Interim Progress Report: Waste Planning Monitoring

North Wales

1. Introduction

1.1. This Interim Progress Report has been produced by Flintshire County Council as the Lead Authority for regional waste planning monitoring in the North Wales region. The requirement for waste monitoring is established in Technical Advice Note 21 and is intended to enable both Welsh Government and local planning authorities to take a strategic overview of issues and trends in the waste sector to help inform local development plans and decisions on planning applications for waste.

2. Regional Waste Plan

2.1. The three regions produced Regional Waste Plans which were intended to provide an assessment of a regions need for waste management. Specifically, these documents were intended to inform decisions on planning applications for waste management facilities and Local Development Plans. Annual Monitoring Reports were also produced by the 3 Regional Waste Groups which provided an update on waste production and its management.

2.2. The requirement to establish Regional Waste Groups and produce Regional Waste Plans was set out within Technical Advice Note (TAN) 21 (2001). The South East Wales Regional Waste Plan was published in 2004 and the 1st Review was published in 2009. A number of annual monitoring reports were also published which provided information on waste arisings, management and progress with respect to national waste targets. TAN 21 was revised in 2014 and the requirement to produce Regional Waste Plans was removed.

2.3. A number of Development Plans have been developed using the relevant Regional Waste Plan and 1st Review as an evidence base and some include policies which specifically refer to the Regional Waste Plans when determining levels of need. The Regional Waste Groups published Annual Monitoring Reports, providing up to date information on waste management within a region.

2.4. This document isn't intended to be directly comparable to the Annual Monitoring Report published by the Regional Waste Groups because the focus of this monitoring is on residual waste requirements. The Regional Waste Plan AMRs included information on agricultural waste, hazardous waste, Waste Electrical and Electronic Equipment (WEEE), waste tyres and packaging waste. This document

does not include information in respect of these waste types, save where such wastes specifically require disposal capacity.

3. Technical Advice Note 21: Waste 2014

3.1. Article 16 of the Waste Framework Directive requires member states to establish an integrated and adequate network for the disposal of wastes, and for the recovery of mixed municipal wastes. TAN 21 requires that progress towards this is monitored to identify whether sufficient landfill capacity is being maintained; sufficient treatment capacity is being maintained and whether the spatial pattern of provision is appropriate to fill identified needs; and whether any further action is needed by local planning authorities to address unforeseen issues. The Collections, Infrastructure and Markets Sector Plan provides the strategic starting point for the monitoring.

3.2. TAN 21 advises that the upper threshold of the capacity ranges identified in the Collections, Infrastructure and Markets Sector Plan (or any subsequent update) is likely to represent the point at which the extent of provision in a region is considered to be sufficient for recovery capacity. In the North Wales Region the capacity threshold is identified as: **203-468 thousand tonnes per annum**. The variation is due to the level of uncertainty regarding volumes of residual waste requiring management.

3.3. TAN 21 advises that the level at which non-hazardous landfill void is sufficient within a region is **7 years**. The length of time landfill void lasts will vary considerably as it will depend on a number of different factors such as engineering requirements, daily cover, compaction and rates of settlement and rates of deposition. Planning restrictions can also limit how much of a void is ultimately used as the life of a landfill permission is often limited by the use of condition. TAN 21 doesn't prescribe a methodology for determining the life of a landfill though the CIMSP estimates landfill life based upon a number of different scenarios depending upon residual waste arisings and diversion rates. The CIMSP estimated that under a worst case scenario landfill void in North Wales would run out in 2016/17, and under a best case scenario void would last indefinitely, i.e. beyond the lifetime of the Plan.

3.4. Technical Advice Note 21 requires planning applications for disposal, recovery or recycling facilities to be accompanied by a Waste Planning Assessment. This document is intended to help inform decisions regarding applications for waste management in light of the requirements of TAN 21.

4. Collections, Infrastructure and Markets Sector Plan

4.1. The Collections, Infrastructure and Markets Sector Plan (CIMSP) was published in 2012 and was based upon data which has since been updated. Data sources

varied depending upon the waste stream under consideration. Industrial, commercial and construction and demolition waste data was all collected using surveys whereas data on local authority collected waste is provided on a quarterly basis directly by local authorities using Waste Data Flow database.

4.2. The CIMSP used Industrial and Commercial waste data was based upon a survey carried out in 2007. Since the publication of the CIMSP a further survey has been undertaken, this provides data on commercial and industrial waste arisings and their management in 2012. Data on Local Authority Collected Municipal Waste was obtained from the Waste Data Flow which compiles data provided by Local Authorities directly. The period to which the data refers is 2009; data is now available for 2013/14. Construction and demolition waste data was based upon a survey carried out in 2005/06. Since then a subsequent survey has been undertaken which looks at wastes arising and managed in 2012, however, the two surveys are not directly comparable due to changes in definition of some wastes.

Landfill void

4.3. Landfill capacity was considered based upon permitted void remaining at the end of December 2010. It is important to note that the CIMSP only considered permitted facilities; however, this doesn't take into account facilities which were yet to secure a permit, or facilities which have other constraints imposed on them by the planning permission. A number of assumptions were used to estimate remaining landfill life, including an allowance of 25% for engineering requirements and daily cover, and a presumed density of 1.2m3/tonne. Annual landfill inputs were estimated based upon a number of different scenarios ranging from no addition recycling or prevention or Energy from Waste (EfW) developed to all recycling targets and prevention targets met and EfW developed for all waste streams, see Appendix 1.

Hazardous disposal capacity

4.4. The CIMSP identified that there was very little disposal capacity for hazardous wastes in Wales but low levels of arisings and significant capacity within close proximity of the Welsh border. Information regarding disposal capacity within the North West of England, West Midlands and South West England have been obtained from the Environment Agency. It would appear that significant hazardous disposal capacity remains, however further analysis is required to confirm this.

Recovery capacity

4.5. The CIMSP estimated volumes of recovery capacity required within each of the three regions. Arisings of residual waste were modelled using a number of different scenarios ranging from 'business as usual' through to 'all recycling targets and waste reduction targets being met'. Although 'business as usual' has been modelled, the estimations of future residual waste treatment capacity were based upon scenario 2, 'Local Authority Municipal Waste Targets are met with no additional prevention', and scenario 4 (see Appendix 1) because scenario 2 is funded and the necessary interventions have been secured. The capacity gap was calculated using permitted capacity in 2011 but did not include capacity permitted

at cement kilns since this was not deemed to be genuinely available to manage residual municipal wastes. For North Wales it was estimated that a further **203 to 468** thousand tonnes per annum may be required.

5. North Wales Region

5.1. North Wales has a population of just over 750,000, which is approximately 25% of the total population of Wales. There are two urban authorities with nationally important industrial estates. The rest of the region is predominantly rural with much of the population concentrated along the coast. The region is constrained by flood risk and topography with an inconsistent transport network. The A55 forms part of the Trans-European Transport Network, linking the North West, North Wales and Ireland.

6. Local Authority Collected Municipal Waste: Arisings

6.1. Since the publication of the 2007 Annual Monitoring Reports the definition of municipal waste has changed. Municipal waste now includes some wastes produced by commerce and industry. However, for the purposes of the CIMSP, municipal waste was identified as municipal waste collected by local authorities. It is therefore beneficial to continue considering local authority collected waste separately to waste arising from commerce and industry.

6.2. Although local authority collected waste makes up a relatively small proportion of all wastes produced in Wales, data availability is most comprehensive and up to date for this waste stream. The Welsh Government published the Municipal Waste Sector Plan in March 2011. The document included a number of targets which include statutory recycling targets imposed through the Waste (Wales) Measure 2010. There is a fiscal incentive for local authorities to meet these targets as the Welsh Government has powers to fine those authorities who do not meet the targets.

6.3. The Municipal Waste Sector Plan set a waste prevention target of **1.2%** per annum until 2050 based upon a 2007 baseline. There has been a general decline in local authority collected waste across Wales since 2008/09, however, this has not been the case amongst all local authorities with Flintshire seeing an overall increase in arisings between 2008/09 and 2013/14. The CIMSP estimated local authority collected municipal waste arisings in North Wales to be 495,550, which is greater than actual observed arisings in the region of 432,400 in the same year. It would appear that waste reduction targets are being met with respect to local authority collected municipal waste.

6.4. Table 1 shows changes in total waste collected by local authorities between 2008/09 and 2013/14. Variations in arisings could be due to waste minimisation efforts, changes to waste management collections, changes to the economy and efforts of producers. Continued effort will be required to ensure that this trend

continues, particularly as the population across the region is expected to increase over time.

Table 1: Total waste collected by local authorities in North Wales

Local Authority	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Conwy	77,200	72,500	67,800	67,200	66,800	63,900
Denbighshire	48,800	44,400	44,000	42,100	43,500	42,600
Flintshire	87,900	87,700	88,300	86,900	88,100	89,900
Gwynedd	79,900	80,300	77,600	76,400	77,000	77,000
Isle of Anglesey	44,500	43,200	43,800	43,200	41,900	39,500
Wrexham	82,200	79,000	80,100	77,400	75,800	80,600
North Powys	41,200	39,800	38,100	38,000	39,300	36,800
Total	461,700	446,900	439,700	431,200	432,400	430,300

Source: Waste Data Flow

Residual Waste

6.5. Residual waste can be defined as 'waste that cannot be or is not separated for recycling or composting'. Understanding how much residual waste is produced is important because it can be influenced by a variety of factors and is not directly linked to arisings.

6.6. Actual residual waste arisings in North Wales were lower than the baseline year used in the CIMSP and were also lower than levels predicted for 2012/13 and 2013/14 for all scenarios, see table 2. Progress made to date within the region is good, however, this will need to be monitored to ensure that this trend continues since the level of residual waste being produced within the region and its method of management will affect demand for recovery capacity and the rate at which landfill void will be used up.

Table 2: Local Authority Collected Residual Waste Arisings: Predicted and Actual

Local Authority	CIMSP – estimated residual arisings baseline (table 22)	CIMSP – estimated residual arisings 2024/25 (Table 32)	2012/13	2013/14
Conwy	-	-	31,865	31,025
Denbighshire	-	-	18,593	15,114
Flintshire	-	-	39,792	38,576
Gwynedd	-	-	39,219	38,256
Isle of Anglesey	-	-	18,689	18,764
Wrexham	-	-	35,902	37,425
North Powys	-	-	18,970	16,657
Total	299,000	149-170	203,030	195,817
Wales	1,026,000	979-1,988,000	753,687	722,912

Source: Waste Data Flow

Local Authority Collected Waste: Management

6.7. The management of local authority collected waste has changed significantly since the publication of the 2007 Annual Monitoring Report with a much greater emphasis on recycling. Towards Zero Waste and the Municipal Sector Plan set ambitious targets for local authority collected waste, including statutory targets for recycling, see table 3 below.

Table 3: Recycling Rates: Statutory Targets are in bold

Year	2009/10	2012/13	2015/16	2019/20	2024/25
Minimum levels of preparing for reuse and recycling and composting (or AD)	40%	**52%**	**58%**	**64%**	**70%**

6.8. The region, on average, met the recycling targets in 2012/13 and appear to be increasing in line with the targets. Gwynedd and Powys didn't quite meet the 2012/13 target, though both authorities met and exceeded the target in 2013/14. How authorities are performing with respect to recycling is of particular importance due to the assumptions that were used within the CIMSP to establish volumes of residual waste requiring management.

Table 4: Local Authority Municipal Waste Reuse/Recycling/Composting Rates by local authority: North Wales

Local Authority	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Conwy	38.7	37.3	40.2	48.1	56.4	56.3
Denbighshire	33.7	52.5	56.8	55.7	58.0	63.2
Flintshire	42.4	43.2	47.1	48.3	54.9	55.1
Gwynedd	36.7	43.0	45.9	48.1	51.2	54.0
Isle of Anglesey	45.9	51.2	55.8	57.1	55.2	54.4
Wrexham	37.4	41.0	48.8	53.3	52.8	54.7
North Powys	41.3	39.7	37.7	42.6	50.9	52.5
Total	39.4	44.0	47.5	50.5	54.2	55.7

Landfilling of Local Authority Collected Municipal Waste: Landfill Allowance Scheme

6.9. Welsh Local Authorities sent 345,022 tonnes of biodegradable municipal waste to landfill in 2013/14 compared to an allowance of 450,000 tonnes. All authorities within North Wales with the exception of Flintshire were within their allowance, although Gwynedd and Wrexham were particularly close to their allowance. Flintshire has since, in collaboration with Conwy and Denbighshire, procured food waste treatment which will help divert greater volumes of biodegradable waste from landfill.

6.10. Tonnages of local authority collected municipal waste landfilled in 2012/13 and 2013/14 were less than predicted by the CIMSP, see table 6 below. This has potential implications for the rate at which landfill void within the region is used up.

Table 5: Landfilled BMW, by Local Authority 2006/07 to 2013/14

Local Authority	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Conwy	33,169	27,150	24,483	24,936	22,636	17,883	18,234	17,840 (88.3%)
Denbighshire	23,165	21,524	19,034	11,534	9,902	9,048	9,287	6,081 (47.5%)
Flintshire	35,508	36,764	31,332	28,224	27,708	25,546	22,987	24,296 (102.1%)
Gwynedd	35,588	31,808	28,920	24,761	22,261	20,607	20,695	20,522 (99.4%)
Isle of Anglesey	22,471	17,027	12,865	10,647	8,138	7,580	8,026	8,018 (70.4%)
Wrexham	36,723	31,520	29,475	25,813	23,553	22,365	21,404	21,317 (98.6%)
North Powys	13,917	13,195	12,943	9,655	10,645	9,072	7,035	6,983 (62.8%)
Total	200,541	178,988	159,052	135,570	124,843	112,101	107,668	105,057 (81.3%)

Table 6: Local Authority Municipal Waste Landfilled: North Wales

Local Authority	2008/09	2009/10	2010/11	2011/12	2012/13 (CIMSP)	2013/14 (CIMSP)
Conwy	47,325	45,491	40,490	34,927	29,010	27,885
Denbighshire	32,335	21,113	19,016	18,672	16,369	11,593
Flintshire	50,623	49,790	46,759	44,903	36,597	37,455
Gwynedd	50,513	45,738	42,011	39,620	36,276	35,319
Isle of Anglesey	24,083	21,056	19,363	18,527	18,337	17,416
Wrexham	51,501	46,650	41,007	36,156	35,548	34,697
North Powys	24,204	24,022	23,721	21,825	16,942	13,808
Total	280,584	253,860	232,367	214,630	189,079 231,000[1]	178,173 219,000[2]

Source: Waste Data Flow

[1] This figure is the predicted tonnage of LAMW requiring landfill based upon all recycling and prevention targets being met in 2012/13

[2] This figure is the predicted tonnage of LAMW requiring landfill based upon all recycling and prevention targets being met in 2013/14

7. Industrial and Commercial

7.1. Data regarding industrial and commercial waste generated in Wales is obtained from sporadic surveys. There is no continuous source of data and due to the way in which waste return data is collected it is not possible to use this as a reliable method of estimating commercial and industrial waste arising in Wales. Issues regarding the availability of data for commercial and industrial waste are well known.

7.2. Towards Zero Waste set reduction targets for industrial and commercial waste based upon a 2006/07 baseline. The modelling undertaken by Welsh Government in support of the Collections, Infrastructure and Markets Sector Plan used a baseline year of 2007 and assumed that in 2012/13 there would be an annual reduction of industrial waste arisings of 1.4% per annum from the baseline year and an increase of commercial waste arisings of 1% per annum from the baseline year for the business as usual scenario, see table 7 below. Industrial and commercial waste arisings have not changed significantly between 2007 and 2012 and using these assumptions would give an underestimate of volumes of industrial waste requiring management and an overestimate of commercial waste requiring management, see table 8 below. In the absence of a more reliable and frequent source of data it will be difficult to monitor progress towards this target.

Table 7: Targets: Waste prevention

Industrial Waste: 1.4% reduction per annum until 2050 based on 2006/07 baseline
Commercial Waste: 1.2% reduction per annum until 2050 based on 2006/07 baseline

Table 8: Industrial and Commercial waste generated in North Wales

	2007	**2012/13 predicted**	**2012 Actual**	**Change 2007 and 2012**
Commercial	432,200	458,090	434,400	2,200
Industrial	480,000	439,670	480,640	640
Total	912,200	897,760	915,040	2,840

Source: Natural Resources Wales Industrial and Commercial Waste Survey 2012

Table 9: Recycling industrial and commercial waste targets

	2015/16	2019/20	2024/25
Commercial	57%	67%	70%
Industrial	63%	67%	70%

7.3. Towards Zero Waste and the Industrial and Commercial Sector Plan set recycling targets for commercial and industrial wastes, see table 9 below. The influence that the Welsh Government has over commercial and industrial wastes is much less than for local authority collected waste. Nevertheless, recycling rates for commercial waste have greatly improved since 2007 from 37% to 68% across Wales in 2012. A similar improvement has not been observed for industrial wastes, with rates falling from 59% in 2007 to 50% in 2012 across Wales. However, industrial waste arisings in the South East are greatly influenced by waste generated by the Aberthaw Power Station which has its own dedicated disposal facility. Wastes disposed of at the Aberthaw Quarry Ash Disposal site accounted for approximately 90% of industrial wastes disposed of in by the region in 2012.

7.4. Disposal rates for commercial waste were much lower than predicted to be within the CIMSP and disposal rates for industrial wastes were also much lower than predicted which would affect the rate at which non-hazardous landfill void within the region is used up.

Table 10: Recycling rates and targets for industrial and commercial waste

	North Wales 2012 Recycling rates[3]	2015/16	2019/20	2024/25
Commercial	68.3%	57%	67%	70%
Industrial	54%	63%	67%	70%

Source: Natural Resources Wales Industrial and Commercial Waste Survey 2012

Table 10: Landfill rates for industrial and commercial waste

	Landfill rate: All Wales 2007	Landfill rate: All Wales 2012	Landfill rate: CIMSP prediction North Wales 2012/13	Landfill rate: North Wales 2012
Commercial	51%	26%	226,000-258,000	112,620 (25.9%)
Industrial	29%	27%	112,000	28,270 (6%)

Source: Natural Resources Wales Industrial and Commercial Waste Survey 2012

[3] Commercial and Industrial Waste Survey 2012, Natural Resources Wales

8. Construction and Demolition

8.1. Sporadic surveys have also been used to produce data on construction and demolition wastes. The latest survey looked at Construction & Demolition Waste Generated in Wales in 2012. The CIMSP was based upon findings a survey carried out in 2005/06. The surveys are not directly comparable due to changes in waste definitions, the impact of the recession, the impact of major infrastructure projects and changes in methods of reporting. Nevertheless, it is considered appropriate to consider how the information was used in the CIMSP and whether the assumptions used remain valid.

8.2. In 2012 tonnages of mixed waste landfilled were relatively small in North Wales, with 28,7504 tonnes which can't be managed at inert landfill sites. The CIMSP estimated that in 2024/25 there may be a requirement for between 200 and 250 thousand tonnes of capacity required for residual construction and demolition waste at an all Wales level. Based upon the 2012 survey this is likely to be an overestimate of volumes of residual waste requiring management. However, confidence levels in the precision of the data obtained from the survey are relatively low.

Table 11: Construction and Demolition waste arisings

	2005/06	**2012 Actual**	**Residual predicted 2024/25**	**Residual actual 2012[5]**
North Wales	2,330,089	744,820	DNA	28,750
All Wales	12,167,220	3,359,500	200,000-250,000	178,080

9. Landfill: Inert Waste

9.1. Technical Advice Note 21, paragraph 4.23, advises that the application of the waste hierarchy demonstrates that the disposal of inert waste is not acceptable in most circumstances since. Nevertheless, it is considered reasonable to consider the level of inert disposal provision within a region, particularly since the need for such capacity is often cited by Applicants as justification for new facilities, including both inert disposal and non-hazardous disposal.

9.2. There were five permitted inert landfills sites which accepted inert waste for disposal in 2013, one in Flintshire, one in Conwy, one in Anglesey and two in Gwynedd. Planning permission has since been granted for the restoration of Cambrian Quarry in Flintshire by the importation of inert materials. Planning

[4] Assumes mixed wastes can only be managed at non-hazardous landfill

[5] Includes mixed wastes and other wastes disposed of but not managed at inert landfill sites

permission has also been granted for the disposal of non-hazardous waste at Parry's Quarry in Flintshire (see below), which includes void specifically for inert wastes. A number of schemes have been permitted within the region which involve the use of inert waste material to address issues of flood risk, landscape and agricultural land quality, see Appendix 2.

9.3. A number of sites have very limited void and are nearing closure. However, substantial remaining operational void of just over 1.7 million cubic metres remained at the end of 2013 which is considered sufficient to manage inert wastes for a period in excess of 13 years at 2013 deposition rates[6].

10. Non-hazardous: North Wales

10.1. The CIMSP sought to estimate the point at which non-hazardous landfill within a region would run out, based upon a number of scenarios. The worst case scenario was that landfill void would run out in North Wales in 2016/17 and the best case scenario was that void would last almost indefinitely. The CIMSP commented on the spatial distribution of landfills within North and Mid-Wales as in North West Wales there was limited capacity at two sites and mid Wales is served by one facility.

10.2. Based upon the CIMSP, the North Wales Region would, under a worst case scenario, have fallen well below the 5 year trigger level identified in TAN 21 as the trigger for pursuing any action which may be necessary to facilitate future provision. It is therefore prudent to revisit the predictions contained within the CIMSP based upon more up to date information to ascertain whether action is indeed necessary.

10.3. There are a number of operational landfills which can accept non-hazardous waste in North Wales with void of just under 4.4 million[7] cubic metres at the end of December 2013. 2013 deposition rates were substantially less than those estimated in the CIMSP[8]. If deposition rates of non-hazardous waste continued at 2013 rates, and assuming that 1 tonne is equal to 1 cubic metre (for simplicity) then remaining void would last in excess of 10 years[9] or 8.34 years assuming a density of 1.2 cubic metres per tonne. However, the majority of permitted void is located at one site in Wrexham which accepted waste from the North West of England and across the North Wales region in 2013. Bryn Posteg in Powys is in the North Wales region for planning purposes but does not manage waste arising in the North Wales region outside of Powys.

10.4. The calculations in the CIMSP did not take into account non-hazardous void of 2.2 million cubic metres and inert void of 400,000 cubic metres at a site with planning

[6] In 2013 131,084 tonnes of waste was deposited at inert landfill sites

[7] 4,360,429 cubic metres remained at the end of December 2013

[8] 398,029 tonnes of waste was deposited in 2013 at non-hazardous landfill sites, of which 71,222 tonnes was inert waste and 326,807 tonnes was non-hazardous waste.

[9]

permission in Flintshire, Parry's Quarry. The development has been commenced and an Environmental Permit has been applied for but at the time of writing this report has yet to be issued. Conversely, permitted void at Pen Y Bont is due to close towards the end of 2015. The closure is linked to the commencement of operations at the Bryn Lane site in Wrexham.

Table 12: Waste deposited in non-hazardous landfills in North Wales in 000s tonnes

Year	Household, Industrial and Commercial (HIC)	Inert	Total
2007	647	92	739
2008	620	70	690
2009	437	84	521
2010	374	113	487
2011	337	76	413
2012	342	64	406
2013	327	71	398

Source: Natural Resources Wales

11. Cement Kilns

11.1. There are two co-incineration facilities in Wales, Padeswood Cement Kiln in Flintshire, North Wales and Aberthaw Works in the Vale of Glamorgan. Both facilities managed relatively small volumes of waste in 2013. Padeswood managed waste entirely from outside Wales. The position contained within the CIMSP, i.e. that capacity at cement kilns should not be included when considering the need for residual waste treatment capacity is therefore considered to remain of relevance.

12. Residual Waste Treatment Procurement Projects

12.1. In order to maximise the amount of waste that is diverted from landfill and to ensure that various waste management targets are met a number of local authorities are procuring residual waste treatment capacity. Wrexham County Borough Council signed a Private Finance Initiative (PFI) agreement in 2007 with Waste Recycling Group, now FCC Environment. The project includes the development of a Mechanical Biological Treatment (MBT) facility which can process up to 75,000 tonnes of residual waste per annum with the output to be sent to an EfW in England. The facility was due to become operational in 2014 but has been delayed and is now expected to become operational towards the end of 2015.

12.2. The North Wales Residual Waste Treatment Partnership is a partnership comprising of Flintshire, Denbighshire, Conwy, Gwynedd and Anglesey Councils which has been formed to procure residual waste treatment capacity. The project,

now known as Parc Adfer, is in the final stage of procurement with Wheelabrator Technologies Inc announced as the preferred bidder in April 2014 and Financial Close is expected to be imminent. Planning was granted for the construction of a 200,000 tpa Energy from Waste facility on the 9th of June 2015. This facility would be able to manage Local Authority Municipal Residual Waste as well as some commercial and industrial wastes. The facility is expected to become operational late 2018.

13. Food Waste Treatment Procurement Projects

13.1. Although the focus of this report is residual waste, the availability of capacity to deal with food waste is of interest as it will help enable local authorities to divert waste from landfill. Local Authority collected food waste is of particular interest because it will help divert wastes from non-hazardous landfill.

13.2. There are a number of facilities within the region which have been developed to deal with biodegradable wastes. Two anaerobic digestion facilities have been developed, one in Denbighshire and another in Gwynedd. Flintshire, Denbighshire and Conwy formed a partnership to procure food waste treatment capacity which has resulted in the development of an anaerobic digestion facility in Denbighshire with capacity to deal with up to 22,000 tpa food waste. The facility is now operational. A number of In-Vessel-Composting facilities have also been developed in the region.

14. Local Development Plans

14.1. Technical Advice Note 21 requires the Waste Monitoring Report to provide an update on local development plan progress, with particular reference to the fulfilment of Article 16 obligations (paragraph 3.12). Snowdonia National Park, Denbighshire and Conwy have Adopted Local Development Plans, whilst Flintshire, Wrexham, Powys, Gwynedd and Anglesey are all in varying stag. The adopted Plans were written in the context of the Regional Waste Plan 1st Review, prior to the publication of the revised TAN 21 and Planning Policy Wales Edition 6 February 2014 (which has since been superseded by Edition 7). Appendix 6 details LDP policies within the region. Consideration of local development plan progress, with particular reference to the fulfilment of Article 16 obligations will be included in the full Waste Planning Monitoring Report.

15. Conclusion

15.1. This initial assessment indicates that the landfill projections significantly overestimated the rate at which landfill void within the region would be used up. Progress is being made with respect to the development of waste infrastructure within the region which would divert waste from landfill, however, much of this capacity will not become available until towards the end of 2018. A number of planning permissions have been issued within the region for merchant facilities and

on-going monitoring will be essential to determine whether these permissions will become operational capacity. On-going monitoring will be essential to ensure that sufficient landfill void remains available and that sufficient but not excessive capacity for the treatment of residual waste is available.

The interim position is therefore:
There is **no further need for landfill capacity within the North Wales region**.

Any proposals for further residual waste treatment should be carefully assessed to ensure that the facility would not result in overprovision.

Appendix 1: Scenarios used to predict landfill and Recovery requirements

Landfill required if:	
1. No EfW facilities are developed:	No additional recycling or prevention
	LAMW recycling targets met, no additional prevention
	All recycling targets met, no additional prevention
	All recycling and prevention targets met
2. EfW facilities developed for LAMW only - from 01 April 2017. IBA recycled so no landfill required.	No additional recycling or prevention
	LAMW recycling targets met, no additional prevention
	All recycling targets met, no additional prevention
	All recycling and prevention targets met
3. EfW facilities developed for all waste - from 01 April 2017. IBA recycled so no landfill required.	No additional recycling or prevention
	LAMW recycling targets met, no additional prevention
	All recycling targets met, no additional prevention
	All recycling and prevention targets met

Recovery: Assumptions contained within the CIMSP

The following four scenarios have been modelled for 2024-25 (the first Towards Zero Waste milestone of zero landfill) to identify a range of future residual mixed waste quantities (Table 31):

1) Business as usual - no additional recycling and no additional effort on prevention31.

2) Only local authority municipal waste (LAMW) recycling targets met, other recycling rates remain as baseline, no additional waste prevention measures undertaken. (This can be regarded as a “fully funded and interventions secured” option).

3) All recycling targets met, no additional waste prevention measures undertaken. (This requires additional funding and/or additional interventions that are yet to be secured).

4) All recycling targets met and additional prevention measures undertaken to meet waste prevention targets. (This requires additional funding and/or additional interventions that are yet to be secured).

Appendix 2: Landfill in North Wales: Planning position

Site Name	Local Planning Authority	Waste type	Planning Permission and end date	Comments
Pen y Bont	Wrexham	Non-hazardous	5/10572 6th October 2015	Timescales for closure are linked to commencement of operations at Bryn Lane site.
Hafod	Wrexham	Non-hazardous	P/2003/1220 31st December 2048	End date of permission excludes any outstanding restoration
Llanddulas	Conwy	Non-hazardous	0/27248 and 0/32704 30th August 2055	Non-hazardous void and inert void around the fault.
Ffridd Rasus	Snowdonia National Park	Non-hazardous	Site is now closed	None
British Steel No 1 Landfill	Flintshire	Restricted User	P/4/5/19737 as varied by permission 048349	No time limit attached to permission.
Nant Y Garth Landfill	Gwynedd	Inert	C01A/0392/18/LL	Condition 1 limits duration of permission to 31st December 2018
Ty Mawr	Gwynedd	Inert	C06A/0619/22/MW	Input limited to 25,000tpa. Very limited capacity remaining at site.
Paedswood Cement Works	Flintshire	Restricted User	3/702/90	Site is now closed and in aftercare.
Nant Newydd Quarry 1	Anglesey	Inert	26C14B	Condition limits duration of infilling to 31/12/2021
Rhuddlan Bach Quarry	Anglesey	Inert	23C160J, 23C160G,	There are a number of

			23C160D : all 31/12/2040 23C160A: 31/01/2010	planning consents for this site.
Ty Mawr Farm	Conwy	Inert	1/13649 the development was considered to be permitted development	No time limit
Bryn Posteg	Powys	Non-hazardous	M2000/0224	No condition restricting duration of landfilling.

Table 2: Additional Disposal Capacity

Local Planning Authority	Facility type	Planning Application number	Capacity	Comments
Flintshire	Non-hazardous landfill	042468	2.2 million cubic metres non-hazardous, 400,000 inert	Parry's Quarry. Development has been commenced. Environmental Permit outstanding at time of writing.
Flintshire	Inert disposal	050695 dated 28/04/2014	477,000 cubic metres	Cambrian Quarry Applicant estimated a density of 1.9 tonnes per cubic metre to allow for compaction
Flintshire	Inert disposal	049908	111,000m3	Weighbridge Road inert recycling and use of inert waste for raising of the land to address flood risk

Denbighshire	Inert disposal	06/2010/0967	14,973m3	Use of inert waste to improve agricultural land
Denbighshire	Inert disposal	06/2013/1449	5,000m3	Use of inert waste to improve agricultural land
Snowdonia National Park	Use of inert was to improve agricultural land	NP5/57/1063	Approximately 5,000m3	Use of inert waste to improve agricultural land

Appendix 3: Recovery North Wales

Local Planning Authority	Facility type	Planning Application number	Date approved	Capacity	Comments
Conwy	MRF to deal with municipal waste including wastes from commercial and industrial sources	0/38815	11/07/2012	100,000	Planning permission not implemented to date
Flintshire	Mechanical Heat Treatment, Deeside	045230 and 046697	20/01/2010	160,000	The development has commenced but has not been completed to date. It is understood that the building is currently vacant.
Flintshire	Dry MRF at UPM Shotton	045531	16/06/2009	300,000	The site is now operational
Flintshire	Combined Heat and Power Station using Refuse Derived Fuel (RDF) at Shotton Works	046316	20/01/2010	110,000	Application 050283 to vary the implementation date was approved with an implementation date of 20th January 2015. A subsequent application, 053093 has been submitted and is pending

Flintshire	Energy Recovery Facility	052626	09/06/2015	200,000tpa	Parc Adfer planning application
Gwynedd	Biomass Energy Plant	C08A/0506/14/LL	27/08/2009	25,000tpa	Fuel reclaimed timber
Powys	Waste transfer	P/2012/0134	03/09/2012	74,000	No additional capacity provided since site already manages municipal wastes.
Powys	Combined heat and power installation - RDF	P/2014/1086	12/02/2015	36,000	Variation of condition to vary fuel type allowed at a biomass combined heat and power installation. Development not yet commenced.
Wrexham	MBT	P/2011/0769	23/01/2012	70,000	Development has been commenced and is expected to be completed in 2015.

Appendix 4: Residual Waste Procurement Projects

Project Name	Partner Authorities	Status of Procurement	Facilities Developed	Residual Waste Treatment Capacity
North Wales Residual Waste Treatment Partnership Project	Flintshire, Denbighshire, Conwy, Gwynedd, Anglesey	Near Financial Close	None to date. Planning permission for an Energy Recovery Facility on the Deeside Industrial Estate issued	Up to 200,000tpa
Wrexham PFI	Wrexham	Contract signed with WRG (now FCC Environment) in 2007	MBT facility on the Wrexham Industrial Estate	70,000tpa residual waste

Appendix 5: Local Authority Food Waste Projects

Project Name	Partner Authorities	Status of Procurement	Facilities Developed	Food Waste Treatment Capacity
North East Wales Hub	Flintshire, Denbighshire and Conwy	Contract awarded to Biogen	Anaerobic digestion facility at the Waen, Denbighshire	22,000tpa
GwyriAD	Gwynedd	Contract awarded to Biogen	Anaerobic digestion facility at Llwyn Isaf, Gwynedd	11,000tpa
Central Wales Waste	Ceredigion and Powys	Contract awarded to Agrivert	Facility in Oxfordshire, England	N/A

Appendix 6: Local Development Plans

Local Planning Authority	LDP Adopted	Progress to date	Comments
Conwy	24/10/2013	No AMR published to date	The LDP was written in the context of the Regional Waste Plan 1st Review

POLICY MWS/5 – PROPOSALS FOR WASTE MANAGEMENT

Development proposals for the management of waste, including alterations and extensions to existing facilities, will only be permitted where:

a) The proposal meets a need identified in the North Wales Regional Waste Plan, or need arising at a local level;

b) The need cannot be met through other existing or approved waste management facilities or the proposed activity is unsuitable at those locations;

c) Where possible, the proposal recovers value from the waste;

d) The proposal accords with Strategic Policies NTE/1 – 'The Natural Environment' and CTH/1 – 'Cultural Heritage' and the Development Principles.

POLICY MWS/6 – LOCATIONS FOR WASTE MANAGEMENT

FACILITIES

1. The Plan identifies and protects the following sites for waste management facilities as shown on the Proposals Map:

a) Llanddulas Quarry (north of the existing landfill site)

b) Gofer, Rhuddlan Road, Abergele.

2. Subject to detailed assessment, the following operations may be suitable at these locations:

a) Materials Recycling

b) Waste Transfer Station

c) Recyclate Processing

d) Anaerobic Digestion

e) In-vessel composting

f) Household waste recycling centre

g) Mechanical Biological Treatment

h) Energy recovery

However, the list is not exhaustive and other proposals for the management of waste will be considered on their merits in accordance with the criteria in Policy MWS/5.

POLICY MWS/7 - USE OF INDUSTRIAL LAND FOR WASTE

MANAGEMENT FACILITIES

1. Proposals for waste management facilities will generally be permitted on existing industrial sites and on sites safeguarded under Policy STR/6.

2. Where existing industrial sites are unavailable, proposals for waste management may be permitted outside development boundaries in line with Policy EMP/3 – 'New B1, B2 and B8 Office and Industrial Development on Non Allocated Sites'.

3. In exceptional circumstances, where it can be demonstrated that a proposal has specific technical or spatial requirements which conflict with the requirements of Policy EMP/3, proposals for waste management facilities outside settlement boundaries which do not accord with Policy EMP/3 may be permitted.

Denbighshire	4/06/2013	No AMR published to date	The LDP was written in the context of the Regional Waste Plan 1st Review

Policy VOE 7 – Locations for Waste Management
The following sites are identified on the Proposals Map for waste management facilities:
Rhuallt: Design needs to reflect the rural nature of the surrounding area. Landscape will be important due to proximity of AONB
St Asaph Business Park: High quality, in-built facilities, emphasis on design.
Denbigh Quarry: Small scale to serve the local area
Graig Lelo Quarry: Mixture of uses including open-air
Ruthin: Bus Depot: Small scale to serve the local area
Ruthin: Fedw Fawr: Small scale to serve the local area
Corwen Ty'n Y Gottel: Small scale to serve the local area
In addition to allocated sites, waste facilities, excluding landfill and open windrow composting, will generally be acceptable on existing industrial estates.

Policy VOE 8 – Waste Management Outside Development Boundaries
Proposals for the treatment of biodegradable waste by means of composting, including anaerobic digestion and in-vessel composting, will generally be acceptable on sites with existing agricultural use to deal with biodegradable waste arising from that use or on sites outside of the AONB and Pontcysyllte Aqueduct and Canal World Heritage Site (including the buffer zone).
Proposals for the management of all other wastes arising outside of the development boundary will be permitted provided that all the following criteria are met:
i) there is an unmet need identified in the Regional Waste Plan or the proposal relates to the management of waste generated and to be dealt with entirely on that site; and
ii) allocated sites are either unavailable or unsuitable for the proposed activity; and
iii) there are no suitable sites within the development boundary; and
iv) the proposal will not have any unacceptable community impacts; and
v) the proposal is of an appropriate scale and nature in terms of the site and its surroundings; and
vi) the proposal seeks to avoid the disposal of waste in landfill or where the proposal is for landfill, the site is outside of the AONB, Pontcysyllte Aqueduct and Canal World Heritage Site (including the buffer zone) or other regionally important landscape and there is an appropriate scheme for restoration and aftercare.

Flintshire	Not to date	Not reached pre-deposit stage yet	Adoption anticipated in 2018
Gwynedd and Anglesey	Not to date.	Deposit consultation finished on the 31st March 2015. Adoption timetabled for December 2016	Written in the context of up to date national policy and guidance.

POLICY GWA1 PROVISION OF WASTE MANAGEMENT AND RECYCLING INFRASTRUCTURE

Land and property listed below shown on the Proposals Maps, is allocated for the provision of infrastructure that could sustain or add to the range of suitable waste management facilities.

List of sites

In addition to the above allocated sites, waste management and recycling infrastructure, excluding landfill and open windrow composting, may be acceptable on existing industrial estates, quarries and brownfield sites. Proposals for waste management and recycling infrastructure (which are not proposed on the above allocated sites) will be assessed on their own merit provided that there is a justifiable need for the development. The justifiable need should refer to the local need as specified within the Municipal Sector Plan and Collections Infrastructure and Markets Sector Plan (CIMSP).

Any new development must be suitable in terms of size and scale and must not have an adverse impact upon the landscape, the natural environment or the amenity and health of the local population.

POLICY GWA2 WASTE MANAGEMENT OUTSIDE DEVELOPMENT BOUNDARIES AND ALLOCATED SITES

Proposals for the management of waste outside development boundaries and allocated sites (in accordance with Policy GWA1) (including biodegradable waste by means of composting, including anaerobic digestion and in vessel composting) will be granted provided there is a demonstrable need for the development and that all the following criteria can be met:-

1. Allocated sites are either unavailable or unsuitable for the proposed activity.
2. There are no suitable sites within the development boundary.
3. The proposal will have incorporated measures to mitigate impact upon the environment and the health and amenity of the local population.
4. The proposal is of an appropriate scale and nature in terms of the site and its surroundings.
5. The proposal wouldn't have an adverse impact upon the natural environment and heritage value of the area.

Powys	Not to date. Deposit consultation	The Council intends to repeat the	The LPA has the opportunity to reconsider the appropriateness of the policy in light of changes to

	undertaken during the summer of 2014.	deposit consultation in light of representations received.	national waste policy and guidance.
Policy W1 – Waste Proposals will be permitted for the following types of waste facility only: 1. In-building waste facilities on: i. High quality, local and mixed use sites in table E1. ii. Other waste / employment / B2 sites or small extensions of them. iii. Sites of up to 0.5 Ha. adjoining Towns or Large Villages. 2. Household Waste and Recycling Centres in, or adjoining, Towns or Large Villages. 3. Exemption Sites for inert waste: i. To meet the needs identified in the Regional Waste Plans; or ii To facilitate major construction projects.			
Snowdonia National Park	Adopted 13th July 2011	2 AMRs published to date	Policies were written in the context of the Regional Waste Plan 1st Review
Strategic Policy F: Waste (F) **Allocation of Land** No land will be allocated for the development of new regional, or sub-regional, scale waste management facilities. Applications for new large-scale waste management facilities intended to meet regional or sub-regional needs will not be permitted. **Development Policy 4: Existing Waste Management Site and Small-scale sites for household and inert waste (4)** **Ffridd Rasus** Applications for planning permission for new waste management technologies at the existing Ffridd Rasus site aimed at increasing recycling and composting and reducing the amount of waste going to the existing landfill site with planning permission will be permitted, provided that there are no adverse environmental impacts or that these can be satisfactorily mitigated. **Household and Inert Waste** Applications for planning permission for small-scale waste recycling on industrial sites and for the management and disposal of locally generated domestic and inert waste, will be considered favourably, provided that there are no adverse environmental impacts or that these can be satisfactorily mitigated.			
Wrexham	Not to date. LDP was withdrawn on 16th March 2012 due to fundamental concerns raised by the Inspector undertaking the Examination.	Consultation on vision, objectives, and strategic growth and spatial options was undertaken up until the 10th April 2015.	

	Delivery Agreement has been redrafted and the Wrexham Local Development Plan 2 2013-2028 is in development.	