licensed landfill** site. The aim of the tax is to send a tough signal to waste managers to switch to less environmentally damaging alternatives to **disposal**.

Landfill Tax Credit Scheme

A way of reducing tax liability whilst benefiting 'good causes'. If landfill operators give 20% of their tax liability to environmental projects the Inland Revenue will refund 90% of that amount to the company.

Landraise

Licensed facilities where waste is permanently deposited for **disposal** on to land. According to the **waste hierarchy** the final **disposal** of waste through landfill is the least preferred way of managing waste.

Leachate

The liquid run-off carrying polluting chemicals from waste deposited in **landfill / landraise** sites.

Life Cycle Assessment

The systematic identification and evaluation of all the environmental benefits and disbenefits that result, both directly and indirectly, from a product or function throughout its entire life from extraction of raw materials to its eventual **disposal** and assimilation into the environment. LCA helps to place the assessment of the environmental costs and benefits of these various options, and the development of appropriate and practical waste management policies, on a sound and objective basis.

Mass Burn Incineration

Incineration of the complete **waste** stream without any further sorting, **treatment** or removal of materials for **recycling** and **composting**. Most modern **incinerators** are a **resource recovery** process where energy in the form of heat and/or power is recovered from burning waste – see **Energy from Waste**.

Materials Recovery Facility

A **resource recovery** process of varying scale where materials that can be recycled or composted are separated out of unsorted waste.

Mechanical Biological Treatment

A generic term for a **resource recovery** process which integrates several processes commonly found in other waste management facilities such as **MRFs**, and **composting** facilities. **MBT/BMT** facilities can incorporate a number of different processes in a variety of combinations and can be built for a range of purposes. A common aspect of all **MBT/BMT** plant used for **MSW** management is to sort mixed waste into different fractions using mechanical means and to **recover** materials for **recycling**.

Mechanical Heat Treatment

A term used to describe configurations of mechanical and thermal, including steam, based technologies. The most common system being promoted for the treatment of **MSW** using **MHT** is **autoclave**.

Municipal Solid Waste

Household waste and other wastes collected by a **waste collection authority** or its contractors, such as municipal parks and gardens waste, beach cleansing waste and any **commercial waste** and **industrial waste** for which the collection authority takes responsibility.

Open-gate landfill

A **landfill** run as a commercial operation that receives waste from many waste producers.

PAS 100

A publicly available specification for compost materials prepared and published by the British Standards Institution.

Pollution Prevention & Control

Pollution Prevention and Control is a regime for controlling pollution from certain industrial activities. Operators must use the best available technique to control pollution from their industrial activities. The aim of the best available techniques is to prevent, and where that is not practicable, to reduce to acceptable levels, pollution to air, land and water from industrial activities while balancing the cost to the operator against benefits to the environment.

Polychlorinated Biphenyls

Highly persistent bio-accumulative pollutants that are immuno-suppressive. Their accumulation through the food chain results in them being a serious threat to health, particularly in communities with a large dietary intake of fish.

Proximity Principle

Requires that waste should generally be disposed of as near to its place of production as possible.

Pyrolysis

A **resource recovery** process. In contrast to **incineration**, pyrolysis is the thermal degradation of a substance in the absence of oxygen. This process requires an external heat source to maintain the temperature required. Typically, relatively low temperatures of between 300°C to 800°C are used during pyrolysis of materials such as **MSW**. The products produced from pyrolysing materials are a solid residue and a synthetic gas (syngas). The solid residue (sometimes described as a char) is a combination of non-combustible materials and carbon. The syngas is a mixture of gases (combustible constituents include carbon monoxide, hydrogen, methane and a broad range of other volatile organic compounds). A proportion of these can be condensed to produce oils, waxes and tars. If required, the condensable fraction can be collected by cooling the syngas, potentially for use as a liquid fuel.

Recovery

The recovery of valuable materials and energy from waste. The **waste hierarchy** states that the recovery of resources is more favourable than their final **disposal**. Reduces the need for primary resources - and thus also reduces costs.

Recycling

A **resource recovery** process that involves the reprocessing of wastes, either into the same material (closed-loop) or a different material (open-loop recycling). Reduces the need for primary resources – and thus also reduces costs.

Reduction

Reducing the quantity or the hazard of a waste produced from a process. Reduces the need for primary resources – and thus also reduces costs.

Refuse Derived Fuel

Fuel, often in pellet form, which is produced from combustible elements of **household waste** and **commercial waste**, and used in industrial boilers to produce **energy from waste**.

Residual Waste

Waste remaining to be disposed of after re-use, **recycling**, **composting** and **recovery** of materials and energy.

Resource Recovery

The recovery of valuable materials and energy from waste. The **waste hierarchy** states that the recovery of resources is more favourable than their final **disposal**. Reduces the need for primary resources – and thus also reduces costs.

Restricted-User Landfill

Sometimes known as “factory-curtilage **landfill**” sites within ownership of the waste producer or restricted to specific users.

Source Separation

The separation of materials suitable for **re-use**, **recycling** and **composting** from waste at the point where it is produced by households and businesses.

Special Waste

Defined by the Environment Protection (Special Waste) Regulations 1996 (as amended). In July 2005 the **Hazardous Waste** (England and Wales) Regulations and the List of Wastes (Wales) Regulations come into force, replacing the Special Waste Regulations.

Stabilised Biowaste

Biodegradable waste which is treated so that it is biologically stable and therefore no longer reacts to produce either **leachate** or **landfill** gas.

Stabilised Waste

Waste that has been **treated** so that it is chemically stable.

Sustainable Waste Management

Using material resources efficiently to cut down on the amount of waste produced. And, where waste is generated, dealing with it in a way that actively contributes to the economic, social and environmental goals of sustainable development. The concepts of the **waste hierarchy** and **resource recovery** are central to sustainable waste management.

Sustainable Waste Management Option

An assessment technique that supplements the technique of **Best Practicable Environmental Option** to ensure that social and economic, as well as environmental, issues are taken into account in the consideration of waste management options.

Thermal Treatment

The **treatment** of waste using elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the waste. Examples of thermal treatment processes are **gasification**, **incineration**, and **pyrolysis**.

Transfer Station

A waste management facility to which waste is delivered for separation or bulking up before being removed for **resource recovery**, **treatment** or **disposal**.

Treatment

A catch-all term for a very wide range of physical, thermal, chemical or biological processes that change the nature of waste in some way.

Waste Arisings

The amount of waste generated in a given locality over a given period of time.

Waste Collection Authority

A local authority responsible for the collection of **municipal solid waste** in its area.

Waste Disposal Authority

A local authority responsible for the management of the waste collected and delivered to it by constituent collection authorities. The processing and/or final **disposal** of the waste is usually contracted to the private sector waste management industry.

Waste Electrical & Electronic Equipment

Electrical or electronic equipment that is waste, including all components, subassemblies and consumables that are part of the product at the time of discarding.

Waste Hierarchy

Hierarchical ranking of waste management options based on their relative environmental benefits: **reduction**, **reuse**, recovery (**resource recovery** of materials through **recycling** and **composting** and **energy from waste**) **disposal**.

Waste Management Licence

A waste management / **resource** recovery facility licensed under the Environmental Protection Act.

Waste Management Licensing

The system of permits operated by the Environment Agency under the Environmental Protection Act to ensure that activities authorised to **recover** or dispose of waste are carried out in a way which protects the environment and human health.

Waste Stream

A way of classifying waste according to its source and nature.

Windrow Composting

A **resource recovery** process where composting of **biodegradable waste** is undertaken in elongated piles called windrows. The windrows are monitored throughout the **composting** process to ensure that the optimum temperature, oxygen concentration and moisture content are maintained. The windrows are turned periodically, to introduce fresh air, and watered to maintain the ideal conditions for **composting**.

GLOSSARY OF ACRONYMS

AD	Anaerobic Digestion
AMR	Annual Monitoring Report
ATF	Authorised Treatment Facility
BPEO	Best Practicable Environmental Option
BMT	Biological Mechanical Treatment
BMW	Biodegradable Municipal Waste
CA	Civic Amenity
C&I	Commercial & Industrial
C&D	Construction & Demolition
CFC	Chloro Fluoro Carbons
CHP	Combined Heat and Power
COMAH	Control Of Major Accident Hazards
CP	Conditioning Plan
DEFRA	Department for Environment, Food and Rural Affairs
DTLR	Department for Transport, Local Government and the Regions.
EA	Environment Agency
EfW	Energy from Waste
EIA	Environmental Impact Assessment
ELV	End of Life Vehicle
EU	European Union
EWC	European Waste Catalogue
GIS	Geographical Information System
HIA	Health Impact Assessment
HWRC	Household Waste Recycling Centre
IPPC	Integrated Pollution Prevention and Control
ISO	International Organization for Standardization
LAS	Landfill Allowance Scheme
LCA	Life Cycle Assessment
LDP	Local Development Plan
LPA	Local Planning Authority
MBT	Mechanical Biological Treatment
MHT	Mechanical Heat Treatment
MRF	Materials Recycling Facility
MSG	Members Steering Group
MSW	Municipal Solid Waste
NAW	National Assembly for Wales
NPA	National Park Authority
NSCA	National Society for Clean Air and Environmental Protection
NWSW	National Waste Strategy for Wales
PA	Per Annum
PCB	Polychlorinated Biphenyls
PCN	Policy Clarification Note
PPC	Pollution Prevention & Control
ODPM	Office of the Deputy Prime Minister
RDF	Refuse Derived Fuel
RRR	Recycling, Reuse & Recovery
RWA	Regional Waste Assessment
RWG	Regional Waste Group
RWP	Regional Waste Plan
RWTG	Regional Waste Technical Group
SEA	Strategic Environmental Assessment
SWMA	Strategic Waste Management Assessment
SWMO	Sustainable Waste Management Option
TAN	Technical Advice Note

TPA	Tonnes Per Annum
UDP	Unitary Development Plan
WAG	Welsh Assembly Government
WEEE	Waste Electrical & Electronic Equipment
WISARD	Waste: Integrated Systems Analysis for Recovery and Disposal
WML	Waste Management Licence
WRATE	Waste: Integrated Systems Analysis for Recovery and Disposal
WSP	Wales Spatial Plan