SOUTH WEST WALES REGION

INTERIM WASTE PLANNING MONITORING REPORT

March 2015

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1. INTRODUCTION

1.1 Background

1.1.1 In line with the revised Technical Advice Note (TAN) 21: Waste (2014), there will be a requirement for each of the three regions in Wales to prepare an annual monitoring report for waste. Central to the process of preparing an AMR is the collection and analysis of information regarding the waste situation within the region.

1.1.2 Information on the waste situation within the region is required in order to monitor the region's waste arisings, recovery and disposal and in order to make forecasts of future arisings. The challenge of planning for waste management and resource recovery facilities must be undertaken with a sound information base; it is therefore important to have comprehensive, accurate, timely and consistent information.

1.1.3 Information on the region's waste management / resource recovery facilities is required in order to monitor implementation of the National Waste Strategy for Wales – 'Towards Zero Waste' (TZW, 2010) – both in terms of the facilities that are being planned for in local authority development plans and in terms of the facilities that are currently operating.

1.2 Annual Monitoring Report (AMR)

1.2.1 The principle role of the AMR will be to collate and present all available data to enable the effective monitoring of both the region's waste arisings and waste management facilities to assess the region's performance against the targets set out in TZW.

1.2.2 The information and analysis presented future AMRs should provide a basis for local authorities and other organisations to take action on the waste arisings within each local authority area and by implication the region as a whole. They should also provide an information base to assist the waste management industry make key investment decisions.

1.2.3 The first full AMR will be produced for the period 2015/16

1.3 Interim Monitoring Report (IMR)

1.3.1 This IMR aims to follow on from the last Regional Waste AMR (2007). It therefore looks at data from 2007 to the present date and provides headline data and analysis relating to the following aims:

• To collate and assess available data on all waste arisings in the region in order to monitor trends in past arisings and ultimately monitor performance against the targets set out in TZW;

• To collate and assess available data on landfill void with a view to predicting the remaining landfill capacity of the region;

• To collate and assess available data on the arisings and management of residual waste and comment on progress being made towards meeting targets regarding alternatives to landfill;

• To collate and assess information on the development of waste policies in Development Plans to monitor the implementation of the provisions of TAN 21 Waste;

• To collate information on current local authority waste management / resource recovery schemes and future procurement

• To provide recommendations that can be carried forward and utilised in the production of the first full AMR 2015/16

• To identify any data gaps that exist

1.4 The South West Wales Region

1.4.1 In 2013 the South West Wales region had a resident population of 904,616 which represented 29.3% of the population of Wales (2013 Mid-year estimate, StatsWales). The population has been gradually rising since 2001 when the census had shown it to be 848, 328 (2001 Census, ONS).

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

1.4.3 The Swansea Bay area is restructuring an economy originally based on coal, iron, steel, tinplate and petrochemicals, and has achieved some success in attracting private and public investment. Rural South West Wales has traditionally attached its economic strengths to the agriculture industry, service sector employment, petrochemicals and tourism.

1.4.4 South West Wales is overall, an area of high landscape and ecological value. It has the only primarily coastal National Park in the UK (Pembrokeshire Coast), part of the Brecon Beacons National Park and Gower AONB. It also has many national [Sites of Special Scientific Interest (SSSI's); National Nature Reserves (NNR's)] and international sites sites] within its defined area that have been designated for their important nature conservation interests. As well as its designated areas, the environmental quality of its remaining coastline and many parts of its countryside are of a particularly high quality. It is these qualities that have made the region a preferred destination for visitors, with tourism a key employer of increasing significance in the region.

1.4.5 The commercial ports and freight handling facilities of Milford Haven Waterway, Fishguard, Port Talbot and Swansea are of particular importance to the area. The ports link with the remainder of the UK via the A40 / A48 / M4 corridor. The rail network in the region comprises the Inter City and West Wales lines, and the Heart of Wales line. The main rail links are however east-west, with no significant rail penetration on a north-south basis.

2. MONITORING THE REGION'S WASTE ARISINGS: Principal Waste Streams

2.1 Introduction

2.1.1 This section of the report discusses the available data for each of the principal waste streams that together make up controlled waste: Local Authority Collected Waste (LACW);

Industrial & Commercial Waste (I&C); Construction & Demolition Waste (C&D); and Agricultural Waste.

2.1.2 For each of these principal waste streams, the report: presents the TZW target; reports the current levels of waste arising in South West Wales (where data is available); and reports on the current management of those wastes.

2.1.4 Where possible, data is presented for all available years and broken down to local authority level in order to facilitate a comprehensive understanding of the regions' performance over time and over the geographical area.

2.2 Local Authority Collected Waste (LACW)

2.2.1 Current Arisings of LACW

Waste Prevention Target – Household Waste

Towards Zero Waste will require:

- a reduction in our waste arisings of around 1.5% (of the 2006-07 baseline) each year across all sectors, including household waste

Figure 1: Total LACW Arisings, 2005/06 to 2013/14, by Local Authority (Tonnes)

Authority	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14
Bridgend	82,448	85,415	88,010	85,917	74,312	68,855	71,225	63,536	65,245
Carmarthenshire	100,950	100,860	96,093	84,164	79,044	78,060	73,657	71,188	77,247
Ceredigion	41,013	40,427	44,250	43,066	44,521	39,622	35,553	34,584	33,828
Pembrokeshire	76,299	78,054	74,148	70,915	69,132	68,907	65,308	64,516	67,729
Neath Port Talbot	93,952	94,305	86,669	87,363	87,000	83,040	74,334	71,695	71,922
Swansea	166,761	142,656	139,287	130,422	127,406	120,073	110,297	111,437	113,627
SW Wales	**561,423**	**541,717**	**528,457**	**501,847**	**481,415**	**458,557**	**430,374**	**416,958**	**429,597**

Source: StatsWales

2.2.2 From fig 1 it is clear that the amounts are decreasing, and from a simple calculation the amounts of LACW is indeed decreasing by at least 1.5% of the 2006-07 baseline up to 2012/13. There was a rise in LACW arisings in the year 2013/14, this is likely to be due to the changes in the definition of local authority municipal waste from 1 April 2012 which includes more types of waste.

2.2.3 The definition now includes household and non-household waste that is collected and disposed of by local authorities. It includes regular household collections, specific recycling collections, special collections of bulky items, waste received at civic amenity sites and waste collected from non-household sources. The definition used is: local authority municipal waste, excluding abandoned vehicles. These changes have seen an overall increase in the total amount of local authority municipal waste generated.

Target - reduction of household waste:

Wise About Waste (carried forward in TZW) set the following targets for the stabilisation and reduction of household waste:

- by 2009-10 (and to apply beyond) waste arisings per household should be no greater than those (for Wales) in 1997-98 (21kg)
- by 2020 waste arisings per person should be less than 300kg per annum

2.2.4 As stated in the Municipal Sector Plan, the target to reduce the amount of total household waste per household per week to 1997-98 levels (21 kg) by 2009-10 was met [nationally in Wales], with a figure of 20.4 kg. The Plan goes on to say that progress towards achieving the long term 2020 target of 300 kg of household waste per person per annum is more modest. The amount of household waste per person peaked in 2004-5 to 538 kg per person per annum; this has since decreased to 484 kg for 2009-10, although this is still greater than the 1997-98 figure of 446 kg.

2.2.5 In terms of residual household waste (i.e. total amount of household waste minus household waste sent for reuse/recycling/composting), this has been continually falling over the past few years in the South West Wales Region, as shown in figs 2 and 3 below:

Figure 2: Residual Household Waste Arisings per dwelling, 2005/06 to 2013/14, by Local Authority (Kg)

Authority	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14
Bridgend	-	-	-	-	529	460	411	456
Carmarthenshire	-	-	-	-	497	418	349	329
Ceredigion	-	-	-	-	584	459	464	409
Pembrokeshire	-	-	-	-	539	493	464	430
Neath Port Talbot	-	-	-	-	685	609	590	534
Swansea	-	-	-	-	552	461	444	409
SW Wales Average	**-**	**-**	**-**	**-**	**564**	**483**	**453**	**428**
Wales Average	**-**	**-**	**-**	**-**	**576**	**505**	**481**	**467**

Source: StatsWales

Figure 3: Residual Household Waste Arisings per person, 2005/06 to 2013/14, by Local Authority (Kg)

Authority	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14
Bridgend	361	364	365	341	230	201	180	200
Carmarthenshire	415	370	290	246	224	189	159	151
Ceredigion	419	328	307	325	265	209	211	188
Pembrokeshire	413	375	329	292	256	235	223	207
Neath Port Talbot	488	437	411	393	313	280	272	247
Swansea	380	358	329	310	251	209	203	188
SW Wales average	**413**	**372**	**339**	**318**	**257**	**221**	**208**	**197**
Wales average	**399**	**354**	**323**	**296**	**259**	**227**	**217**	**211**

Source: StatsWales

Current Management of Local Authority Collected Waste (LACW)

Target – Reuse, Recycling and Composting of LACW

- By 2009/10 achieve at least 40% of preparing for reuse and recycling/composting (or AD);
- By 2012/13 achieve at least 52% of preparing for reuse and recycling/composting (or AD);
- By 2015/16 achieve at least 58% of preparing for reuse and recycling/composting (or AD);
- By 2019/20 achieve at least 64% of preparing for reuse and recycling/composting (or AD);
- By 2024/25 achieve at least 70% of preparing for reuse and recycling/composting (or AD)

2.2.6 As stated in the Municipal Sector Plan, in 2009-10, 12 Local Authorities met the combined recycling and composting rate of 40 per cent. In terms of the SW Wales Region, Figure 4 sets out the percentage of LACW that was recycled in each of the six authorities.

Figure 4: LACW Re-use, Recycling and Composting rates as Percentage of Arisings, 2005/06 to 2013/14, by Local Authority

Authority	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14
Bridgend	25.7	29.3	33.0	38.4	33.5	48.0	56.3	57.1	56.5
Carmarthenshire	22.7	25.2	26.6	33.8	40.1	43.4	49.3	53.8	55.7
Ceredigion	35.6	43.3	46.6	48.7	48.5	51.4	58.4	53.6	58.4
Pembrokeshire	21.1	26.5	30.3	38.9	44.3	48.9	50.0	53.1	60.3
Neath PortTalbot	21.1	25.2	27.6	34.9	37.1	44.0	43.9	48.3	54.0
Swansea	27.7	29.0	30.1	32.1	34.9	40.5	45.2	47.9	52.8
SW Wales					**40**			**52.3**	

Source: StatsWales

2.2.7 Figure 4 indicates the performance against the respective recycling and composting targets. The data shows that there has been a steady increase in recycling and composting rates over the years, with three out of the six authorities meeting the 2009/10 target of 40% and four of the six meeting the 2012/13 target of 52%. An average of all the SW Wales authorities shows that as a region the targets are being met.

Biodegradable Municipal Waste (BMW)

Target – Landfilling of Biodegradable Municipal Waste (BMW)

The amount of BMW that can be landfilled in each target year (tonnes) is set under the Landfill Allowances Scheme Wales and are as follows:

- In 2010 the amount of BMW that can be landfilled in Wales is 710,000;
- In 2013 the amount of BMW that can be landfilled in Wales is 470,000
- In 2020 the amount of BMW that can be landfilled in Wales is 330,000

2.2.8 The Landfill Allowance Scheme (Wales) Regulations 2004, provides the legislative background for the landfill allowance scheme in Wales. They provide for the NRW to be the monitoring authority in relation to compliance with the landfill allowances. It also places an obligation on Waste Disposal Authorities (WDA's) in Wales and landfill operators to keep records in relation to Biodegradable Municipal Waste (BMW) in each year of the landfill allowance scheme and to provide returns on a quarterly basis. This instrument also puts in place the possibility for the Welsh Government (WG) to impose financial penalties on any WDA who fails to meet its landfill allowance target or fails to comply with reporting requirements.

2.2.9 The Landfill (Scheme Year and Maximum Landfill Amount) Regulations 2004 sets the maximum amount of waste that may be sent to landfill in target years (2010, 2013 and 2020), for the UK as a whole and for each of the devolved administrations. WG has allocated landfill allowances to the WDA's in Wales for each year. Figure 5 shows these allocated allowances by local authority up to 2013/14.

2.2.10 At the all Wales level, Welsh local authorities sent 345,022 tonnes of BMW to landfill in 2013/14 compared to an overall Wales allowance of 450,000 tonnes. This was twenty three per cent less (104,978 tonnes) than the allowance. Individually, eighteen local authorities achieved their individual allocated allowance and four exceeded their individual allocated allowance.

2.2.11 Wales has reduced the amount of BMW sent to landfill by fifty nine per cent (506,467 tonnes) since the first full year of the scheme in 2005/06.

2.2.12 In terms of the South West Wales Region, figures 5, 6 & 7 show the overall results for the region for the period from 2006/07 to 2013/14. The results show that all authorities in South West Wales achieved their respective landfill allowance. Three authorities (Bridgend, Neath Port Talbot and Ceredigion) are well within their landfill allowances; of the remaining authorities, Carmarthenshire and Pembrokeshire have met their allowances but with smaller margins. Generally the pattern has been one of reduction in use of allowances over the years, however, there have been some fluctuations over the period, the most noticeable being Swansea whose use of its allowance has increased from 66.5% in 2006/07 to 84.1% in 2013/14, albeit still well within the threshold.

Figure 5: Landfill Allowances for BMW, by Local Authority 2005/06 to 2013/14 (Tonnes)

Authority	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14
Bridgend	35,467	32,737	30,007	27,277	30,732	26,830	22,927	21,952
Carmarthenshire	47,506	43,952	40,398	36,844	33,919	29,611	25,304	24,228
Ceredigion	17,461	16,303	15,145	13,987	15,596	13,616	11,635	11,140
Pembrokeshire	36,676	34,278	31,879	29,481	26,134	22,815	19,497	18,667
Neath Port Talbot	56,554	51,231	45,908	40,585	30,547	26,668	22,789	21,819
Swansea	85,687	79,465	73,243	67,021	49,092	42,858	36,624	35,066
SW Wales	**279,351**	**257,966**	**236,580**	**215,195**	**186,020**	**162,398**	**138,776**	**132,872**

Source: Report on the Landfill Allowances Scheme, NRW (2014) & Register of the Landfill Allowances Scheme, NRW

Figure 6: Landfilled BMW, by Local Authority 2005/06 to 2013/14 (Tonnes)

Authority	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14
Bridgend	25,220	22,819	20,640	16,354	11,579	12,674	6,034	8,662
Carmarthenshire	42,772	41,164	29,625	23,536	20,603	16,581	15,572	17,681
Ceredigion	14,510	15,676	13,571	10,169	8,001	5,532	5,831	6,456
Pembrokeshire	34,433	30,892	27,030	23,786	20,325	18,681	17,786	13,430
Neath Port Talbot	33,689	29,249	23,149	19,030	12,353	11,754	8,196	5,865
Swansea	56,960	54,597	49,762	44,917	38,409	31,186	30,449	29,494
SW Wales	**207,584**	**194,397**	**163,777**	**137,792**	**111,270**	**96,408**	**83,868**	**81,588**

Source: Report on the Landfill Allowances Scheme, NRW (2014) & Register of the Landfill Allowances Scheme, NRW

Figure 7: Percent of Landfill Allowances used, by Local Authority 2006/07 to 2013/14

Authority	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14
Bridgend	71.1	69.7	68.8	60.0	37.7	47.2	26.3	39.5
Carmarthenshire	90.0	93.7	73.3	63.9	60.7	56.0	61.5	73.0
Ceredigion	83.1	96.2	89.6	72.7	51.3	40.6	50.1	57.9
Pembrokeshire	93.9	90.1	84.8	80.7	77.8	81.9	91.2	71.9
Neath Port Talbot	59.6	57.1	50.4	46.9	40.4	44.1	36.0	26.9
Swansea	66.5	68.7	67.9	67.0	78.2	72.8	83.1	84.1
SW Wales	**74.3**	**75.4**	**69.2**	**64.0**	**59.8**	**59.4**	**60.4**	**61.4**

Source: Report on the Landfill Allowances Scheme, NRW (2014) & Register of the Landfill Allowances Scheme, NRW

2.2.13 The six counties making up the South West Wales Region have continued to consistently use less of their landfill allowance than that of Wales as a whole. At the all Wales level, nearly 80% of landfill allowances were used in 2006/07 and 76.7% were used in 2013/14 – 15% higher than the South West Wales Region.

2.2.14 The landfill allowance scheme (LAS) was set up to meet the requirements of the Landfill Directive. However, in recent years the way the UK measures its progress towards the landfill diversion targets means that it has adopted a wider definition of municipal waste, which means that the LAS system will provide less of an accurate measurement of BMW in respect of the reduction targets. The Welsh Government took a decision to keep the landfill allowance scheme as they felt it was useful as a mechanism to focus local authority attention on reducing their contribution to landfill. Nonetheless, the critical issue is the quantity of biodegradable waste that is sent to landfill across the board. This is monitored by NRW for WG, and such data will be utilised in future regional waste AMRs in order to establish a more comprehensive position on the reduction of BMW to landfill.

2.3 Industrial & Commercial Waste (I&C)

2.3.1 Current Arisings of I&C Waste

2.3.2 Whilst there is no continued annual source on Industrial and Commercial waste, WG require surveys to be done on a five yearly (or thereabouts) basis which EAW and now NRW have done at WG's request and funding. The surveys are reliable individually as they can be and considerable effort is made to ensure the statistical basis of the results.

Information utilised in the last AMR for the SWW Regional Waste Plan (2007) came from the Environment Agency's I&C waste survey (2003). The survey was conducted on behalf of the EA (Wales) and was primarily funded from the landfill tax credit scheme operated under the Biffaward scheme, WG and also by the EA. The project used the same basic statistical approach and sampling methodology as was used in the first survey in 1998/99 in order for comparisons to be made.

2.3.3 Two further Reports have been produced since, one in 2009 (which was used in the preparation of the CIMS Plan) and another in 2012. The methodology used in the latter two studies were comparable with earlier studies, however, whilst the two earlier studies aggregated the results to local authority level, the 2009 and 2012 studies only focus down to a regional level. Consequently, direct comparisons with the earlier studies would not be reliable and since this report relates to the years 2006 to 2014, the following figures and analysis relate to the 2009 & 2012 Studies and are based on the South West Region as a whole, rather than focusing on the six local authorities making up the region.

Target – Reuse and recycling of Industrial & Commercial Waste

- By 2015/16 at least 57% of commercial waste and at least 63% of industrial waste should be recycled;
- By 2019/20 at least 67% of both commercial and industrial waste should be recycled;
- By 2024/25 at least 70% of both commercial and industrial waste should be recycled

2.3.4 At the all Wales level, industrial and commercial sectors generated an estimated 3.7 million tonnes of waste (excluding non-wastes) split 55%:45% between industrial and commercial businesses in 2012. The precision for the total waste generated was +/- 7.9% at 90% confidence.

2.3.5 Figure 8 sets out the amount of waste types generated by sector in the SW Wales region, as set out in the 2009 and 2012 I&C waste reports. Analysis of this data shows that in 2012, an estimated 278 thousand tonnes of industrial waste and 474 thousand tonnes of commercial waste were generated in South West Wales in 2012.

2.3.6 When compared to the results of the 2009 waste generation survey, there is no statistically significant difference in the quantity of either industrial waste or commercial waste generated in Wales. Consequently it is not possible to establish whether the national targets set out in TZW (for Industrial waste, a reduction of 1.4% each year & for commercial waste, a reduction of 1.2% each year) are being met.

2.3.7 In terms of future monitoring work, WG has been working with NRW to get a handle on how much waste is produced by regulated industry in Wales - it appears to be responsible for around 70% of all industrial waste arisings. WG possess robust data on this, as operators are required to report it to NRW as part of their monitoring requirements of their permit. So for industrial waste at least, independent annual results are recorded which can be used to supplement the less frequent surveys - and the baseline reports have shown that they tally with these surveys quite closely.

Figure 8 - I&C Waste types generated by sector for South West Wales (2007 & 2012) in thousands of tonnes

		2007	2012
Type	Sector	Wastes	Wastes
I	Food products, drinks	36.42	48.69
I	Textiles, wearing apparel	1.65	1.6
I	Wood and wood products	23.38	5.61
I	Paper and paper products	10.92	15.96
I	Coke and petroleum products	11.04	47.02
I	Chemicals, pharmaceuticals	28.09	
I	Other non-metallic mineral	26.4	13.9
I	Basic Metals	175.46	119.94
I	Computer, electrical equip	37.43	8.62
I	Furniture, other manufact.	13.93	12.53
I	Electricity, gas, steam	10.49	1.74
I	Water collection	2.52	2.27
	Industrial sub-total	**377.73**	**277.88**
C	Wholesale and retail trade	193.35	247.73
C	Transportation and storage	29.02	20.72
C	Accommodation and food	97.09	74.4
C	Information and comms	5.75	3.68
C	Financial and insurance	2.44	3.55
C	Real estate activities	1.51	3.4
C	Professional, scientific	25.03	17.49
C	Administrative and support	16.14	15.08
C	Public admin and defence	27.66	11.96
C	Education	40	28.66
C	Human health and social	13.87	32.32
C	Arts, entertainment	19.64	11.94
C	Other services	6.91	3.16
Commercial sub-total		**478.41**	**474.09**
TOTAL		**856.14**	**751.97**

Source: Survey of Industrial & Commercial Waste Arisings in Wales in 2007, EAW 2009 &
Survey of Industrial & Commercial Waste generated in Wales, NRW 2012

2.3.8 Current Management of I&C Waste

Landfill Target s for Industrial & Commercial Waste

- By 2019/20 a maximum of 10% of industrial and commercial waste should be landfilled;
- By 2024/25 a maximum of 5% of industrial and commercial waste should be landfilled

2.3.9 In addition to setting out the amounts of I&C waste produced, the 2009 and 2012 Studies provide a detailed account of the different waste management routes of these waste types. Tables 1 & 2 in Appendix 1 set out the amounts of waste generated in Wales in 2012. Analysis of this data shows that in the South West Wales region (2012):

- The preparation for re-use, recycling & composting rate for the industrial waste was 64% and the land disposal rate was 12.2%.
- The preparation for re-use, recycling & composting rate for the commercial waste was 68% and the land disposal rate was 26%.
- The preparation for re-use, recycling & composting rate for the combined total of all industrial and commercial waste was 58% and the land disposal rate was 26%.

2.3.10 When compared to the results of the 2009 waste generation survey:

- There is a 15% increase in the preparation for re-use, recycling & composting rate for industrial waste; the rate was 49% in 2007 and 64% in 2012.
- There is a statistically significant difference in the preparation for re-use, recycling & composting rate for commercial waste; the rate was 37% in 2007 and 68% in 2012.

2.3.11 Referring to Wales as a whole, the 2012 Paper highlights that recycling is the dominant waste management method across the regions. South West Wales has the highest preparation for re-use, recycling & composting rate (67%), followed by the North (61%) and the South East (54%). This has changed from 2007 when landfill predominated in South East and South West Wales. Landfill is the second highest waste management method across the regions (South East 33%; South West 21% and North 15%).

2.3.12 The 2012 Paper concludes that [again referring to an all Wales level] brief comparison with data from the previous survey in 2009 indicated that there was no statistically significant change in the total industrial and commercial waste generated in Wales when factoring in the precision limits between both surveys. It was also inconclusive as to whether the increase in the quantity of waste prepared for re-use, recycled and composted by the industrial & commercial sectors combined in 2012 was statistically significant compared to 2007 when factoring in the precision limits between both surveys. However, the survey results indicated that the reduction in the quantity of waste sent to landfill by the industrial & commercial sectors combined was statistically significant compared to 2007 and therefore a reduction had occurred. These conclusions are mirrored at the South West Wales level as can be seen in tables 1&2, Appendix 1.

2.3.13 In terms of meeting targets, the above data indicates that in terms of the reuse and recycling of I&C waste, the SW Wales region was already meeting the 2015/16 target in 2012. Landfill remained the second highest management route however, and consequently the 2019/20 target of 10% maximum being landfilled is still some way from being achieved.

2.4 Construction & Demolition Waste (C&D)

2.4.1 Current Arisings of C&D Waste

2.4.2 As with the case of I&C waste, detailed above, data on C&D waste is not kept annually. Studies have been undertaken on an intermittent basis, the most recent being the survey of construction and demolition (C&D) waste generated in Wales for 2012 calendar year and was carried out by RSK Environment Ltd in partnership with Urban Mines (managed by NRW on behalf of the Welsh Government). The purpose of this study was to produce information on the quantities, origins (by industry sector and geographic region), and fate of construction and demolition (C&D). Data was collected from 457 business sites between July 2013 and January 2014 throughout Wales of differing sector and size, and the data was grossed up using population data to regional and national level in Wales.

2.4.3 Several previous studies had been carried out in the past, these had been utilised in the AMRs for the Regional Waste Plans, the last of which was produced in 2007. However, the 2012 Study stresses that comparison with previous survey results should not be made because:

- The definition of waste has changed considerably since the previous survey, excluding a large amount of material which was previously recorded as waste.
- The recession impacted significantly on the construction sector, reducing output and therefore waste generation.
- There were no major infrastructure projects accounting for very large quantities of waste in 2012. This contrasts with 2005/06 when three of the five largest waste producers were involved in major projects. This illustrates the difficulty in comparing data from single years.
- The geographical data for 2012 is reported based on the location of the construction/demolition site as opposed to the location of the business office. This reflects the fact that C&D waste generally needs to be managed close to the site of production.

2.4.4 Consequently for the purposes of this report, only data from the 2012 Study has been used. As with the 2012 Study into I&C Wastes, this study does not focus on individual local authorities (for the same statistical reasons) and so the results are based on the South West Wales Region as a whole.

2.4.5 Figure 9 below indicates that the South West Region generated around 35% of the total C&D waste generated in Wales in 2012. A more detailed picture is shown in Appendix 2 (Table 1) which details the C&D waste generated in Wales 2012 by waste type and C&D sector in SW Wales. The highest percentage of waste generated in South West Wales was from the Civil Engineering sector (61%).

Figure 9 C&D Waste generated in South West Wales in 2012 in thousands of tonnes by sector

Type	Sector	South West	Wales Total
D	Demolition & Site Preparation	62.64	145.32
C	Construction of commercial buildings	105.00	274.99
C	Construction of domestic buildings	161.77	931.91
C	Development of building projects	28.29	53.78
C	Roofing activities & scaffolding erection	0.49	55.78
C	Test Drilling & boring and other specialised construction activities	36.27	75.47
CE	Construction of civil engineering constructions	636.64	1311.14
CE	Construction of highways, roads, airfields & sports facilities	83.85	272.63
GB	Electrical installation	1.53	76.82
GB	Floor and wall covering	0.58	5.77
GB	Joinery installation	7.43	42.47
GB	Other building completion and finishing	29.66	41.57
GB	Other construction installation	7.46	19.10
GB	Painting and Glazing	12.06	20.32
GB	Plastering	1.06	4.38
GB	Plumbing	2.61	28.03
Total		**1177.33**	**3359.50**

D - Demolition; C - Construction; CE - Civil Engineering; GB - General Building. Source: Survey of Construction & Demolition Waste generated in Wales 2012, NRW

2.4.6 Current Management of C&D Waste

Landfill Targets for Construction and Demolition Waste

- By 2015/16 reduce the amount of C&D waste landfilled by a minimum of 50% of the amount that was landfilled in the 2007 baseline;
- By 2019/20 reduce the amount of C&D waste landfilled by a minimum of 75% of the amount that was landfilled in the 2007 baseline

Target – The preparing for reuse, recycling and other material recovery of Construction and Demolition Waste:

- By 2015/16 at least 70% by weight;
- By 2019/20 at least 90% by weight

Figure 10: C&D Waste generated in South West Wales 2012 by Management Method

Waste Management Method	South West	Wales Total
Preparation for re-use on site	82.82	267.67
Preparation for re-use off site	211.75	1202.61
Preparation for other re-use	0.00	1.88
Recycling	363.18	1050.97
Composting	0.47	20.04
Land recovery	0.00	0.08
Incineration with energy recovery	0.87	7.97
Incineration without energy recovery	0.15	0.35
Land disposal	463.25	639.39
Treatment	0.01	19.61
Transfer Station	0.84	1.97
Other	0.00	0.25
Don't Know	0.10	16.26
Backfilling	53.86	130.43
Total	**1177.33**	**3359.50**

Source: Survey of Construction & Demolition Waste generated in Wales 2012, NRW

2.4.7 The predominant waste management method in South West Wales was land disposal. This differs from the other two Welsh regions where the predominant method was preparation for re-use off site. The main reason for this was related to the management of soils and stones (EWC 17 05 04) in South West Wales, whereby approximately 208 thousand tonnes was sent to land disposal, which accounted for 57% of the waste sent to land disposal in the region. This can be seen in Appendix 2, Table 2 'Waste generated by type and waste management method'. Recycling was the second most common management method in all three regions, accounting for 31% of all the waste produced in the South West Wales Region.

2.4.8 The preparation for re-use, recycling and other material recovery rate for the Construction & Demolition waste generated in the South West Wales region was 56% in 2012. However, when excluding naturally occurring substances (EWC 17 05 04 - soils & stones) as done for the all Wales level in the 2012 Report, the figure rises to 67% and is comparable with the Welsh Government targets to increase preparation for re-use, recycling and other material recovery to a minimum of 70% by 2015/16 and 90% by 2019/20. The 2012 results indicate that the C&D sector is on course towards meeting these targets.

2.5 Agricultural Waste

2.5.1 Current Arisings and Management of Agricultural Waste

2.5.2 There is limited accurate Wales data for the quantities and types of agricultural waste produced, their disposal, re-use or recycling. This presents a barrier for identifying appropriate targets for the sector to meet TZW commitments and to develop actions for the

sector. Consequently, it is not possible to give an estimate of the overall reuse, recycling, energy recovery or landfill rates.

2.5.3 WG published a draft position statement on agricultural waste in June 2014, accompanied by a call for evidence. As highlighted in the call for evidence document, information available so far, especially in relation to the relatively small quantities involved, indicates that agricultural waste is not, at a strategic Wales level, a problematic waste, although components such as asbestos from farm buildings, demolition wastes, hazardous farm chemicals, animal drugs, sheep dip chemicals etc, can cause problems locally if not managed correctly.

2.5.4 In the call for evidence, WG sought the opinion of the sector on whether or not a separate agricultural sector plan was needed. The response has been that a separate plan is not required, and so it remains in abeyance. There is a next-steps meeting to be held in June 2015 to discuss the matter, as there are some actions resulting from the consultation for WG and also for NRW.

3. MONITORING THE REGION'S LANDFILL CAPACITY

3.1 Introduction

3.1.1 NRW has estimated (at 31 December 2010) that if waste deposits at landfill continue at 2010 rates, and no new landfills are developed, non-hazardous landfills across Wales as a whole would reach the end of their life in around 10 years. NRW's analysis is based on current inputs to landfill and it assumes that these will not change with time. This is therefore a worse case scenario and assumes that the interventions put into place by the Welsh Government to decrease waste and increase recycling will have little effect. It follows that remaining life at landfill sites (i.e. their remaining capacity) will be extended if annual inputs continue to decrease, as is intended in respect of the 2025 goal of as close to zero landfill as possible. There is one possible problem here, however, and that is landfill companies closing sites prematurely due to lack of inputs and therefore income to continue the operations (see 3.3.5, below).

3.1.2 Whilst landfill is currently the predominant management method for residual waste produced in Wales, as new waste prevention, recycling and other recovery activities develop in accordance with targets and actions, the need for landfill will decrease significantly.

3.2 The CIMS Plan findings

3.2.1 The CIMS Plan has estimated remaining landfill life for non hazardous merchant landfills under three main scenarios. Figure 11 below, is based on Table 34 of the CIMS Plan but focuses on the South West Wales Region. It estimates the year when landfill void will run out in accordance with the 3 modelled scenarios (and the sub-division of each of these scenarios into three further sub-scenarios in relation to waste growth patterns.

Figure 11 Estimated year when landfill void will run out in South West Wales in accordance with the modelled scenarios in the CIMS Plan 2012.

Scenarios		Estimated year that landfill void will run out
If no alternative treatment capacity is developed	i) Only LAMW recycling targets met, other recycling rates remain as baseline, no additional waste prevention measures undertaken	2020-21
	ii) All recycling targets met, no additional waste prevention measures undertaken to meet waste prevention targets	2022-23
	iii) All recycling targets met and additional waste prevention measures undertaken to meet waste prevention targets	2024-25
If EfW is developed for LAMW residual waste only	i) Only LAMW recycling targets met, other recycling rates remain as baseline, no additional waste prevention measures undertaken	2021-22
	ii) All recycling targets met, no additional waste prevention measures undertaken to meet waste prevention targets	Beyond 2024-25
	iii) All recycling targets met and additional waste prevention measures undertaken to meet waste prevention targets	Beyond 2024-25
If EfW is developed for all residual waste	i) Only LAMW recycling targets met, other recycling rates remain as baseline, no additional waste prevention measures undertaken	Will not run out (1,846kt capacity remains)
	ii) All recycling targets met, no additional waste prevention measures undertaken to meet waste prevention targets	Will not run out (2,254kt capacity remains)
	iii) All recycling targets met and additional waste prevention measures undertaken to meet waste prevention targets	Will not run out (2,477kt capacity remains)

Source: CIMS Plan 2012

3.2.2 In summary, the scenario modelling for the remaining landfill life in the South West Wales Region delivers the following worst case / best case outcomes: Worst case – landfill void runs out in 2021-22; best case landfill void lasts indefinitely (assuming all targets are met for all waste streams and all IBA is recycled).

3.3 The current situation

3.3.1 A brief investigation into the current situation with regards landfill sites in the South West Wales Region has found that no new sites have become operational since 2010, and there are no new sites with planning permission or any currently being determined. So in the case of the scenarios above, unless any new landfills come into operation in the next 7 years

(i.e. 2022), the remaining landfill life will be entirely dependent upon recycling targets being met (including the reduction in waste going to landfill), and new alternative residual treatment becoming operational. In terms of residual treatment, this is covered in section 4 below.

3.3.2 Appendix 3 details the current landfills in the region in 2013, their remaining capacity has been omitted for commercial confidentiality reasons. As can be seen, some of these have been permitted but not yet been constructed, and there are two landfills associated with Corus Steel Works in Port Talbot (one is hazardous restricted and the other is restricted user).

3.3.3 Focusing on non-hazardous landfills, figure 12 below sets out the remaining capacity at the end of Dec 2013.

Figure 12 – remaining capacity at the four non-hazardous landfills in the South West Wales region

Original Permit/Licence Number	Permit Reference	Operator Name	Installation Name	Site Type	Local Authority	end of Dec 2013
CP3735PB	CP3735PB	Cwm Environmental Limited	Nantycaws Landfill Site	Non-hazardous	Carmarthenshire	-
BU8819IV	BU8819IV	WRG Waste Services Ltd	PWLLFAWATKIN LANDFILL SITE	Non-hazardous	Neath Port Talbot	-
TP3935LA	TP3935LA	Swansea City Waste Disposal Co Ltd	Tir John Landfill	Non-hazardous	Swansea	-
GP3630HT	BP3131SG	SITA	Withyhedge Landfill Phase 2	Non-hazardous	Pembrokeshire	-
					Total	**5,404,786**

Source: NRW 2013 data

3.3.4 Figure 12 sets out the combined annual deposition rates between 2006 – 2012 of all four non-hazardous landfills. By dividing the final yearly input in fig 13 (2012) into the total in fig 12, we can work out roughly how many years landfill capacity is remaining in the South West Wales Region: **10.7 years** (assuming 1 tonne = 1 cubic metre and removing 25% for engineering). This is comparable to the worst case prediction set out in the CIMS Plan whereby estimated remaining landfill life would be 10 years if no alternative capacity is developed and only LACW recycling targets are met.

Figure 13 – tonnage inputs to landfill (Non Hazardous) in the South West Region 2006-2012

Year	Total Tonnage Input
2006	405,511.49
2007	442,167.70
2008	397,085.74
2009	378,503.55
2010	456,321.30
2011	464,830.50
2012	379,871.10

3.3.5 From fig 13 it can be seen that the total tonnage inputs to non hazardous landfills in the SW Wales region have not been decreasing, but rather have tended to fluctuate over the seven year period. However, whilst the above calculation provides a rough indication on how much landfill capacity there is remaining in the SW Wales region, a number of factors need to be borne in mind which could influence or affect the situation:

- **Amounts of HIC and inert wastes (C&D) landfilled** – fig 14 below breaks down the data [in fig 13] further by looking at the split of Household/Industrial & Commercial wastes to Inert Wastes (C&D). From this we can see an overall reduction in the amounts of HIC being landfilled whilst inert wastes are fluctuating. This seems to account for the lack of a clear tend across landfill deposition rates in fig 13.

Figure 14 – comparison between the amounts of HIC and Inert Wastes landfilled in SW Wales region 2006-12

Year	HIC wastes	Inert Wastes (C&D)
2006	372,061.82	33,449.67
2007	383,639.29	53,947.60
2008	305,276.53	91,664.59
2009	323,554.13	54,835.64
2010	314,644.10	141,570.90
2011	284,189.10	180,613.30
2012	207,004.60	113,532.50
2013	-	-

Source: EA Waste Interrogators

- **Limited life of existing landfills** – some sites may close before reaching their capacity. For example, the future of Nantycaws is uncertain at the present time as the current waste contract ends in 2015. The situation concerning each site will therefore need to be closely monitored.

- **Potential capacity of new landfills (not yet operational)** – Appendix 3 highlights that there are three non-hazardous landfills in the region which are not yet operational. If they come on line they could potentially add a further 4.1 years capacity to the region.

- **Restricted User Landfills** – the region currently has one such category landfill, namely Corus in Port Talbot. Whilst the site has a sizeable remaining capacity, this needs to be monitored because the company may require disposal elsewhere should the situation change.

- **New Residual Waste Treatment Facilities** – these are discussed in section 4 below. There is the potential for more than one facility to become operational within the next few years within the SW Wales region, and this would have the positive effect of taking waste away from landfill.

3.3.6 In conclusion, together with the increase in recycling of LACW as detailed in Section 2 above, this would indicate that the SW Wales region has at least enough void space to last until 2020-21. By this period, it can be anticipated that new residual waste treatment facilities will be operational – the progress of these and other potential facilities will be monitored in future AMRs.

4. MONITORING THE REGION'S RESIDUAL WASTE RECOVERY FACILITIES

4.1 Arisings of residual waste

4.1.1 Residual waste currently forms a significant component of LACW (60%) and commercial waste (57%). It forms a less significant component of industrial waste (20%) and construction and demolition waste (5%). Figure 15 below, sets out the estimated arising and management of residual waste in the SW Wales region per annum (as set out in the CIMS Plan) alongside actual LACW figures from 2013/14, and I&C and C&D figures from the most recent reports.

4.1.2 From the figures, whilst it is obvious that the region has a significant task to meet the goal of as close to zero landfill as possible by 2025, it is clear that the predictions in CIMSP have overestimated the amounts of residual waste produced.

4.1.3 This will have consequences for the future predictions of the amounts of residual waste produced (as set out in section 2.3.4.3 of the CIMS Plan), and will impact upon the future demand for recovery and disposal facilities, as potentially there might be fewer facilities required.

4.2 Management of Residual Waste

4.2.1 The management of residual waste comprise three broad processes:

- Intermediate treatment e.g. MBT and MHT, and the production of RDF & SRF
- Other recovery – e.g. energy from waste and landspreading
- Disposal – e.g. landfill

4.2.2 MBT and MHT are the two main intermediate treatment processes currently used in the UK. With both of these processes, the non-recyclable residues go to either energy from waste, landfill or landspreading.

4.2.3 Other recovery of residual waste can include incineration, pyrolysis, gasification, with residues (such as incinerator bottom ash) being recycled or landfilled. Anaerobic digestion and co-incineration (e.g. in a cement kiln) are also forms of other recovery, as is landspreading of a compost like output (CLO) produced as a result of an intermediate treatment such as MBT or MHT, and which must be spread under an environmental permit for mobile plant.

Figure 15: Estimated regional arising and management of residual waste in SW Wales

Stream	Quantity of residual waste produced by region (thousands of tonnes per annum) and its main method of management		
		SW Wales (predicted, CIMSP)	SW Wales (actual 2013/14 LACW & 2012 I&C and C&D)
Local authority collected waste (LACW)	Energy recovery	43	44
	Landfill	246	135
	Other	6	11
	Total	295	190
Commercial	Energy recovery	1	5
	Landfill	234	123
	Other	37	24
	Total	272	152
Industrial	Energy recovery	1	7
	Landfill	79	34
	Other	26	59
	Total	106	100
Construction and demolition	Energy recovery	0	1
	Landfill	115	89
	Other	38	45
	Total	153	135
All streams	Energy recovery	45 (5%)	57 (10%)
	Landfill	674 (82%)	381 (66%)
	Other	107 (13%)	139 (24%)
	Total	**826**	**577**

Source: CIMS Plan (2012); StatsWales; Wales I&C Waste Generated Survey 2012 (NRW, 2012); Wales C&D Waste Generation Survey 2012, (NRW, 2012)

4.2.4 Technology for treating residual waste is continuously being developed, with varying degrees of success, but it is likely that that innovative and reliable treatment processes will become established in the region over the coming years, as an alternative to landfill. A number of waste facilities already exist within the SW Wales region that employ MBT techniques, albeit not for the treatment of residual waste. The Baling Plant in Swansea, for example uses a mechanical process to pre-treat its recyclable waste. The same can be said of thermal treatments. The SW Wales region has a long history of utilising such technologies in the petroleum industry (e.g. Pembrokeshire) and steel making (e.g. Port Talbot). Whilst such technologies currently deal with petrochemical or metal based wastes, such technologies might be utilised for the treatment of residual municipal wastes in the future.

4.2.5 An investigation into existing facilities currently operating in the region is set out in figure 16 below.

Figure 16: Permitted capacity and annual throughput for operational residual waste treatment or recovery in SW Wales 2013

Facility Type	South West Wales		
	No of Sites	Capacity (tonnesp.a.)	Throughput (tonnes p.a.)
MBT with residual EfW	1	166,000	74,359
MBT with residual to landfill	1	80,000	20,151
Co-incineration	0	0	0
Incineration with energy recovery	0	0	0
Gasification	0	0	0
Total	2	241,000	94,510

Source: updated from CIMS Plan (2012); EA Waste Interrogator (2013)

4.2.6 There is one waste incinerator with energy recovery in SW Wales taking municipal and other wastes – the MREC facility in Neath Port Talbot. It is part of an integrated recovery facility that includes an MBT plant which is permitted to accept 166 thousand tonnes of residual waste per year. The plant produces a refuse derived fuel (RDF), which is sent for use as a fuel in cement kilns at various locations (there are currently no cement kilns permitted in SW Wales). Part of the RDF was formerly used in the incinerator on site. However, whilst the MREC has currently ceased incineration of RDF on site, it retains its permit to allow it to do so should circumstances change in future. The facility is currently not used to its full capacity, as can be seen with the throughput figures above.

4.2.7 The only other operational residual waste treatment facility in SW Wales is an MBT plant in Lampeter where the treated residue is sent to landfill. It has a capacity of 80 thousand tonnes.

4.2.8 Additional capacity for residual municipal waste treatment in SW Wales

4.2.9 Permitted capacity for the treatment of residual waste in is not well supplied in the SW Wales region. In addition to the two operational sites in Fig 16 above, the CIMS Plan noted that the region had a further capacity (100,000 tonnes) at a new site in Bridgend which had obtained planning permission for a gasification plant. Unfortunately, the project has since been abandoned due to insufficient funding.

4.2.10 Consequently, the region currently has no further additional capacity other than the two plants in operation.

4.2.11 A trawl of planning permissions since 2007 reveals that only one new facility for the treatment of residual waste gained approval (apart from the Bridgend example above), however, discussions with contacts in the local authorities in the SW Wales region have resulted in information being gained regarding applications currently at the determination stage (and one granted). These are set out below in figure 17. Only one of these relates to the treatment of residual LACW, the others are facilities for the treatment of specialised industrial wastes.

Figure 17 applications/permissions for waste treatment facilities in the SW Wales region 2007 -14

App	Date	Location	Proposal	Decision
Carmarthenshire				
S/29559	05-Feb-2014	New Lodge Farm, Pontardulais Road, Cwmgwili, Llanelli SA14 6PW	Demolition of existing structures on site, restoration and re-profiling the site and the construction of a 2 - 3 MWE Photovoltaic solar array and an energy recovery centre (comprising an advanced conversion technology (ACT) 8 - 12 MWE pyrolysis plant and an anaerobic digestion 2 - 3 MWE facility with an integrated education centre) together with access improvements, landscaping and associated works	Being considered
NPT				
P2008/1394		Land at the Afan Dwr Cymru Welsh Water Treatment Works, Port Talbot Steelworks, Port Talbot, Neath Port Talbot SA13 2DB	Advanced digestion plant, combined heat and power plant, sludge dewatering and storage facilities plus associated engineering operations and demolition of existing structures	Approved 29/2/09
P2014/0569		1 Bypass Works Dock Road, Port Talbot, Neath Port Talbot SA13 1RS1	Certificate of Lawful Development (Proposed) for the use of the site as a Tyre and Plastics Pyrolysis and Oil Recovery facility (Use Class B2)	Being considered
PCC				
13/0818/PA	09/06/14	Ledwood Mechanical Engineering Ltd, Waterloo Industrial Estate, Waterloo, Pembroke Dock, SA72	Construction of a pyrolysis unit to generate syngas by thermally treating oily sludge and filter cake generated by the oil refining industry, to power engines which will generate electricity for the National Grid	Being considered
SWANSEA				
2012/0452		Vale Europe Ltd, Clydach Refinery, Ynys Penllwch Road, Clydach, Swansea SA6 5QR	Construction of Advanced Energy Facility producing electricity (10.3MW) and heat through Pyrolysis using Refuse Derived Fuel for use within the existing industrial processes and for export to the National Grid involving the extension and alteration of the existing site buildings, erection of a 41m high emissions stack, erection of external plant including gas storage tanks and 4 no. 21m high feedstock storage silos, demolition and replacement of existing workshop / fabrication shop, 2.4m high fence enclosure	Granted on the 09 October 2012

4.2.12 The conclusion to be drawn from the above is that given the quantities of residual waste produced in SW Wales, and the over reliance on landfill for its disposal, it is clear that the region has insufficient capacity in “other recovery” facilities has therefore has some way to go to be able to meet the 2025 goal of as close to zero landfill as possible.

5. LOCAL AUTHORITY: CURRENT SCHEMES AND PLANNED PROCUREMENT PROGRAMMES

The following information has been provided by colleagues within the six local authorities comprising the SW Wales region.

5.1 PEMBROKESHIRE COUNTY COUNCIL (PCC)

5.1.1 Current and Planned Procurement Programme:

5.1.2 Food waste – PCC is part of a regional hub comprising five local authorities, including Ceredigion and Powys. The contract is with Agrivert, who process the material at an Anaerobic Digester facility near Oxford.

5.1.3 Agrivert has applied for planning permission to build an AD plant at Stormy Down, Bridgend.

5.1.4 Cwm Environmental (Nant-y-Caws) has submitted an application to build an AD facility. It may, in due course, bid for the SW Wales food waste contract. Puffin (Withybush) wants to develop a facility for processing its own food waste.

5.1.5 A privately-operated Anaerobic Digester is being built at Brawdy. This takes all the crops generated on the farm it is linked to. However, an earlier plan to import manure from other nearby farms is not being progressed.

5.1.6 Residual waste - PCC and Ceredigion CC entered into a residual waste treatment contract in January 2013. This provides an export-based solution which will run for 10 years (and could be extended to 15 years). Material is shipped to Sweden from Pembroke Dockyard. It is used in an energy-from-waste facility. Sending material to the Viridor facility at Cardiff would give an environmentally inferior result and would be more expensive.

5.1.7 LAS is bulking-up Ceredigion's residual waste and doing some pre-processing, before it is sent to Pembroke Dockyard.

5.1.8 Potters at Withyhedge is bulking-up the PCC element of the residual waste (the contract runs to 2020). PCC is considering whether it might be able to do this job itself. AJ Recycling also does some processing work on the PCC element (the contract runs to 2015 in this case).

5.1.9 Inert waste and road waste – PCC has a contract with Lawrence Brothers, which covers both inert waste and road waste (sweepings). The aggregate derived from road sweepings can be recycled (as a secondary aggregate product). However, there are only limited re-use opportunities.

5.1.10 Green waste – PCC has 5,000 customers for its green waste collection service. This is a chargeable service, with the green wheelie bins collected every two weeks. Material is bulked up by TBS, Cwm Environmental and at Winsel. In-vessel composting (IVC) is used, the product of which is mixed with food waste to produce compost.

5.1.11 Asbestos waste currently goes to a disposal facility near Swindon. There is a possibility that an asbestos cell may be set up in Pembrokeshire in the future.

5.1.12 Civic Amenity Sites – the new Civic Amenity site for SE Pembrokeshire, at Crane Cross, is expected to be operational by Easter 2015. This is very good news and will resolve a long-standing waste planning problem.

5.1.13 For processing and treatment of residual waste, PCC to a large extent has what it needs. However, a bulking and waste transfer station may be needed, with Withybush a possible location. The business case for this has yet to be made.

5.1.14 Generally, there is a lot of waste processing capacity in Europe. Hence the economic case for creating further capacity is weak.

5.1.15 Waste transfer stations and bulking points may be more important than treatment in future provision of waste facilities for Pembrokeshire.

5.2 CEREDIGION COUNTY COUNCIL

5.2.1 Current and Planned Procurement Programme:

5.2.2 Kerbside recycling is offered to 100% of households and commercial customers.

5.2.3 Dry recycling (paper, card, cans and plastic) is collected weekly co-mingled in sacks and sorted at a MRF in Carmarthenshire

5.2.4 Garden waste is collected on request (at most fortnightly) and this service is chargeable (£1.20 per bag in April 2015)

5.2.5 Four Household Waste Sites offer recycling facilities for a wide range of material types

5.2.6 Food waste is separately collected weekly and this service is also offered county-wide. The food waste is treated by AD under a contract with Agrivert ltd (procured regionally by the Central Wales Waste Partnership). Ceredigion CC, Pembrokeshire CC, Powys CC and two other Local Authorities have entered into a food waste treatment contract with Agrivert. The remainder of the contract term with Agrivert is 13 years.

5.2.7 Currently the material goes to an Anaerobic Digester facility near Oxford. However, Agrivert hopes to build a new AD facility at Stormy Down, Bridgend (a planning application has been submitted).

5.2.8 Residual waste is collected fortnightly. The majority is being exported for EfW under contract with Potters Waste Management (procured through a framework by Pembrokeshire County Council). Ceredigion and Pembrokeshire CCs also have a framework-derived contract to treat their residual waste. This provides an export-based solution. The residual waste is processed (with some recovery of recyclate), dried, baled and then shipped to Sweden from Pembroke Dockyard. Consequently Ceredigion CC no longer needs to develop a long-term solution to treatment and disposal of its residual waste.

5.2.9 Ceredigion and Pembrokeshire CCs have set up a framework of Energy from Waste providers. This is available to any Welsh Local Authority.

5.2.10 Private energy-from-waste and Anaerobic Digester facilities may be developed, but they will typically be at a small scale – e.g. serving individual factories or farms.
On a slightly larger scale, an AD facility is being developed at Crugmore Farm near Cardigan, to process up to 20,000 tonnes of agricultural slurry and category 3 food waste, sourced within the local area.

5.2.11 The Ceredigion LDP identifies a site for a regional waste facility at Glan-yr-Afon, Aberystwyth. This site is no longer required to serve as a potential site for the location of a regional waste facility. However, it may still be required to meet any local requirement that there might be for resource recovery and waste management facilities.

5.2.12 Future Provision:

5.2.13 The Authority is currently reviewing the way it collects dry recycling at the kerbside.

5.1.14 The kerbside garden waste collection service is currently under review

5.2.15 A review of recycling banks in the County has recently been undertaken and this may impact on the provision of recycling banks in the County

5.2.16 A review of Waste Transfer Stations is currently being carried out

5.2.17 Private energy-from-waste and Anaerobic Digester facilities may be developed, but they will typically be at a small scale – e.g. serving individual factories or farms.

5.2.18 On a slightly larger scale, an AD facility is being developed at Crugmore Farm near Cardigan, to process up to 20,000 tonnes of agricultural slurry and category 3 food waste, sourced within the local area.

5.2.19 The Ceredigion LDP identifies a site for a regional waste facility at Glan-yr-Afon, Aberystwyth. This site is no longer required to serve as a potential site for the location of a regional waste facility. However, it may still be required to meet any local requirement that there might be for resource recovery and waste management facilities.

5.3 CARMARTHENSHIRE COUNTY COUNCIL

5.3.1 Residual waste goes to the Cwm Environmental landfill site at Nant-y-Caws. However, there may be some preliminary sorting at Johnstown Industrial Estate. The latter is likely to be replaced by sorting at a new waste reception hall at Nant-y-Caws (recently completed).

5.3.2 The importance of the Nantycaws site is underlined in the LDP which identifies the site as the key waste facility for the County. Some uncertainty surrounds the site's future however as the contract for Carmarthenshire's waste expires in 2015 and therefore CWM's involvement, and indeed the future use of the site is unclear at the present time.

5.3.3 An application has been submitted for a big energy-from-waste / pyrolysis facility at New Lodge Farm, near Pont Abraham. The applicant is Clean Power Ltd. It could handle 195,000 tonnes per annum and be linked to a solar farm and an AD facility. However, there are some uncertainties over whether the technology will work. NRW also has some concerns. It could be a long-term successor to Nant-y-Caws, but there is much uncertainty at present.

5.3.4 Food waste and green waste: Carmarthenshire's food waste and green waste also goes to Nant-y-Caws. In-vessel composting, followed by windrow composting, is used to break down the food and green waste. Good quality compost is the result. If a new facility is developed by Agrivert at Stormy Down, that could compete with the Nant-y-Caws facility.

5.3.5 Inert waste: – there are several inert waste treatment facilities, but they are not very well used. The facility at Dafen, Llanelli can handle 20,000 tonnes and that at Capel Hendre 25,000 tonnes. Further facilities are planned.

5.4 NEATH PORT TALBOT COUNTY BOROUGH COUNCIL (NPTCBC)

5.4.1 Current and Planned Procurement Programme:

5.4.2 Neath Port Talbot County Borough Council Municipal Waste Management Strategy sets out the preferred strategy in respect of how the Authority intends to deal with municipal waste arisings. The preferred strategy is "to continue to treat municipal solid waste at the Materials Recovery and Energy Centre (MREC) alongside the kerbside recycling and composting scheme; and the improved facilities for the collection of source segregated green waste at the Household Waste and Recycling Centres".

5.4.3 As set out in NPT's LDP Waste Topic Paper (2014), when considering future land supply issues and the approach taken by the Authority in relation to the Deposit LDP, the following should be highlighted: The capacity of existing waste facilities (e.g. the MREC) could in the future be increased–such development would, in effect, serve to reduce the total area of new land required.

5.4.4 Joint Authority working – NPT has a contract with Bridgend CBC for the latter to use the MREC facility in NPT to dispose of its residual waste

5.4.5 To meet Welsh government statutory recycling targets, the Council is currently in the process of implementing its waste strategy. This strategy is closely linked to the Welsh Governments Collections Blue Print and saw the introduction of kerbside sort collections to circa 14,000 households as part of a pilot service in 14/15. In the long term the provision of kerbside sort recycling collections is anticipated throughout the county borough wherever possible.

5.4.6 In addition the Council has also removed excess wheelie bins from certain households and will have rolled out 140 litre bins to all households by March/April 2015. This will be accompanied by restrictions to side waste presentation during 2015/16.

5.4.7 To address future waste regulations on separate collection of recyclable materials, commercial waste contracts include compulsory recycling and the provision of the same recycling service as domestic properties. This has also assisted with collection fleet logistics.

5.4.8 There are currently 3 Household Waste and Recycling Centres in the County Borough which are managed through contracts with private sector service providers.

5.4.9 Due to the coverage of kerbside recycling the provision of bring recycling sites will be phased out in 15/16.

5.4.10 The delivery of recyclable and compostable and residual waste materials to the MREC is on-going.

5.4.11 Current procurement activity involves the MREC in a medium term contract for the provision of waste treatments services that include AD treatment of food waste. This contract term will be for a minimum of 6 years and a maximum of 12.

5.4.12 The Council withdrew from the SWW Regional Procurement Hub for AD treatment of food waste due to the withdrawal of the preferred bidder from the process in 13/14. Alternative options for AD food waste treatment are under consideration.

5.4.13 The Pwllfawatkin landfill site is the only active landfill site within the county borough. The Council's contract with this site terminates in September 2015. Waste to landfill may be an option in future but as part of the MREC waste treatment contract if awarded.

5.4.14 The Council is currently part of the SWW Regional hub for the procurement of residual waste treatment infrastructure.

5.5 CITY AND COUNTY OF SWANSEA (CCoS)

5.5.1 Current and Planned Procurement Programme:

5.5.2 Current Schemes

5.5.3 The Authority has re-incorporated the services previously undertaken by the LAWDC.

5.5.4 Kerbside collection of recyclables is undertaken on a weekly basis. Food waste is collected every week. Dry mixed recyclables are collected on alternative weeks, i.e. green bags (cans, glass, paper and card) one week with pink bags (plastics) the following week. Garden waste is collected in reusable sacks on the same week as the green bags. Black bagged residual waste is collected on the same week as the pink bags. Kerbside collection extends to 100% of households in the county.

5.5.5 Recyclables are taken to the Baling Plant Transfer Station for further sorting/bulking prior to transportation for treatment etc.

5.5.6 Residual waste is taken to Tir John Landfill Site for disposal. The operation of Tir John has been contracted out to Cory Environmental Ltd for a period of five years.

5.5.7 The Authority implemented a campaign called "Keep it to 3" which placed a limit on black bagged residual waste per household. The campaign has increased recycling and reduced residual waste sent to landfill.

5.5.8 There are five Household Waste Recycling Centres offering extensive recycling facilities.

5.5.9 Future Schemes

5.5.10 As part of the South West Wales Food Waste Treatment Hub (CCoS and BCBC), the Authority is in the process of procuring Interim and Long-Term contracts for the treatment of food wastes.

5.5.11 The Authority is in discussion with PCC regarding the potential for disposing of part of its residual waste via the EfW Framework.

5.5.12 The Authority is reviewing options to instigate further campaigns to reduce residual waste and increase recycling.

5.5.13 The Authority has to consider how to handle its residual waste following the expiry of the landfill contract in 2020.

5.5.14 The Authority is reviewing how many HWRC's are required.

5.5.15 The Authority is reviewing and trialling the use of reusable pink sacks to collect plastic waste.

5.6 BRIDGEND COUNTY BOROUGH COUNCIL (BCBC)

5.6.1 Current Schemes:

5.6.2 BCBC's waste contractor Kier is responsible for the kerbside collection of recyclables and residual waste and the operation of its household waste amenity sites. The contract for these services commenced in April 2010. Kier are responsible under their contract for sourcing recycling outlets.

5.6.3 Waste transfer station / refuse collection depot operational as part of the waste contract.

5.6.4 Operates a weekly borough wide kerbside sort collection service for dry recyclables (paper, cardboard, glass, textiles, plastics and cans) and food waste. The service has been in place since June 2010.

5.6.5 Operates a fortnightly refuse collection where refuse is collected in black sacks provided to the householder by the council. The service is has been in place since June 2010.

5.6.6 Operates a seasonal collection of garden waste, which is a subscription service introduced in April 2013.

5.6.7 The provision of household waste amenity sites has decreased from 4 to 3 after the closure of Penllwyngwent in October 2014. An average diversion of around 68% is being achieved across the 3 remaining sites.

5.6.8 Residual treatment of waste takes place at the MREC facility in Neath Port Talbot and the residual waste is sent to Pwllfawatkin Landfill Site, which is operational until September 2015.

5.6.9 BCBC has appointed NPTCBC under section 101 of the Local Government Act 1972 (as amended) and Section 19 of the Local Government Act 2000 to undertake the statutory obligations imposed on BCBC as a Waste Disposal Authority.

5.6.10 Current and Planned Procurement:

5.6.11 Bridgend County Borough Council has signed a partnership agreement with Neath Port Talbot Borough Council to process landfill waste at a high tech waste treatment plant, known as a Materials recovery and Energy Centre (MREC).

5.6.12 The MREC assists Bridgend and Neath Port Talbot Councils in diverting a large percentage of waste away from landfill.

5.6.13 All of the landfill black bag waste collected from the kerbside in Bridgend is taken to the MREC. At this facility metals are removed mechanically for recycling and some of the remaining waste is processed to produce RDF. Other waste from the black bags is used in cement kilns as a substitute for non renewable natural resources such as fossil fuel (coal, oil and natural gas). As a result of these processes the amount of waste going to landfill is significantly reduced.

5.6.14 The MREC should provide BCBC with the certainty of meeting the Landfill Allowance targets.

5.6.15 Waste Contract, Kier - ends in March 2017, extension by agreement.

5.6.16 BCBC is involved in discussions with Swansea CC to procure a contract for the anaerobic digestion of food waste in South Wales.

5.6.17 BCBC has placed a CCP bid to relocate the household waste amenity site serving the west of the Borough.

6. DEVELOPMENT PLANS

6.1 Introduction

6.1.1 TAN21 provides advice on how the land use planning system should contribute towards sustainable waste management and resource efficiency, reflecting the new waste management drivers at a European Union and Wales level.

6.1.2 LDPs should contain policies which address the need to ensure sufficient land is available for resource recovery and waste management facilities to enable all National and International obligations relating to waste to be satisfied; and the need to encourage all development to reduce and manage waste.

6.1.3 In light of the above, the following section summarises for each LPA, the stage achieved in the Plan preparation process; a summary of the waste policies; and the anticipated timetable toward adoption (of those authorities who have not yet adopted their LDPs).

6.2 CARMARTHENSHIRE COUNTY COUNCIL

The Carmarthenshire LDP was formally adopted on the 10th December 2014. The Plan contains three waste policies, one strategic policy and two topic specific policies. In summary:

Policy SP12-Waste Management – strategic policy, part criteria based/part site specific, based on the waste hierarchy and favouring the siting of certain types of waste facility on allocated B2 employment sites

Policy WPP1-Nantycaws Waste Management Facility – topic specific policy favouring the continued use of a longstanding site for a range of waste management uses

Policy WPP2-Waste Management Facilities Outside Development Limits – topic specific policy catering for potential facilities to be located in areas not covered by policies SP12 and WPP1

The first Annual Monitoring Report is due to be completed by October 2016.

6.3 BRECON BEACONS NATIONAL PARK AUTHORITY (BBNPA)

The BBNPA LDP was formerly adopted on 17th December 2013. The Plan contains four policies on waste, one strategic policy and three topic specific policies:

SP7-Waste – strategic policy setting out that the national park will consider the development of local waste management facilities where the need is identified, but that it will not allocate land for a regional facility

Policy 62-Local Waste Management Facilities – topic specific policy, containing criteria protecting local amenity and a site specific criterion favouring the siting of waste management and recycling facilities on existing waste management sites or B2 industrial units

Policy 63-Energy From Waste Development Schemes – topic specific policy enabling such proposals provided that they meet the criteria set out within the policy

Policy 64-Composting – topic specific policy permitting the composting of organic waste provided that there are no unacceptable impacts (a number of criteria are set out)

The first Annual Monitoring Report is due to be completed by October 2015.

6.4 PEMBROKESHIRE COAST NATIONAL PARK AUTHORITY (PCNPA)

The PCNPA formerly adopted its LDP on 29th September 2010. The Plan contains two policies on waste:

Policy 27-Local Waste Management Facilities - topic specific policy, containing criteria protecting local amenity and a site specific criterion favouring the siting of waste management and recycling facilities on existing waste management sites or B2 industrial units

Policy 28-Composting - topic specific policy permitting the composting of organic waste provided that there are no unacceptable impacts (a number of criteria are set out)

The PCNPA published its fourth LDP Annual Monitoring Report in 2014. This was the final report before the first formal review of the Plan. The AMR 2014 makes reference to the revised TAN 21: Waste which it states will need consideration at Plan review stage and taken into account in the interim.

6.5 PEMBROKESHIRE COUNTY COUNCIL

PCC formerly adopted its LDP on 28th February 2013. The Plan contains four policies on waste, one strategic policy and three topic specific policies:

Policy SP11-Waste – this policy establishes the Authority's strategic approach to planning for sustainable, integrated waste management

Policy GN.40-New Waste Management Facilities – this policy allocates specific sites for the provision of waste management facilities

Policy GN.41-Waste Minimisation, Re-use, Recovery, Composting and Treatment – criteria based policy for new waste management facilities

Policy GN.42-Disposal of Waste on Land – this policy ensures that there is sufficient and appropriate land available for waste that cannot be dealt with by any other means.

The first LDP annual monitoring report was published in 2014. The AMR details additional land that has been consented for waste facilities since adoption of the Plan.

6.6 CEREDIGION COUNTY COUNCIL

Ceredigion County Council formerly adopted its LDP on 25th April 2013. The Plan contains two topic specific policies on waste:

Policy LU31-Resource Recovery and Waste Management Facilities – this policy ensures that there is sufficient land available for waste uses by setting out the various locations that would be appropriate

Policy LU32-Development and the Waste Hierarchy – development proposals will be required to demonstrate how waste will be minimised and managed in accordance with the waste hierarchy (where applicable)

The first LDP AMR was submitted to the Welsh Government in October 2014.

6.7 BRIDGEND COUNTY BOROUGH COUNCIL

Bridgend CBC formerly adopted its LDP on the 18th September 2013. The Plan contains four policies on waste, one strategic policy and three topic specific policies:

Strategic Policy SP7-Waste Management – this policy makes provision for new waste treatment facilities by setting out a list of sites where such proposals would be favoured

Policy ENV 14-Inert Waste – criteria based policy covering the deposit of locally generated inert waste on sites in the countryside

Policy ENV 15-Waste Management in New Development – requirement for new build development to include waste management provision

Policy ENV 16-Commercial and Industrial Waste – part criteria/part site specific policy relating to proposals for the treatment, processing and distribution of C&I waste

The first LDP AMR is due to be published in 2015.

6.8 NEATH PORT TALBOT COUNTY BOROUGH COUNCIL

NPTCBC submitted its LDP to the Welsh Government for Examination on 30th September 2014. The Examination commenced with a Pre-Hearing Meeting on 28th January 2015 and the Hearing Sessions commenced on 11th March 2015.

The Deposit LDP (with a few minor proposed focused changes) contains policies on waste, one strategic policy and three topic specific policies:

Policy SP19-Waste Management – this is a strategic policy in which provision is made for the delivery of an adequate network of waste management facilities through site specific measures

Policy W1-In-building Waste Treatment Facilities – provision for new in-building waste treatment facilities through the identification of three preferred sites

Policy W2-Disposal of Inert Waste on Agricultural Land – criteria based policy which seeks to explore the options for recycling or reuse of the inert material in the first instance

Policy W3-Waste Management in New Development - requirement for new build development to include waste management provision

The Authority has also prepared a Waste Topic Paper (published in 2014) as part of its evidence base for the LDP

Until **adoption** of the **LDP**, planning proposals will continue to be dealt with under the **UDP** which was adopted in March 2008. The UDP contains a mixture of site specific and criteria based policies relating to waste:

Policy W1-Proposals for the Collection, Treatment, Transfer and Disposal of Waste – part criteria/part site specific (refers to specific land such as B2 industrial sites);

Policy W2-Provision of Landfill and Recycling Treatment Facilities – site specific policy detailing the continued use of two existing sites;

Policy W3-Criteria for the Assessment of the Deposition of Inert Waste Material on Agricultural Land for Land Improvement or Other Agricultural Engineering Operations – criteria based policy

Policy W4-Proposals for the Minimisation, Recovery and Recycling of Waste – criteria based policy

Policy W5- Contingency Landfill Site at Giant's Grave – site specific policy

Policy W6-Recycling of Industrial Waste – criteria based policy

6.9 CITY AND COUNTY OF SWANSEA

Swansea are currently at their Pre-Deposit Stage in the preparation of their LDP, and published their Preferred Strategy (final draft) in September 2014.

The Preferred Strategy contains a strategic policy on waste:

Policy 16: Waste – this policy sets out site specific options to cater for waste management infrastructure and also recognises the importance of the waste hierarchy and the proximity principle

The Authority has also prepared a Waste Topic Paper (published Aug'13) as part of its evidence base for the LDP

Adoption of the LDP is anticipated in December 2016.

Until adoption of the LDP, planning proposals will continue to be dealt with under the UDP which was adopted in November 2008. The UDP contains a mixture of site specific and criteria based policies relating to waste:

Policy R12 – Waste Management – part criteria/part site specific (lists B2 sites as appropriate for certain types of waste facilities);

Policy R13 Landfill Sites – criteria based policy

Policy R14 Special/Hazardous Waste – criteria based policy

Policy R15 Civic Amenity Sites and Local Facilities – criteria based policy

Policy R16 Major New Development Waste Management Facilities – criteria based policy

Policy R17 Agricultural Land - Imported Waste – criteria based policy

6.10 Conclusion on Development Plans.

6.10.1 With the exception of NPT and Swansea, all other LPAs within the SW Wales Region have LDPs in place with policies that will contribute towards facilitating the necessary waste infrastructure. With regard to NPT and Swansea, their LDP preparation is progressing and they already have adopted UDPs in place, with waste policies that are adequate in terms of being able to facilitate any required waste infrastructure.

7 CONCLUSIONS

7.1 This interim monitoring report has:

• collated and assessed available data on waste arisings in the region to monitor trends in past arisings and monitor performance against the targets set out in TZW;

• collated and assessed available data on landfill void and has made a prediction with regards the remaining landfill capacity of the region;

• collated and assessed available data on the arisings and management of residual waste and commented on progress being made towards meeting targets regarding alternatives to landfill;

• collated and assessed information on the development of waste policies in Development Plans to monitor the implementation of the provisions of TAN 21: Waste;

• collated information on current local authority waste management / resource recovery schemes and future procurement

The information collected shows that whilst a number of targets have been met, a number of significant challenges lie ahead.

7.2 Are the TZW targets being achieved?

7.2.1 Reduction in amount of LACW produced

Total LACW arisings have, generally, been decreasing consistently over the period 2006 to 2014 in each of the six SW Wales authorities. For the region as a whole, the TZW target of reducing LACW by 1.5% each year since the 2006/07 baseline has been met. The exception to this can be seen in the slight rise in arisings from the period 2012/13 to 2013/14. This is likely due to the change in the definition of MSW from April 2012 to include more types of waste, and consequently has resulted in an increase in waste tonnage figures.

7.2.2 Recycling and Composting of LACW

There has been a steady increase in recycling and composting rates over the years, with three out of the six authorities meeting the 2009/10 target of 40% and four of the six meeting the 2012/13 target of 52%. An average of all the SW Wales authorities shows that as a region the targets are being met.

7.2.3 Landfilling of Biodegradable Municipal Waste

The results show that all authorities in the SW Wales Region have consistently met their landfill allowance targets from 2006 to 2014. There have been some fluctuations over the years, but generally the SW Wales region has performed better by using less of their landfill allowances than Wales as a whole.

7.2.4 Industrial & Commercial Waste (I&C)

Two reports, one produced in 2009 and the other in 2012 were utilised in this report. The results showed that in terms of meeting TZW targets for the reuse and recycling of I&C waste, the data indicates that the SW Wales region was already meeting the 2015/16 target

in 2012. Landfill remained the second highest management route however, and consequently the 2019/20 target of 10% maximum being landfilled is still some way from being achieved.

7.2.5 Construction and Demolition Waste

As with I&C waste, no continued source of annual data is kept for C&D waste. In addition, the most recent report into C&D waste (2012) advises against comparing it with earlier studies and therefore it has not been possible to establish reliably whether the amount of C&D waste landfilled is close to meeting the TZW target. However, in terms of the TZW target for the preparation for re-use, recycling and other recovery (minimum of 70%, by 2015/16), the 2012 results (67%) indicate that the SW Wales region is on course to meet the target.

7.2.6 Residual Waste

Given the quantities of residual waste produced in SW Wales, and the extent to which it is currently landfilled, it is clear that there is currently insufficient capacity in "other recovery" facilities if the 2025 goal of as close to zero landfill as possible is to be achieved. However, as with future landfill capacity, the residual waste issue is not clear cut and is dependent upon a number of variables. Only two facilities for residual waste treatment obtained planning permission in the SW Wales region in recent years – and one was never implemented. There is only one other residual waste project within the region that proposes an alternative to landfill, and this is currently only at the planning application stage. In the meantime, some authorities within the region have already engaged in contracts with each other, some of which involves their residual waste being transported outside the UK for treatment.

7.3 Remaining Landfill Capacity

Whilst the predicted remaining landfill capacity points to just over 10 years, this figure is dependent upon several assumptions, such as the individual circumstances of the landfills currently operating (e.g. potential contracts coming to an end), new landfills or alternative residual treatment plants becoming operational, and actual quantities of residual waste produced. These facts are a cause for concern (particularly as no new residual treatment facilities currently have planning permission or permits in the region) and should be closely monitored as part of future Annual Monitoring Reports.

7.4 Development Plans

TAN 21 places particular emphasis on the requirement for Development Plans to contain policies regarding suitable locations for waste management operations.

In terms of the LDPs, it is positive to see LDP policies are using a mixture of criteria and site specific based policies in respect of identifying land for future waste management infrastructure needs. The utilisation of B2 employment sites for waste purposes has now

been adopted as mainstream and many of the authorities have identified sufficient space on their employment allocations to cater for additional in-building waste facilities.

There is now a region-wide coverage of adopted UDPs and/or LDPs. Six of the eight planning authorities (including the Brecon Beacons and Pembrokeshire Coast National Parks) now have LDPs in place, with a range of policies covering waste. The remaining two authorities have adopted UDPs in place (which contain adequate waste policies) and are progressing well with LDPs.

7.5 Current local authority waste management / resource recovery schemes and future procurement

It is encouraging to note that each local authority within the SW Wales region has put in place, or has future plans for, innovative schemes to increase the rates of kerbside and bring recycling to help meet the increasingly stringent targets set nationally.

In terms of future procurement, particularly the regional hubs for food waste and residual waste treatment, these are issues that will need to be monitored closely over the coming year(s) as part of the annual monitoring report process.

7.6 DATA GAPS:

7.6.1 Local Authority Contacts

This initial period has been productive in making contacts with both Planners and Waste Officers in the local authorities comprising the SW Wales region. These relationships should be built upon over the coming year(s) as more detailed information will be required and ultimately the information contained within the AMRs will be beneficial to all concerned. It is appreciated that, due to the tight timescale in producing this interim report, it was not possible to obtain information from all authorities. This situation should be rectified during the 2015/16 reporting period.

7.6.2 I&C Wastes and C&D Wastes

Lack of consistent annual data. Nevertheless, the 2012 reports on each and its associated technical appendices are written with sufficient detail to allow reproduction of this methodology in future surveys, to allow data consistency and comparability, and flag up issues which could be addressed in future surveys to further improve delivery.

7.6.3 Agricultural Wastes – lack of consistent annual data. Subject of a current national consultation.

This interim monitoring report has provided headline data on the arisings and management of waste within the SW Wales region over the past few years. The first Annual Monitoring Report (2015/16) will be able to build upon this and ideally in future the respective sections on each waste stream could be updated with a new year's worth of data on both current arisings and management. Such progress such would enable the AMRs to build a robust picture of trends over a period of time, and areas where data is currently lacking should improve enabling a better analysis of the region's performance against the various targets.

8 GLOSSARY OF ACRONYMS

AD	Anaerobic Digestion
AMR	Annual Monitoring Report
AONB	Area of Outstanding Natural Beauty
BMW	Biodegradable Municipal Waste
CCP	Collaborative Computational Project
C&D	Construction & Demolition [Waste]
CIMSP	Collections, Infrastructure and Markets Sector Plan
CLO	Compost Like Output
EA	Environment Agency (now NRW in Wales)
EfW	Energy from Waste
EWC	European Waste Catalogue [code]
HIC	Household/Industrial & Commercial [wastes]
HWRC	Household Waste Recycling Centre
IBA	Incinerator Bottom Ash
I&C	Industrial & Commercial [wastes]
IMR	Interim Monitoring Report
LACW	Local Authority Collected Waste (new definition used in statistical publications, which previously referred to municipal waste).
LAS	Landfill Allowance Scheme
LAWDC	Local Authority Waste Disposal Company
LDP	Local Development Plan
LPA	Local Planning Authority
MBT	Mechanical Biological Treatment
MHT	Mechanical Heat Treatment
MREC	Materials Recovery & Energy Centre (Waste facility in Neath Port Talbot County Borough)
MRF	Material Recovery Facility
NRW	Natural Resources Wales (formed in 2013, largely taking over the functions of the Countryside Council for Wales, Forestry Commission Wales and the Environment Agency in Wales, as well as certain Welsh Government functions)
ONS	Office of National Statistics
RDF	Refuse Derived Fuel
SRF	Solid Recovered Fuel
SWW	South West Wales (one of the 3 administrative regions in Wales used in the reporting of waste issues)
TZW	Towards Zero Waste (National Waste Strategy for Wales)
TAN21	Technical Advice Note 21: Waste
UDP	Unitary Development Plan
WDA	Waste Disposal Authority
WG	Welsh Government

APPENDICES

Appendix 1 Industrial & Commercial Waste

Table 1: Waste generated in Wales 2012 (excluding and including non-wastes), by Waste Management Methods, in thousands of tonnes

Type	Waste Management	Wastes (excluding non-wastes)				Wastes (including non-wastes)			
		North	South-East	South-West	Total	North	South-East	South-West	Total
I	Preparation for re-use on site	25.16	2.50	39.35	67.02	26.81	4.49	630.55	661.85
I	Preparation for re-use off site	110.56	272.71	37.91	421.18	164.32	539.66	1207.22	1911.20
I	Other preparation for re-use	1.59	4.58	2.86	9.03	1.59	4.61	2.86	9.05
I	Recycling	121.18	281.07	94.38	496.63	122.73	282.03	97.36	502.13
I	Windrow composting	0.64	0.82	3.60	5.06	0.64	0.82	3.60	5.06
I	In-Vessel Composting	0.14	0.55	0.07	0.76	0.14	0.55	0.07	0.76
I	Anaerobic Digestion (AD)	1.37	0.80	0.12	2.28	1.37	0.80	0.12	2.28
I	Other composting	0.06	0.05	0.03	0.14	12.89	12.20	10.83	35.91
I	Land recovery	93.62	82.35	19.61	195.57	93.62	82.35	19.61	195.57
I	Incineration with energy recovery	9.06	26.12	7.45	42.63	10.34	27.41	8.53	46.28
I	Incineration without energy recovery	16.54	38.04	10.66	65.23	16.54	38.04	10.66	65.23
I	Land disposal	28.27	472.25	33.87	534.39	28.27	472.25	33.87	534.39
I	Treated - physio/chemical	9.50	15.75	17.15	42.40	9.50	15.75	17.15	42.40
I	Treated - biological	5.22	9.88	2.11	17.21	5.22	9.88	2.11	17.21
I	Separation	3.20	8.69	3.10	14.99	3.20	8.69	3.10	14.99
I	Mechanical Biological Treatment	0.70	3.31	0.67	4.67	0.70	3.31	0.67	4.67
I	Autoclave	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I	Rendering	14.56	11.99	1.22	27.77	14.56	11.99	1.22	27.77
I	Mechanical Heat Treatment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I	Alternative Treatment Technologies	4.12	1.88	0.35	6.35	4.12	1.88	0.35	6.35
I	Transfer Station	0.05	0.04	0.01	0.10	0.05	0.04	0.01	0.10
I	Other	7.53	2.11	0.41	10.05	7.53	2.11	0.41	10.05
I	Don't Know	27.58	6.90	2.96	37.44	27.58	6.90	2.96	37.44
Industrial sub - total		480.63	1242.39	277.88	2000.91	551.70	1525.75	2053.26	4130.70

Type	Waste Management	Wastes (excluding non-wastes)				Wastes (including non-wastes)			
		North	South-East	South-West	Total	North	South-East	South-West	Total
C	Preparation for re-use on site	0.34	0.59	0.31	1.24	1.33	1.95	1.75	5.04
C	Preparation for re-use off site	10.38	19.44	12.83	42.65	10.51	19.61	12.96	43.08
C	Other preparation for re-use	0.64	1.11	0.68	2.42	0.64	1.11	0.68	2.42
C	Recycling	279.72	478.58	300.84	1059.14	279.72	478.58	300.84	1059.14
C	Windrow composting	0.36	0.46	0.30	1.12	0.36	0.46	0.30	1.12
C	In-Vessel Composting	1.33	2.33	1.41	5.07	1.33	2.33	1.41	5.07
C	Anaerobic Digestion (AD)	1.19	3.46	1.76	6.40	1.19	3.46	1.76	6.40
C	Other composting	2.86	6.18	3.64	12.68	2.86	6.18	3.64	12.68
C	Land recovery	0.12	0.21	0.14	0.46	0.12	0.21	0.14	0.46
C	Incineration with energy recovery	2.70	11.73	5.43	19.87	2.70	11.73	5.43	19.87
C	Incineration without energy recovery	3.89	6.96	4.13	14.98	3.89	6.96	4.13	14.98
C	Land disposal	112.62	193.61	122.67	428.90	112.62	193.61	122.67	428.90
C	Treated - physio/chemical	0.47	0.98	0.42	1.87	0.47	0.98	0.42	1.87
C	Treated - biological	0.12	0.12	0.10	0.34	0.12	0.12	0.10	0.34
C	Separation	0.95	1.36	0.87	3.18	0.95	1.36	0.87	3.18
C	Mechanical Biological Treatment	0.05	0.06	0.05	0.16	0.05	0.06	0.05	0.16
C	Autoclave	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C	Rendering	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.01
C	Mechanical Heat Treatment	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
C	Alternative Treatment Technologies	3.02	7.59	3.43	14.04	3.02	7.59	3.43	14.04
C	Transfer Station	0.03	0.09	0.06	0.18	0.03	0.09	0.06	0.18
C	Other	0.52	0.98	0.58	2.08	0.52	0.98	0.58	2.08
C	Don't Know	13.07	20.96	14.47	48.50	13.07	20.96	14.47	48.50
Commercial sub -total		434.40	756.81	474.11	1665.31	435.51	758.34	475.68	1669.54
Total		915.03	1999.20	751.99	3666.22	987.21	2284.09	2528.94	5800.24

Source: Wales Industrial and Commercial Waste Generated Survey 2012 (NRW, 2012)

Note: Table 1 has been reproduced in its entirety from the source data. 'Non-wastes' was included in the 2012 Survey to enable comparison with the 2003 data. As the 2003 data has not been used for comparison in this report, the 'non-wastes' are not relevant in this instance.

Table 2: Waste generated in Wales 2007 (excluding and including non-wastes), by Waste Management Methods, in thousands of tonnes

		Wastes				Wastes (including non-wastes)			
Type	Waste Management	North	South-East	South-West	TOTAL	North	South-East	South-West	TOTAL
I	Land disposal	88.22	338.50	123.50	**550.22**	88.45	338.58	123.53	**550.57**
I	Thermal with Energy Rec	2.50	3.25	1.77	**7.52**	9.44	10.25	14.46	**34.14**
I	Thermal without Energy Rec	2.72	4.88	1.10	**8.70**	3.03	5.04	1.28	**9.35**
I	Transfer station	15.93	16.07	7.77	**39.77**	16.12	16.16	7.85	**40.13**
I	Treatment	14.26	14.45	49.30	**78.01**	14.58	14.62	49.47	**78.67**
I	Recycling	246.74	362.12	156.08	**764.95**	249.03	363.83	157.37	**770.22**
I	Composting	18.92	6.23	6.00	**31.15**	18.92	6.23	6.00	**31.15**
I	Land recovery	34.67	32.60	4.18	**71.44**	34.67	32.60	4.18	**71.44**
I	Reused	51.52	255.48	24.53	**331.53**	105.20	353.69	1625.08	**2083.98**
I	Don't know	4.53	4.88	3.48	**12.89**	4.53	4.88	3.48	**12.89**
Industrial sub-total		**480.01**	**1038.44**	**377.73**	**1896.17**	**543.97**	**1145.87**	**1992.71**	**3682.55**
C	Land disposal	216.40	387.58	243.55	**847.53**	216.40	387.58	243.55	**847.53**
C	Thermal with Energy Rec	4.20	7.40	3.83	**15.44**	4.21	7.48	3.88	**15.57**
C	Thermal without Energy Rec	4.78	8.20	5.38	**18.36**	4.78	8.20	5.38	**18.36**
C	Transfer station	22.59	35.74	22.57	**80.90**	22.59	35.74	22.57	**80.90**
C	Treatment	7.94	12.81	8.22	**28.97**	7.94	12.81	8.22	**28.97**
C	Recycling	150.35	273.29	167.90	**591.54**	150.35	273.29	167.90	**591.54**
C	Composting	4.88	9.00	6.09	**19.98**	4.91	9.07	6.12	**20.10**
C	Land recovery	0.00	0.00	0.00	**0.00**	0.00	0.00	0.00	**0.00**
C	Reused	5.28	6.36	5.13	**16.77**	5.28	6.36	5.13	**16.77**
C	Don't know	15.75	26.19	15.74	**57.69**	15.75	26.19	15.74	**57.69**
Commercial sub-total		**432.18**	**766.59**	**478.42**	**1677.18**	**432.21**	**766.73**	**478.49**	**1677.43**
TOTAL		**912.18**	**1805.03**	**856.14**	**3573.35**	**976.18**	**1912.60**	**2471.20**	**5359.98**

Source: Survey of Industrial and Commercial Waste Arisings in Wales 2007, EAW (2009)

Note: Table 1 has been reproduced in its entirety from the source data. 'Non-wastes' was included in the 2007 Survey to enable comparison with the 2003 data. As the 2003 data has not been used for comparison in this report, the 'non-wastes' are not relevant in this instance.

Appendix 2 Construction & Demolition Waste

Table 1: C&D waste generated in Wales 2012, in thousands of tonnes, by Waste Type (SOC) and Construction and Demolition Sector in South West Wales

Waste Type (SOC)	Demolition	Construction				Civil Engineering		General Building								Total
	Demolition & Site Preparation	Development of building projects	Construction of commercial buildings	Construction of domestic buildings	Roofing activities & Scaffold Erection	Test Drilling & boring and other specialised construction activities	Construction of highways, roads, airfields, and sport facilities	Construction of civil engineering constructions	Electrical installation	Plumbing	Other construction installaton	Plastering	Joinery installation	Floor and wall covering	Painting & Glazing	Other building completion and finishing	
Aggregate wastes	35.64	15.38	51.66	53.79	0.00	17.35	66.60	18.24	0.00	0.91	4.62	0.49	0.51	0.00	2.04	4.97	**272.19**
Animal & vegetal wastes	0.00	0.19	0.00	0.52	0.00	0.04	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.83**
Chemical wastes	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	**0.12**
Common sludges	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.01**
Discarded equipment	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.13	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	**0.19**
Insulation & gypsum	0.10	0.16	0.10	2.03	0.00	0.50	0.05	1.22	0.00	0.00	0.10	0.08	0.05	0.00	0.32	0.14	**4.86**
Metallic wastes	1.48	0.14	0.28	0.90	0.11	0.21	0.31	0.82	0.19	0.37	0.13	0.00	0.24	0.00	0.10	0.07	**5.36**
Mixed wastes	0.69	4.32	5.45	23.42	0.28	4.15	3.87	28.90	0.78	0.99	2.14	0.41	4.81	0.42	4.05	21.56	**106.25**
Non-metallic wastes	0.26	0.38	1.62	2.88	0.03	1.06	0.52	1.38	0.54	0.33	0.16	0.08	1.81	0.16	5.54	0.46	**17.20**
Other Mineral wastes	0.06	0.02	0.08	0.08	0.06	0.09	1.88	0.05	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	**2.35**
Soil wastes	24.41	7.70	45.81	78.14	0.00	12.80	10.63	585.75	0.00	0.00	0.27	0.00	0.00	0.00	0.00	2.45	**767.96**
Total	**62.64**	**28.29**	**105.00**	**161.77**	**0.49**	**36.27**	**83.85**	**636.64**	**1.53**	**2.61**	**7.46**	**1.06**	**7.43**	**0.58**	**12.06**	**29.66**	1177.33

Note: column and row totals may not exactly match owing to rounding of figures; levels of precision vary within the table above

Source: Wales Construction and Demolition Waste Generation Survey 2012, Natural Resources Wales

Table 2: C&D waste generated in Wales 2012, in thousands of tonnes, by Waste type (SOC) and Waste management method in South West Wales

Waste Type (SOC)	Preparation for re-use on site	Preparation for re-use off site	Preparation for other reuse	Recycling	Composting	Land recovery	Incineration with Energy Recovery	Incineration without Energy Recovery	Landfill	Treatment plant	Transfer station	Other	Don't Know	Backfilling	Total
Aggregate wastes	73.79	43.33	0.00	101.15	0.00	0.00	0.00	0.00	8.78	0.00	0.00	0.00	0.00	45.13	**272.19**
Animal & vegetal wastes	0.00	0.01	0.00	0.02	0.48	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.04	**0.83**
Chemical wastes	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.05	0.00	0.01	0.00	0.00	0.00	**0.12**
Common sludges	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	**0.01**
Discarded equipment	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.19**
Insulation & gypsum	0.00	0.00	0.00	4.49	0.00	0.00	0.00	0.00	0.24	0.00	0.03	0.00	0.10	0.00	**4.86**
Metallic wastes	0.00	0.00	0.00	5.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**5.36**
Mixed wastes	0.00	0.00	0.00	27.99	0.00	0.00	0.00	0.00	77.45	0.00	0.80	0.00	0.00	0.00	**106.25**
Non-metallic wastes	0.01	0.22	0.00	15.91	0.00	0.00	0.87	0.15	0.04	0.00	0.00	0.00	0.00	0.00	**17.20**
Other Mineral wastes	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	2.32	0.00	0.01	0.00	0.01	0.00	**2.35**
Soil wastes	9.02	168.19	0.00	208.00	0.00	0.00	0.00	0.00	374.06	0.00	0.00	0.00	0.00	8.70	**767.96**
Total	**82.82**	**211.75**	**0.00**	**363.18**	**0.48**	**0.00**	**0.87**	**0.15**	**463.25**	**0.01**	**0.84**	**0.00**	**0.10**	**53.86**	1177.33

Note: column and row totals may not exactly match owing to rounding of figures; levels of precision vary within the table above
D - Demolition, C - Construction, CE - Civil Engineering, GB - General Building

Source: Wales Construction and Demolition Waste Generation Survey 2012, Natural Resources Wales

Appendix 3

Table 1: Permitted landfills in the South West Wales Region, end of 2013

Original Permit/Licence Number	Permit Reference	Operator Name	Installation Name	Site Type	Local Authority
TP3835LV	TP3835LV	SI Green UK Limited	Cwmrhydyceirw Quarry Landfill	Permitted, but not constructed	Swansea
HP3535PS	HP3535PS	Neath Port Talbot Waste Management Company Limited	Giants Grave Landfill Site	non-hazardous: not permitted, not constructed	Neath Port Talbot
CP3735PB	CP3735PB	Cwm Environmental Limited	Nantycaws Landfill Site	Non-hazardous	Carmarthenshire
BW2692IM	BW2692IM	Corus UK Limited	Port Talbot Steel Works (Haz)	Hazardous Restricted	Neath Port Talbot
BV7311IE	BV7311IE	Corus UK Limited	Port Talbot Steel Works (Non-Haz)	Restricted user	Neath Port Talbot
BU8819IV	BU8819IV	WRG Waste Services Ltd	PWLLFAWATKIN LANDFILL SITE	Non-hazardous	Neath Port Talbot
TP3935LA	TP3935LA	Swansea City Waste Disposal Co Ltd	Tir John Landfill	Non-hazardous	Swansea
LP3534LP	34401	Arletan Properties	Ty Isaf Landfill	Permitted, but not constructed	Carmarthenshire
GP3630HT	BP3131SG	SITA	Withyhedge Landfill Phase 2	Non-hazardous	Pembrokeshire

Source: Natural Resources Wales