

**WEST OF ENGLAND WASTE
MANAGEMENT AND PLANNING
PARTNERSHIP**

**CAPTURE RATE AND WASTE
ARISINGS ASSUMPTIONS 2006/07**

**MODELLING ASSUMPTIONS FOR
PROJECTING FUTURE MUNICIPAL
SOLID WASTE ARISINGS AND
ACHIEVING 50% RECYCLING AND
COMPOSTING OF HOUSEHOLD
WASTE IN BRISTOL CITY COUNCIL**

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1 INTRODUCTION TO WASTE ARISING AND CAPTURE RATE ASSUMPTIONS

A Technology Options Appraisal (TOA) was conducted in 2006. This TOA involved waste flow and mass balance technical modelling, which analysed historic waste arisings in each authority. Using these historic waste arisings and working with Bristol City Council (BCC) waste officers, Jacobs modelled future trends in waste arisings. These trends included a prediction of the overall waste quantity looking at various potential arisings projections. We looked jointly at what the future performance of source segregation initiatives would be i.e. what the capture rate of materials would be under a Programmed Service Improvements (PSI) scenario, compared to the current Status Quo (SQ) baseline.

These future waste arisings and capture rate assumptions are presented in the Options Appraisal report prepared by Jacobs in January 2007. This report is available to download at www.rubbishorresource.co.uk

The SQ option represents the 2006/07 baseline performance in source segregation modelled into the future i.e. with no increases in source segregation performance. It represents the reliance on landfill for disposal of residual waste.

The Partnership undertook detailed assessments of their short to medium-term Programmed Service Improvements (PSI) i.e. assessing how their source segregation initiatives and services would change into the future, for example, additional roll out of a scheme, improving participation of a scheme, targeting the recovery of extra materials. This PSI was not scored during the Options Appraisal, as it provided the baseline source segregation performance upon which the technology options (1 to 7) were founded.

A Waste Arisings Model is used to project how the quantity of Municipal Solid Waste (MSW) arisings may change in the future across the Authority, taking into account factors such as changes in arisings per household and changes in the number of households. When considering future waste generation for each Authority, MSW was split into three waste streams for analysis:

1. Collected Household waste (including all residual household waste, kerbside collected source segregated materials and bring banks);
2. HWRC waste; and,
3. 'Other MSW' not described above.

A Capture Rate Model is used to estimate the future performance of the source segregation of materials from the MSW stream. It models the impact on the composition of MSW from the removal of recyclable materials by both current and future source-segregation collection schemes/ initiatives and analysing how effective these schemes will be in the capture of these materials for recycling.

The Capture Rate Model requires a number of operating parameters to be determined. These are the percentage:

- Of a waste stream "Targeted" for source segregation
- "Roll Out" of the source segregation scheme to residents
- "Participation" in each source segregation scheme

- “Recognition” of a particular scheme by a resident.

The product of these parameters is the Capture Rate and this term refers to the fraction or percentage of a particular waste stream that is removed by a particular source segregation initiative i.e. “captured” from the waste stream.

New waste arisings for 2006/07 changed the SQ position. In light of this the BCC waste officers and Jacobs reviewed the TOA waste arisings projections and the TOA PSI scenario at a workshop on 24 September 2007.

The revised assumptions were agreed and verified with BCC before being re-applied to Jacobs’ technical waste flow and mass balance models along with an updated household waste composition analysis supplied by BCC. This process resulted in a better understanding of current 2006/07 capture rates for all waste streams.

Jacobs’ Waste Arisings and Capture Rate models containing this updated data were used to assess each authority’s performance against recycling and composting targets and performance against LATS allowances. The outputs of this model showed that under the PSI scenario, BCC would perform below the recycling and composting target of 50% by 2020 set in the National Waste Strategy for England 2007.

In order to meet the recycling and composting target, additional assumptions based on the performance of the other authorities in the West of England Waste Management and Planning Partnership (“the Partnership”) were applied to the Bristol capture rate model that resulted in an improved recycling and composting performance for BCC.

This report details the assumptions agreed at the workshop and any subsequently revised assumptions that have been applied to enable BCC reach the 50% recycling and composting target. Also contained are the future waste arising projections agreed by BCC at the workshop on 24 September 2007.

The following a review of the Regional Spatial Strategy the Government office for the South West has published a Panel report recommending a change to the predicted housing growth within the area. The predicted waste growths within this report take into consideration the updated predicted housing numbers from the Panel report.

These assumptions have been applied to the technical waste flow modelling that underpins the Joint Waste Strategy for the Partnership.

The assumptions presented do not necessarily reflect what the Authority will adopt or implement or devote resources to. This is especially pertinent where assumptions are being projected ten or more years in to the future.

The assumptions will be kept constantly under review as new waste arisings data emerges.

2 CHOSEN WASTE ARISING PROJECTIONS

Following the new waste arisings data, the new composition analysis supplied by BCC and the outcomes of the Capture Rate and Waste Arisings workshop, waste arisings projections that were previously determined for the TOA have been revised.

1.1 Collected Waste

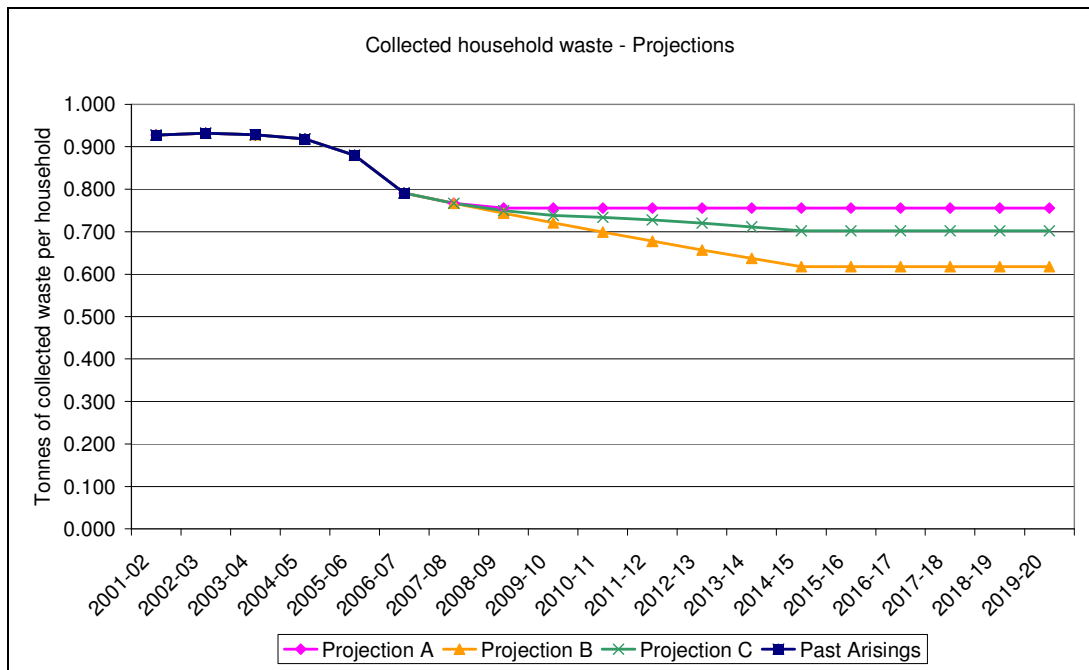
At the capture rate workshop three Jacobs projections for the social arisings of collected waste per household were presented to the authority and are detailed in Table 1 below.

Table 1: Collected waste arising scenarios

Scenario	Description
Jacobs Collected Household Waste arisings projection A	Social arisings decrease until 2008/09, then stabilise to a constant level .
Jacobs Collected Household Waste arisings projection B	Social arisings decrease until 2014/15 then stabilise to a constant level
Jacobs Collected Household Waste arisings projection C	Social arisings decrease slightly until 2015/16 then stabilise to a constant level.

These projections are based on the historic arisings and consideration of a number of influencing factors, including the impact of future legislation, central Government targets, education initiatives and awareness raising. Figure 1 shows the three projections (A-C) for social arisings for collected household waste from Table 1.

Figure 1: Bristol’s Household waste projections



It was agreed at the Capture Rate and Waste Arising workshop that waste arisings per household are anticipated to continue decreasing until 2015/16 before stabilising. This is because new housing is expected to be mostly flats and affordable housing with a low number of individuals per household, therefore generating less waste per household. Projection C fits these waste arising predictions and has been agreed as the projection to take forward.

1.2 HWRC Waste

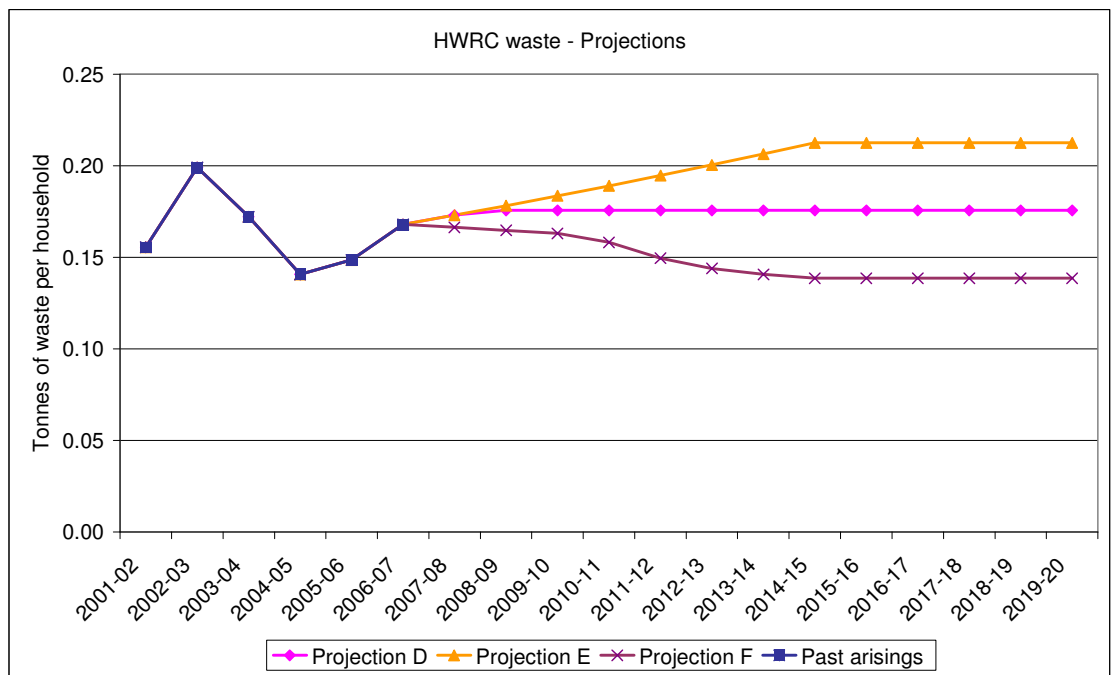
At the capture rate workshop three Jacobs projections for the social arisings of HWRC waste deposited per household were presented to the authority and are detailed in Table 2 below. These projections are based on based on the historic arisings and consideration of a number of influencing factors, including the impact of future legislation, targets, education initiatives, awareness raising and improvements in site operations.

Table 2: HWRC waste arising scenarios

Scenario	Description
Jacobs HWRC Waste arisings projection D	Increase in social arisings which stabilises from 2008/09 onwards
Jacobs HWRC Waste arisings projection E	Social arisings average growth projected until 2014/15 then stabilises to a constant level
Jacobs HWRC Waste arisings projection F	Social arisings decrease until 2014/15 then stabilise to a constant level

Figure 2 shows the three projections from Table 2 for social arisings for HWRC waste.

Figure 2: Bristol’s HWRC waste projections



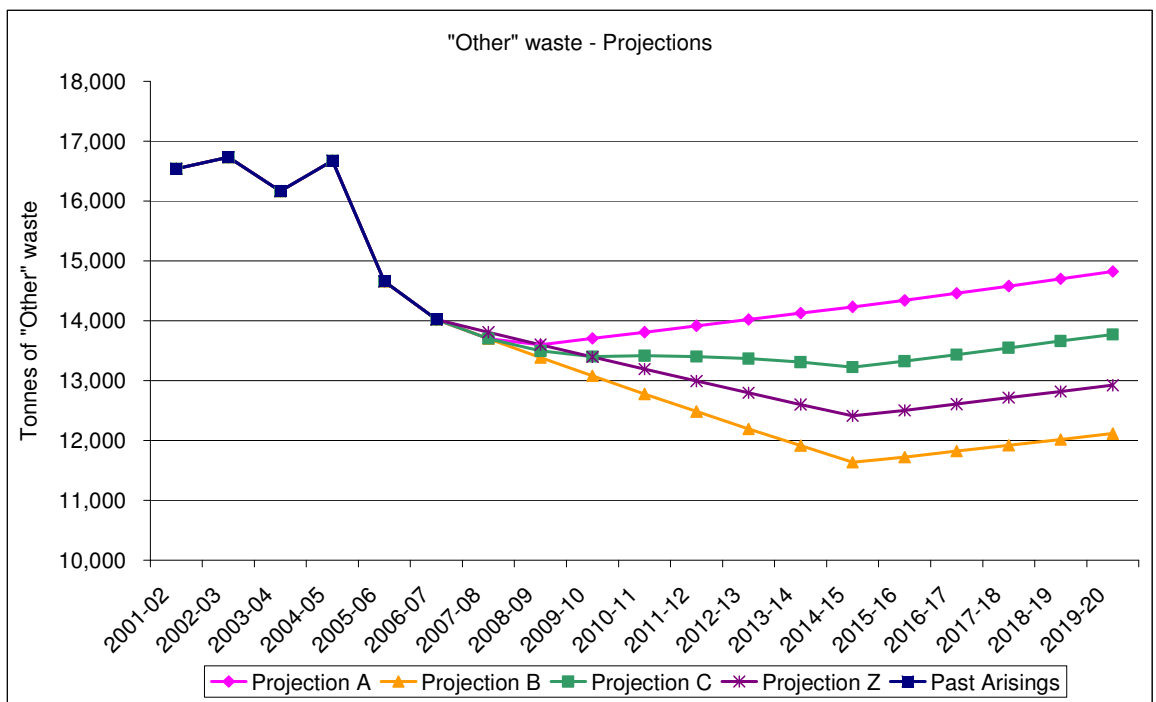
It was agreed that the growth of HWRC waste would stop its gradual increase and plateau at around 2009/10. This will be due to, among others, national and local education campaigns promoting waste minimisation. It was therefore decided that Projection D would be used in the modelling for future HWRC waste growth.

1.3 Other Waste

“Other” waste was originally modelled as being proportional to the growth of social arisings. At the workshop an additional prediction was developed to incorporate the likely increase in charges for the collection of trade waste. Therefore Projection Z assumes a decrease in tonnages halfway between projections B and C.

It was agreed in the Workshop that an additional projection (Projection Z) should be incorporated that would lie between Projection B and Projection C from the collected waste arising assumptions. Figure 3 shows the tonnages that would be generated under each of the social arisings projections used also for household waste in Figure 1.

Figure 3: Bristol’s “Other” waste projections



1.4 Total MSW

The panel report published by Government office for the South West (following a review of the Regional Spatial Strategy) shows 30,000 new homes are to be built in Bristol up to 2026. After 2026 and in the absence of further guidance from the RSS or Government office we have assumed that the rate of house-building in Bristol will continue at the same rate. The assumed housing projections are shown below in Table 3.

Table 3: Bristol’s housing projections. Note that Draft RSS allocation is to 2026

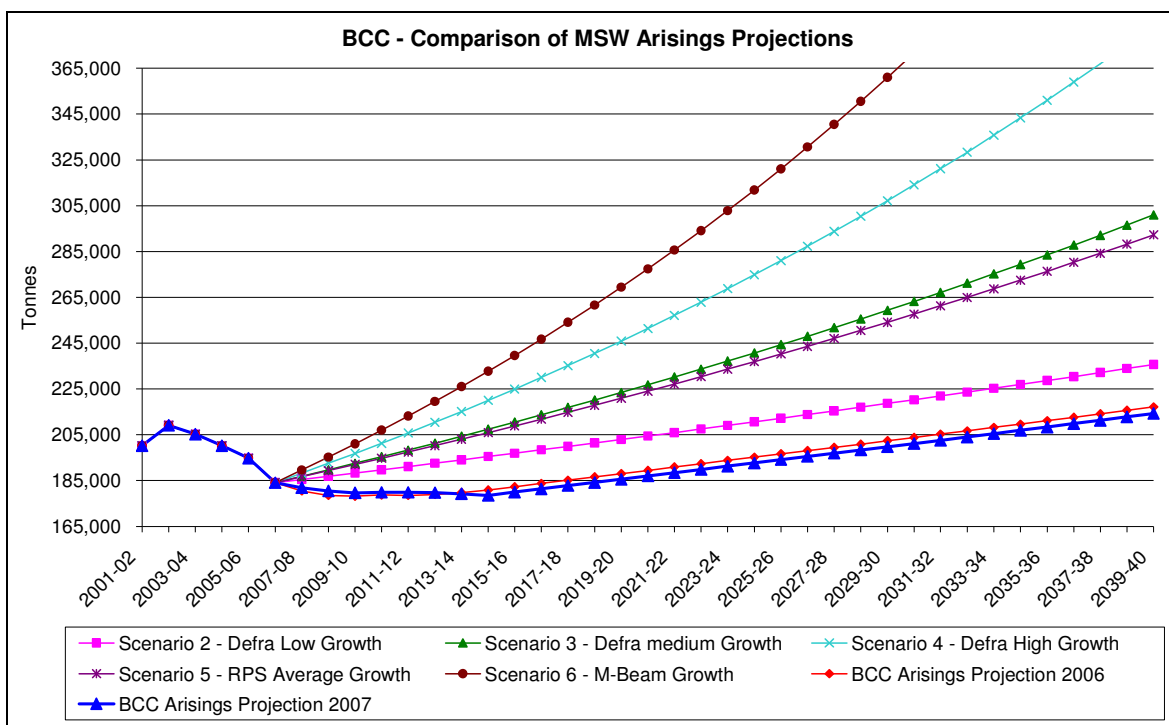
Year	Total houses	Net additional per annum
2001/02	169,637	
2002/03	170,076	
2003/04	171,881	
2004/05	173,389	
2005-06	175,166	
2006-07	177,323	2,157
2007-08	178,823	1,500
2008-09	180,323	1,500
2009-10	181,823	1,500
2010-11	183,323	1,500
2011-12	184,823	1,500
2012-13	186,323	1,500
2013-14	187,823	1,500
2014-15	189,323	1,500
2015-16	190,823	1,500
2016-17	192,323	1,500
2017-18	193,823	1,500
2018-19	195,323	1,500
2019-20	196,823	1,500
2020-21	198,323	1,500
2021-22	199,823	1,500
2022-23	201,323	1,500
2023-24	202,823	1,500
2024-25	204,323	1,500
2025-26	205,823	1,500
2026-27	207,323	1,500
2027-28	208,823	1,500
2028-29	210,323	1,500
2029-30	211,823	1,500
2030-31	213,323	1,500
2031-32	214,823	1,500
2032-33	216,323	1,500
2033-34	217,823	1,500
2034-35	219,323	1,500
2035-36	220,823	1,500
2036-37	222,323	1,500
2037-38	223,823	1,500
2038-39	225,323	1,500
2039-40	226,823	1,500
2040-41	228,323	1,500
2041-42	229,823	1,500
2042-43	231,323	1,500
2043-44	232,823	1,500

Aggregating the ‘per household’ social arisings assumptions agreed above with the number of new houses determines the projection of total MSW. Figure 4 compares

the total quantity of MSW generated between 2001/02 and 2039/40 in Bristol applying the three agreed projection scenarios

- Household Waste – Projection C
- HWRC waste – Projection D
- Other Waste – Projection Z

Figure 4: Total MSW comparing DEFRA, RPS, M-BEAM and Jacobs projections

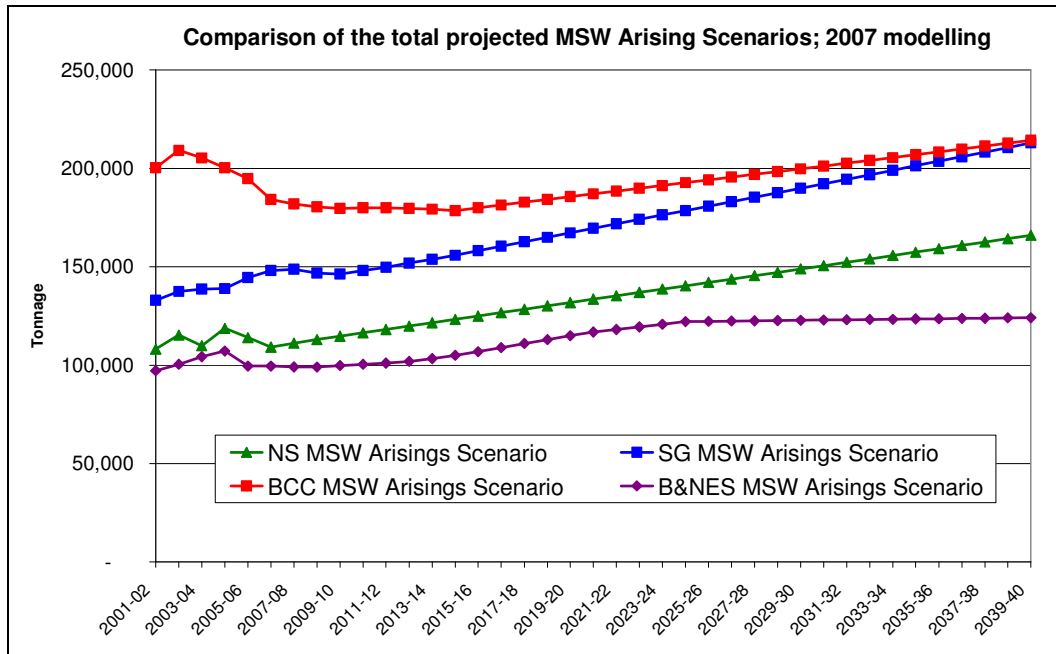


By comparing the 2006 waste projection with the 2007 waste projection, it can be seen that there is assumed to be approximately 2,800 tonnes less MSW in 2039/40 than previously predicted from the 2006 TOA scenario. The 2007 BCC arisings projection lies below the DEFRA low growth projection.

Across the period 2006/07 to 2019/20 this equates to a waste arisings annual growth rate of less than 0.06%. Over the period to 2039/40, the equivalent waste arisings average growth rate is 0.52%.

This waste arisings scenario for Bristol is compared to the other Partnership authorities in Figure 5.

Figure 5: Comparison of waste arisings scenarios across the Partnership



3 CAPTURE RATE ASSUMPTIONS

The assumed proportion of each waste category targeted in the SQ and PSI scenarios are identified and summarised in Table 4. The composition provided by BCC did not contain sufficient detail on categorisation to determine an accurate Targeted %, therefore the percentage targeted is based on the national statistics.

These figures have not changed from those agreed at the Capture Rate and Waste Arisings workshop on 24 September 2007.

Table 4 includes the SQ position at the time of the Technical Options Appraisal (TOA) in 2006 (column 2). This is to illustrate the comparison with the most recent modelling for 2006/07 (column 3).

Table 4: Material Targeted in Capture Rate Model

Material		SQ 2005/06	SQ 2006/07	PSI	Notes
Paper ¹		67%	67%	67%	The authority already targets newspapers, magazines and directories and therefore no increase anticipated.
Textiles		50%	50%	50%	Textiles already targeted, therefore no increase anticipated.
Ferrous Metal		98%	98%	98%	The authority already target both Ferrous and Non Ferrous cans, therefore no increase anticipated.
Non Ferrous Metal		98%	98%	98%	The authority already target both Ferrous and Non Ferrous cans, therefore no increase anticipated.
Glass		98%	98%	98%	The authority already targets all glass types, therefore no increase anticipated.
Kitchen Waste & Cardboard	Kitchen Waste	0%	97%	97%	The authority is currently in the process of rolling out a kitchen waste collection. They will target the principal components of kitchen waste.
	Cardboard ²	0%	25%	25%	The authority is currently in the process of rolling

¹ The percentage of paper targeted is the percentage of paper in the paper and card stream

² The percentage of cardboard targeted is the percentage of cardboard in the paper and card stream

Material		SQ 2005/06	SQ 2006/07	PSI	Notes
					out a kitchen waste collection. They will target the principal components cardboard.
Garden Waste		0%	93%	93%	The authority is currently in the process of rolling out a garden waste collection. They will target the principal components of garden waste.

1.5 Roll Out

The SQ and PSI roll out figures have been updated from the TOA position based on the outcomes of the Capture Rate and Waste Arisings workshop. Since the workshop the PSI roll out figure for garden waste has been increased to 98%. This is because the current opt-in scheme is likely to become free and district-wide in 2013/14 in order to meet the 50% recycling and composting target. All other roll out assumptions have not changed from those agreed at the workshop.

The updated roll out assumptions are summarised in Table 5.

Table 5: Level of Roll Out in Capture Rate Model

Material		SQ 2005/06	SQ 2006/07	PSI	Notes
Paper		96%	96% ³	100%	The Authority now aims to roll this service out to all households by 2010/11
Textiles		86%	86%	86%	The Authority does not propose to offer kerbside collection to anymore households, therefore no change included.
Ferrous Metal		96%	96% ⁴	100%	The Authority now aims to roll this service out to all households by 2010/11
Non Ferrous Metal		96%	96%	100%	
Glass		96%	96% ⁵	100%	
Kitchen Waste & Cardboard	Kitchen Waste	0%	51%	85%	The Authority proposes to roll this service out to all households on the dry recycling scheme by 2007/08. In the future it may be possible to roll this service out further to 98% but due to the uncertainty of this, roll out remains at 85%
	Cardboard	0%	85%	85%	

³ This 96% includes properties offered access to mini recycling centres

⁴ This 96% includes properties offered access to mini recycling centres

⁵ This 96% includes properties offered access to mini recycling centres

Material	SQ 2005/06	SQ 2006/07	PSI	Notes
Garden Waste	0%	17% ⁶	98%	This is currently a paid for opt in scheme. The Authority proposes that rollout will increase to 24% in 2010/11. The scheme is likely to become free in 2013/14 which is anticipated to increase rollout to 50% before reaching 98% from 2014/15 onwards.

1.6 Participation

The PSI participation figures have been updated based on information provided by BCC at the Capture Rate and Waste Arisings workshop. Since then it has been assumed that there will be a further increase in the kitchen waste PSI participation rate to 98% by 2020/21 in order to meet the recycling and composting target. All other participation rates have been held constant. Table 6 shows a summary of the updated participation assumptions.

Table 6: Level of Participation in Capture Rate Model

Material	SQ 2005/06	SQ 2006/07	PSI	Notes
Paper	74%	74%	85%	SQ participation rates for paper and mixed cans have been increased following a recent participation survey ⁷ . PSI participation rates reflect long term maximum rates anticipated to be achieved. These increased rates are assumed to be achieved by 2014/15 and continued at this level thereafter, once all schemes are implemented and concerted education initiatives have positively affected householder behaviour. It is assumed that textile participation will stay the same
Textiles	43%	43%	43%	
Ferrous Metal	74%	74%	85%	
Non Ferrous Metal	74%	74%	85%	
Glass	74%	85%	90%	

⁶ This was assumed to be 7% during the workshop, but due to the tonnage being collected it has been assumed that this is nearer to 17%, this is likely to be because of people sharing bins.

⁷ This was a WRAP funded Behavioural Change Local Fund Projects carried out by Resource Futures. The initial monitoring was a city-wide sample survey (of over 1,100 households).

Material		SQ 2005/06	SQ 2006/07	PSI	Notes
					2006/07 and 2014/15.
Kitchen Waste & Cardboard	Kitchen Waste	0%	63% ⁸	80%	Improved awareness and educational initiatives are assumed to increase kitchen waste and cardboard participation to 70% by 2009/10. Kitchen waste is then assumed to increase steadily to 80% between 2015/16 and 2020/21.
	Cardboard	0%	63% ⁹	70%	
Green Waste		0%	100%	100%	Garden waste participation is set at 100% as it is an opt-in scheme.

1.7 Recognition

The back calculation of recognition rates for the SQ has been updated as a result of new waste arisings data supplied by BCC and additional changes to the targeted, rollout and participation figures as described above. In addition, the recognition rate for paper, ferrous and non-ferrous metals and cardboard have been increased to 80% in order to help BCC achieve the 50% target. Recognition for paper and metals has been increased in-line with maximum achievable recognition rates from other authorities in the Partnership..

The updated recognition rates are described below in Table 7

Table 7: Level of Recognition in Capture Rate Model

Material	SQ 2005/06	SQ 2006/07	PSI	Notes
Paper	65%	77%	80%	Recognition is assumed to increase to 78% from 2015/16, reaching 80% in 2019/20 in line with other materials.
Textiles	43%	66%	66%	It is assumed recognition remains constant at 66%
Ferrous Metal	37%	60%	80%	Recognition assumed to annually increase by 5% from 2015/16 until 80% is reached in 2019/2020
Non Ferrous Metal	37%	60%	80%	
Glass	86%	95%	95% by 2014/15	It is assumed recognition remains

⁸ This was agreed to be 63% at the workshop, in order to enable the tonnage current being collected to be calculated, 63% has been assumed

⁹ This was agreed to be 63% at the workshop, in order to enable the tonnage current being collected to be calculated, 63% has been assumed

Material		SQ 2005/06	SQ 2006/07	PSI	Notes
					constant at 95%
Kitchen Waste & Cardboard	Kitchen Waste	0%	97%	97%	It is assumed recognition remains constant at 97%
	Cardboard	0%	55%	80%	From 2015/16, an annual increase of 6% is assumed until 80% is attained in 2019/20
Green Waste		0%	83%	83%	It is assumed recognition remains constant at 83%

1.8 Capture Rate

Capture rates for collected materials have been updated to take into account the updated assumptions on targeted, roll out, participation and recognition assumptions. The updated capture rates are shown in Table 8.

Table 8: Maximum projected Capture Rate in Capture Rate Model

Material		SQ 2005/06	SQ 2006/07	PSI
Paper		31%	37%	46% by 2019/20
Textiles		8%	12%	12%
Ferrous Metal		26%	42%	66% by 2019/20
Non Ferrous Metal		26%	42%	66% by 2019/20
Glass		60%	76%	80% by 2011/12
Kitchen Waste & Cardboard	Kitchen Waste	0%	30%	64% by 2020/21
	Cardboard	0%	7%	12% by 2019/20
Green Waste		0%	13%	76% by 2014/15

1.9 Bring Banks

Bring Bank capture rates have remained largely the same as previously agreed at the workshop. This reduction can be attributed to the increase in capture rate of ferrous and non-ferrous metals collected at the kerbside. These updates are represented in Table 9.

Table 9: Bring Bank Capture Rates

Material	SQ 2005/06	SQ 2006/07	PSI
Paper	3%	3%	3%
Plastic	3%	9%	9%
Textiles	3%	6%	6%
Mixed Cans	1%	2%	2%
Glass	14%	22%	22%

1.10 HWRC's

Capture rates at the HWRCs have been updated as a result of new waste arisings data supplied by BCC. Since then the PSI capture rates have been increased in-line with the best performing Partnership authorities. The PSI capture rate for recyclables has been increased from 73% to 79% and the PSI for green waste has been increased to 51% by 2014/15. Table 10 shows the updated capture rates for HWRCs.

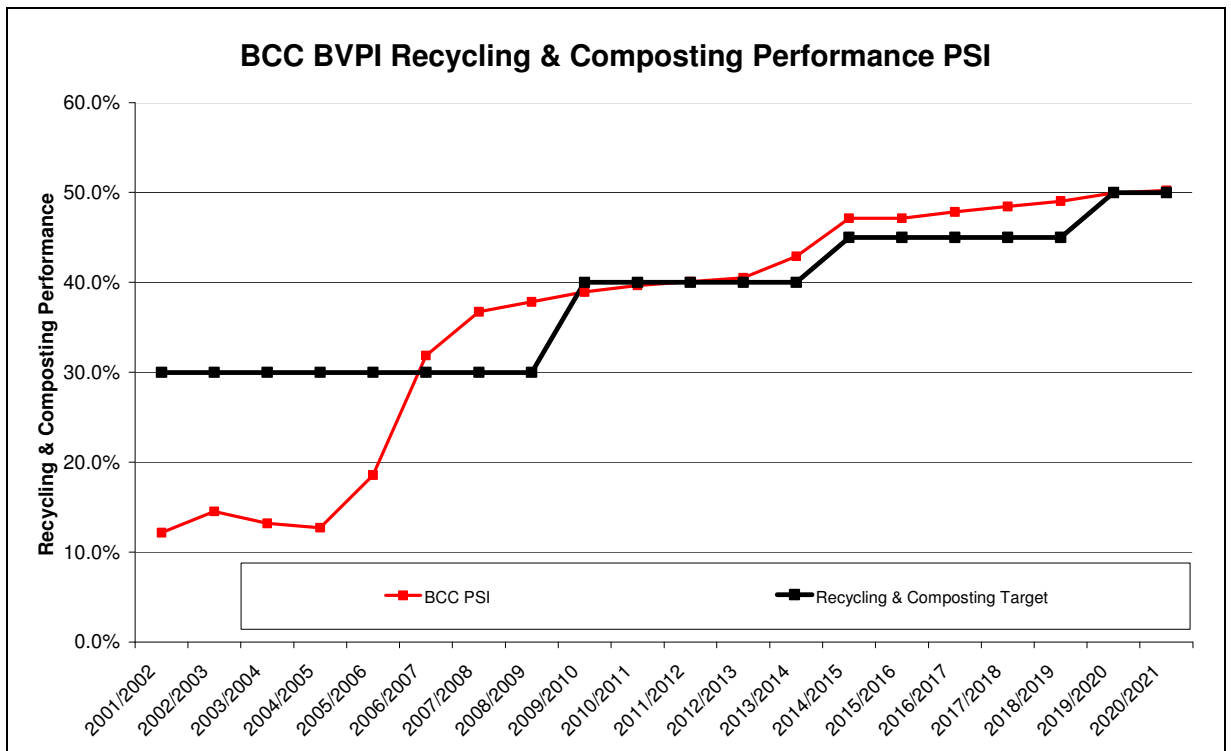
Table 10: HWRC Capture Rates

Material	SQ 2005/06	SQ 2006/07	PSI
Recyclables	65%	75%	79% by 2014/15
Green Waste	26%	30%	51% by 2014/15

1.11 Projected Capture Rate Performance

Applying the capture rate assumptions detailed above enables Bristol to reach the 50% recycling and composting target by 2020. This is illustrated in Figure 6.

Figure 6: Bristol's Projected PSI Recycling and Composting Performance



The waste arisings scenario has been applied to the Jacobs Capture Rate model, which uses the capture rate assumptions shown above to determine the quantities of materials captured.

From this quantity Jacobs has determined the performance against BVPI recycling and composting targets, and also the effect that source segregation has on BCC performance against LATS allowances.

The quantity of materials captured has been deducted from the total waste arisings to determine the quantity of residual MSW that is available for processing. This quantity has been taken forward to the Jacobs technology model, the outputs of which are being applied to the Joint Waste Strategy.

The tonnage projections by waste stream, under the PSI scenario, that are output from the capture rate model are shown in Figure 7.

Figure 7: Bristol's Projected Tonnages to 2020

Contract Year	Year																	
	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024
MSW Input	184,127	181,933	180,473	179,652	179,902	179,917	179,695	179,240	178,552	179,966	181,381	182,796	184,210	184,210	184,210	184,210	184,210	184,210
Household	140,296	137,166	135,190	134,311	134,501	134,451	134,163	133,638	132,877	133,930	134,983	136,036	137,088	137,088	137,088	137,088	137,088	137,088
HWRC	29,809	30,968	31,683	31,947	32,211	32,474	32,738	33,001	33,265	33,528	33,792	34,055	34,319	34,319	34,319	34,319	34,319	34,319
Bring Banks	2,297	2,208	2,140	2,089	2,055	2,042	2,027	2,007	1,996	2,012	2,020	2,033	2,046	2,046	2,046	2,046	2,046	2,046
Other MSW	14,022	13,810	13,600	13,394	13,191	12,991	12,795	12,601	12,410	12,506	12,606	12,705	12,803	12,803	12,803	12,803	12,803	12,803
MSW Output	184,127	181,933	180,473	179,652	179,902	179,917	179,695	179,240	178,552	179,966	181,381	182,796	184,210	184,210	184,210	184,210	184,210	184,210
<i>Jacobs Check - DOES THIS EQUAL TOTAL MSW?</i>	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
Kerbside Recycling Collection																		
HH - Paper & Cardboard	100%	14,857	14,950	15,158	15,485	15,939	16,209	16,449	16,659	16,837	16,970	17,284	17,419	17,554	17,554	17,554	17,554	17,554
HH - Plastics	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HH - Glass	0%	9,165	9,071	9,060	9,099	9,219	9,231	9,226	9,202	9,111	9,183	9,256	9,328	9,400	9,400	9,400	9,400	9,400
HH - Ferrous Cans (or Fe & Al where mixed)	0%	1,422	1,430	1,450	1,482	1,525	1,551	1,574	1,594	1,511	1,524	1,771	1,920	2,072	2,072	2,072	2,072	2,072
HH - Non-ferrous Cans (where Al is separate)	0%	389	392	397	406	418	425	431	437	441	445	485	526	568	568	568	568	568
HH - Kitchen	100%	9,556	16,149	16,484	16,942	16,966	16,960	16,923	16,857	16,761	16,894	17,513	18,140	18,774	18,774	18,774	18,774	18,774
HH - Garden Waste only	100%	5,146	5,300	5,647	5,953	6,200	6,197	6,184	6,114	15,376	15,498	15,713	16,454	16,940	16,940	16,940	16,940	16,940
HH - Textiles	50%	566	544	536	532	533	533	532	530	527	531	535	539	543	543	543	543	543
HH - includes Al foil, batteries, mineral oil, and Fridges and freezers	0%	723	707	697	692	693	693	691	689	685	690	696	701	706	706	706	706	706
Kerbside Recycling Sub Total		41,814	48,623	49,419	50,591	51,493	51,799	52,010	52,381	51,348	51,834	53,513	55,028	56,588	56,588	56,588	56,588	56,588
Kerbside Total		137,999	134,957	133,050	102,222	132,446	132,409	132,137	131,630	130,881	131,918	132,963	134,002	135,042	135,042	135,042	135,042	135,042
<i>Jacobs check on kerbside sub-total</i>		0	0	0	3000	0	0	0	0	0	0	0	0	0	0	0	0	0
Bring Banks																		
BB - Paper & Cardboard	100%	722	694	672	656	644	636	627	617	606	611	610	615	620	620	620	620	620
BB - Plastics	0%	639	625	616	612	613	612	611	609	605	610	615	620	624	624	624	624	624
BB - Glass	0%	651	612	579	551	528	524	520	515	521	525	529	533	537	537	537	537	537
BB - Ferrous Cans (or Fe & Al where mixed)	0%	41	39	38	37	36	35	35	34	33	34	31	29	26	26	26	26	26
BB - Non-ferrous Cans (where Al is separate)	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BB - Textiles	50%	244	239	235	234	234	234	233	232	231	233	235	237	238	238	238	238	238
BB - Other x-mas trees, shoes, cards	68%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub-Total		2,297	2,208	2,140	2,089	2,055	2,042	2,027	2,007	1,996	2,012	2,020	2,033	2,046	2,046	2,046	2,046	2,046
<i>Jacobs check on bring banks sub-total</i>		TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
Other Recycling/composting																		
Other - Sweepings - Leaf Fall	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other - Collected Trade Waste	76%	376	370	365	359	354	348	343	338	333	335	338	341	343	343	343	343	343
Residual Waste Collections																		
HH - Black Bag/ Bin Collection	68%	96,185	86,335	83,631	51,631	80,952	80,610	80,126	76,249	69,532	70,083	69,450	68,975	68,484	68,484	68,484	68,484	68,484
Other - Collected Trade Waste	68%	4,523	4,454	4,387	4,320	4,255	4,191	4,127	4,065	4,003	4,035	4,066	4,098	4,130	4,130	4,130	4,130	4,130
Other - Clinical	68%	66	65	64	63	62	61	60	59	58	59	59	60	60	60	60	60	60
Other - Street sweepings/ cleansing + dog bin waste	59%	5,415	5,333	5,252	5,173	5,094	5,017	4,941	4,866	4,792	4,830	4,868	4,906	4,944	4,944	4,944	4,944	4,944
Other - Gully Waste	68%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other - Sweepings - Leaf Fall	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other - Parks litter	68%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other - Fly-tipped, ELVs, Grass & leaves in parks	68%	1,463	1,441	1,419	1,397	1,376	1,355	1,335	1,315	1,295	1,305	1,315	1,326	1,336	1,336	1,336	1,336	1,336
Other - fly-tipped	68%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other - Specials	68%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other - Bulkies, housing refurb, community waste	68%	1,753	1,726	1,700	1,675	1,649	1,624	1,600	1,576	1,551	1,564	1,576	1,588	1,601	1,601	1,601	1,601	1,601
Other - Charity + Relets (Sch 2 waste)	68%	426	420	413	407	401	395	389	383	377	380	383	386	389	389	389	389	389
HWRC																		
HWRC - Paper & Cardboard	100%	916	958	987	1,002	1,017	1,033	1,048	1,064	1,079	1,095	1,104	1,112	1,121	1,121	1,121	1,121	1,121
HWRC - Paper & Cardboard (Books)	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HWRC - Plastics	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HWRC - Textiles	50%	108	113	116	118	120	122	124	125	127	129	130	131	132	132	132	132	132
HWRC - Textiles - Shoes	50%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HWRC - Glass	0%	94	98	101	103	104	106	108	109	111	112	113	114	115	115	115	115	115
HWRC - Ferrous metal	0%	1,799	1,882	1,940	1,969	1,999	2,029	2,060	2,091	2,121	2,152	2,169	2,186	2,203	2,203	2,203	2,203	2,203
HWRC - Non-ferrous metal	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HWRC - Garden Waste	100%	3,379	3,779	4,144	4,456	4,774	5,096	5,422	5,754	6,430	6,430	6,480	6,531	6,581	6,581	6,581	6,581	6,581
HWRC - Wood & Chipboard	100%	3,185	3,331	3,433	3,485	3,538	3,592	3,646	3,700	3,754	3,809	3,839	3,869	3,899	3,899	3,899	3,899	3,899
HWRC - Fluorescent Tubes	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HWRC - Car Batteries	0%	54	56	58	59	60	61	62	63	63	64	65	65	66	66	66	66	66
HWRC - Domestic Batteries	0%	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
HWRC - Fridges	0%	480	502	518	526	534	542	550	558	566	575	579	584	588	588	588	588	588
HWRC - Tyres	0%	59	61	63	64	65	66	67	68	69	70	71	71	72	72	72	72	72
HWRC - Tyres - Incinerated (BVPI B2c)	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HWRC - Control	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HWRC - CRT's, Mineral Oil, TVs, computer monitors, gas bottles	0%	525	549	566	575	583	592	601	610	619	628	633	638	643	643	643	643	643
HWRC - Vegetable Oil	100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HWRC - Residual Waste	68%	13,065	13,246	13,227	13,004													