

Wrest Point Demonstration Project

Stage 1 Review - November 2006

1. Introduction

The Southern Waste Strategy Authority (SWSA), in conjunction with the Packaging Stewardship Forum (PSF) of the Australian Food and Grocery Council, and Wrest Point Management have undertaken a demonstration project at Wrest Point, to showcase improved waste minimisation techniques in the hospitality industry. The original details pertaining to the Wrest Point Proposal are detailed in Appendix A, with further background information detailed in Appendices B and C.

This report summarises the results from the initial base line audit carried out on the Pier One and Casino Bars in the week commencing the 23 October 2006. It also makes a number of recommendations based on these findings and from information provided by Wrest Point following the initial audit.

2. Summary

The Wrest Point Demonstration Project has been in progress since September 2006, when Wrest Point Management initially met with representatives from SWSA and PSF. In this time a number of issues have emerged:

- There is the potential to make a 43% saving (based on previous year's figures) in the cost of solid waste disposal, by changing from the current Mobile Garbage Bin (MGB) collection system for garbage, to a skip bin system.
- By removing valuable resources (milk and juice containers) from the waste stream, Wrest Point can further reduce the quantities of waste being generated on site. This also has the potential to reduce overall waste costs further.
- OH&S concerns can be addressed by purchasing one or more automated portable bin lifters to assist cleaning staff with the handling of all MGBs (this is currently achieved by staff manually emptying the glass from MGBs into holding crates).

3. Audit Findings

Detailed reports are listed in the reference section of this report and are available on request from SWSA. The results are summarised below:

Table 1 Recovery Data

Location	Total Weight of Garbage and Recycling (kg)	Percentage of Recyclables Recovered (%)	Percentage of Recyclables Unrecovered (%)
Pier One Bar	245	78	5
Casino Bar	171	70	11

Assuming a recovery rate for recyclables of 75 % (based on the information tabled in Appendix C), it is worth noting that the Pier One Bar has already attained this level, while the Casino Bar is almost there.

Percentage breakdown by material from both Pier One and Casino Bars was as follows:

Table 2 Percentage Recyclable Material

	Glass	PET	Alum	LPB	PVC	HDPE	Steel	Paper	Cardboard	Other
Pier One	78.97%	0.02%	0.02%	0.19%	0.15%	0.44%	1.22%	1.55%	0.32%	17.13%
Casino	74.61%	0.25%	0.29%	0.34%	0.35%	0.98%	0.30%	1.64%	2.03%	19.20%

These audit results highlight the presence of other additional recyclable material in the garbage stream.

This information is useful when coupled with data concerning the quantities of milk and juice purchased for Wrest Point between the 25 May 2005 and 20 August 2006:

Table 3 Beverage Containers Purchased Between May 2005 and August 2006

Beverage Type/weight No Lid (kg)	Material Type	Container Dimensions (cm)	Quantity Purchased	Total Weight of Recyclable Packng (kg)	Approximate Quantity/ 3m Skip [^]	3.0M Skip Bins (Approx)
1L Tomato 0.043	PET*	20x8x7	2,322	100	2,681	1
2.4L Pineapple 0.08	PET	29.5x12.5x8.5	2,265	181	963	2.5
4L Orange 0.075	HDPE**	26x15x15	4,471	335	512	9
2.4L Apple 0.06	HDPE	28x12x8	1,692	102	1,120	1.5
2L Milk 0.046	HDPE	26x10x10	38,450	1,769	1,140	34
1L Milk 0.04	LPB***	23x7x7	13,963	559	2,637	5.5
TOTAL				3,046		53.5

*PET^z = polyethylene terephthalate; **HDPE^z = high density polyethylene; ***LPB = liquid paper board, [^]Uncompacted and assuming containers are neatly stacked in the skip bin

From the information presented in Table 3 it is possible to see the potential for further resource recovery at Wrest Point. Also worth noting, is the amount of space that these containers actually take up within the garbage bins (a potential saving in the number of garbage collections).

The total value of these materials to the recycling industry is as follows (assuming a 75% recovery rate)¹:

¹ Approximate values based on information provided by local source.

- 211kg of PET at approximately \$A600/tonne = \$A127.00
- 1,655kg of HDPE at approximately \$A751/tonne = \$A1,243.00
- 419kg of LPB at approximately \$A300/tonne = \$A126.00

Wrest Points' recycling and garbage disposal expenses for the last three years have also been evaluated to ascertain further improvement opportunities. This information has been presented in Table 4:

Table 4 Solid Waste Disposal Costs - Actuals

Receptacle Type	Unit Cost	Quantity 05/06 FY	Total Cost(\$) 05/06 FY	Quantity 0903 to 0906	Total Cost (\$) 0903 to 0906
80L MGB	\$4.78 to \$5.84	1,494	8,585	2,882	16,102
240L MGB	\$4.78 to \$5.84	13,580	77,263	42,246	219,389
3.0M Skip	\$27.00 to \$34.44	576	18,685	1,289	39,399
60kg Cardboard	\$2.19 to \$4.05	882	2,604	2,854	7,349
250kg Glass Crate	\$10.75	504	5,418	1,321	14,201
Total Cost (Net GST)			112,555		296,440

Table 5 presents the same information as above; however, the use of 80L MGBs and 240L MGBs has been substituted by 3.0M Skips, based on the conversion below, which was supplied by Veolia Environmental Services (VES):

12 x 240L MGB/ 3.0M Skip
 36 x 80L MGB/ 3.0M Skip

Table 5 Solid Waste Disposal Cost – Potential Savings

Receptacle Type	Unit Cost	Quantity 05/06 FY	Total Cost(\$) 05/06 FY	Quantity 0903 to 0906	Total Cost(\$) 0903 to 0906
80L MGB: 3.0M Skip	\$27.00 to \$34.44	1,494: 42	1,365	80	2,566
240L MGB: 3.0M Skip	\$27.00 to \$34.44	13,580: 1,132	36,556	3,521	103,608
3.0M Skip	\$27.00 to \$34.44	576	18,685	1,289	39,399
60kg Cardboard	\$2.19 to \$4.05	882	2,604	2,854	7,349
250kg Glass Crate	\$10.75	504	5,418	1,321	14,201
Total Cost (Net GST)			64,628		167,123
Total Potential Savings			47,927		129,317

Table 6 gives approximate quantities for both glass and cardboard collected at Wrest Point over three years and for the 05/06 financial year. These figures are unavailable for garbage, as not all MGBs and skips emptied were always full, and therefore, accurate quantities were not possible:

Table 6 Weights of Glass and Cardboard

	Unit Weight (kg)	Total Units 05/06 FY	Total Weight (kg) 05/06 FY	Total Units 0903 to 0906	Total Weight (kg) 0903 to 0906
Cardboard	60	882	52,920	2,854	171,240
Glass	250*	504	126,000	1,321	330,250

* According to VES glass crate will hold approximately 250kg of uncrushed glass

4. Results

The total actual cost of solid waste disposal at Wrest Point for the 0506 Financial Year was \$112,555 as shown in Table 4. However, as Table 5 demonstrates, there are a number of minor changes that can be made to the present system that would result in a significant cost saving of \$47,927 per annum (\$129,317 over the last three years). By removing all beverage containers from the garbage stream, Wrest Point can reduce these costs further. Given that beverage containers alone (excluding glass) would have taken up approximately 53.5.0M Skip Bins, this would represent an approximate reduction of \$1,860 in garbage costs (N.B. There would however be a corresponding increase in recycling costs).

By changing the present collection system to eliminate the collection of 80L and 240L MGBs, and instead, tipping the contents of these bins into 3.0M Skip Bins with the use of an automated portable bin lifter², Wrest Point will:

- reduce its overall solid waste costs;
- eliminate the need to pay for collections of MGBs that may only be half full, but that are currently being emptied at the same cost as a full bin;
- address OH&S concerns relating to the manual emptying of MGBs.

The audit findings therefore demonstrate a potential to improve on the current systems in place at each of the loading bays, with respect to waste handling.

Infrastructure Requirements

Under the present system, it was difficult to ascertain quantities of garbage generated at Wrest Point at any given time, due to: (a) the audits of the Pier One Bar and the Casino Bar being inconclusive and; (b) MGBs and Skip bins not always being full prior to collection.

² Liftmaster produce a 240v (mains) or 12v (battery) hydraulic bin-lifter with a 150kg capacity that will give approximately 100 lifts before needing to be recharged. The cost per unit is approximately \$5,600 (+GST)

However, Tables 4 and 5, which show the quantities of 80L and 240L MGBs currently being emptied and the conversion to 3.0M skip bin, give a reasonable estimate as to the number of skip bins required if changing over to that system for garbage disposal. In fact, this would present a “worst case scenario”, given that bins were not always full, and the conversion is working from the assumption that all bins were to capacity prior to collection.

With respect to cardboard and glass, Wrest Point generated approximately 52 tonnes of cardboard and 126 tonnes in the 0506 financial year. These are reasonable estimates, given that the information is based on figures provided by Wrest Point and conversion figures provided by VES. This information, coupled with information from Table 3 will have a direct bearing on the infrastructure requirements when considering recycling system options.

Also worth considering when determining infrastructure requirements, is the choice of model:

1. Model One

A fully commingled beverage container and cardboard collection system, with a number of 3.0m skip bins for garbage collection

2. Model Two

Separate glass (same as present system) with a commingled beverage container and cardboard collection system, with a number of 3.0m skip bins for garbage collection

3. Model Three

Separate cardboard and glass (same as present system) with commingled beverage containers, with a number of 3.0m skip bins for garbage collection

Obviously, each model will present with different costs/benefits which will need careful evaluation. External factors will also help determine the type of model chosen; so it is important to hold discussions with the waste contractor, prior to making the final decision.

4. Recommendations

1. Re-organise set up at loading bays to improve efficiencies of handling and storage of garbage and recycling bins. Consider centralising all garbage and recycling operations to top loading bay only.
2. Purchase two automated bin lifters on the grounds of addressing current OH&S issues and to assist with the emptying of MGBs. These will also be required if adopting Recommendation 3.
3. Change current garbage system from individual MGB collection to skip bin collection only.
4. Re- address waste disposal and recycling tender documents with the aim of changing to align with preferred model.

6. References

1. Wrest Point Garbage and Recycling Audit, SWSA, Oct 2006
2. Wrest Point Solid Waste Disposal Costs Spread Sheet, SWSA, Oct 2006

Shaun Cousins
SWSA

APPENDIX A

Wrest Point Hotel Recycling Proposal

1. Introduction

This document outlines a draft proposal to establish a “Hotels & Restaurants” recycling demonstration project, based on Wrest Point Hotel Casino in Hobart. This is a joint proposal from the Beverage Industry Environment Council (BIEC) and the Southern Waste Strategy Authority (SWSA).

The project will aim to work directly with Hotel Management and staff, and recycling contractors, to develop a sustainable improvement program aimed at increasing the recovery of packaging and consumer paper from waste streams. SWSA anticipates support for this project from the National Packaging Covenant (NPC), since it falls directly within the objectives of the recently revised Covenant, to further the recovery of packaging and consumer paper in the workplace.

Previous work by BIEC (Appendix C) has established the basis for this project.

2. Federal Hotels & Resorts

Federal Hotels and Resorts operate an extensive network of premium tourism assets within Tasmania including:

- Wrest Point Hotel Casino, Australia’s first legal Casino, with 181 rooms and sixteen 5 – Star suites.
- Country Club Resort and Villas in Launceston.
- Strahan Village, Gordon River Cruises and the West Coast Wilderness Railway.
- Freycinet Lodge and the separate new \$30M Hazards Resort under construction at Coles Bay.
- A new \$30M resort to be developed near the Port Arthur Historic site.

The parties to the project would expect that successful implementation at Wrest Point would be followed by extension to other Federal properties (subject to the availability of local support infrastructure).

Through their websites and national networks, BIEC, SWSA and NPC will seek to develop a marketable package for future promotion in conjunction with the Australian Hotels Association (AHA).

3. Beverage Industry Environment Council

BIEC represents the beverage industry in developing markets and assisting Councils and Contractors to establish collection systems for recyclable containers. BIEC supports the waste management industry through a number of programs including the funding of Public Place and Major Events Recycling initiatives, in addition to commercial recycling projects.

BIEC also delivers the \$75,000 state-wide ‘Don’t Waste Tasmania’ television campaign, in partnership with SWSA.

4. Southern Waste Strategy Authority

SWSA is a local government Joint Authority, formed by the twelve Southern Tasmanian councils, to implement a comprehensive regional waste minimisation strategy. The strategy includes the establishment of a small number of targeted demonstration projects, to encourage improved business waste management practices. In conjunction with BIEC, a ‘whole of shopping centre’ recycling project has already been established at Northgate Shopping Centre in Hobart.

SWSA and BIEC will jointly fund this project, with funds mainly used for the provision of infrastructure, signage, auditing, staff training and the project launch and follow-up publicity.

5. Project Detail

BIEC has piloted a number of similar projects interstate, with key elements being:

5.1 The Process

- Through audits, establish the baseline level of material recovery and the potential for improvement.
- Initial survey and consultation with hotel management and contractors to establish additional infrastructure requirements and identify improvement options, strategies and indicative costs.
- Address “closing the loop” issues with waste contractors, to ensure that local markets exist for the materials recovered and that the degree of source separation versus co-mingling of material is appropriate to the locally available separation technologies.
- Put in place an improvement process to address staff training and infrastructure issues as they are revealed by periodic audits.
- Document the process as a Case Study on the SWSA and BIEC websites that may be rolled out to other Hotels and Restaurants.



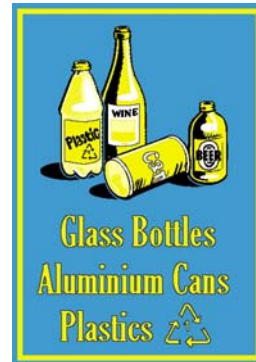
- Publicise the project, seeking the support of the Australian Hotels Association through its Tasmanian representative Mr Daniel Hanna, together with the possible inclusion of recycling programs in its Awards criteria.

5.2 Infrastructure

- Provision of required infrastructure and signage to support the degree of source separation required.
- Consider bin access, mobility (OH&S issues), location (health issues), bin colours and liners.
- Signage preferably pictorial and prominent.

5.3 Contractor

- Most sorting facilities have a “can’t see, can’t touch” policy that precludes material contained within plastic bags.
- Contamination guidelines – e.g. exclusion of ceramics, part full containers etc.
- Accessibility for collection.



5.4 Staff Training

- Initial training regarding materials to be collected and presentation needs to be followed up, together with staff feedback.
- Discourage sorting by staff – the appropriate degree of separation needs to be built into the system at the source.

SWSA and BIEC will aim to defray initial set-up costs associated with the project; however the established systems should be self-sustaining in the longer term.

6. Project Timing

Subject to funding approval, and assuming that the active support of Wrest Point Hotel can be secured, it is anticipated that the project will extend over the 2006 calendar year.

APPENDIX B

Wrest Point Site Visit Report Thursday 14 September 2006

Following a site inspection of Wrest Point on Thursday 14 September 2006, by Mr Shaun Cousins (SWSA), John Donaghy (AFGC), John Lucas (Wrest Point Maintenance Manager), Brian Blight (Wrest Point Kitchen Steward Supervisor) and Debbie McIntyre (Wrest Point Cleaning Supervisor), a number of observations and recommendations have been made regarding the current waste and recycling arrangements that presently exist.

1. Observations

1.1 Loading Bays

Glass and cardboard are currently the only two materials being recovered at Wrest Point. Glass is initially collected in the bar and kitchen areas in various sized lined bins and then transferred into 240L MGBs, which, once full, are taken down to the loading bays. Once the bins arrive at the loading bays, the glass bottles are manually removed by the cleaning staff and placed into holding bins. This in itself presents an opportunity for improvement, i.e. OH&S and double handling.

Garbage is presented at the loading bays after following a similar collection process to the recycle. However, rather than being emptied into holding bins, the garbage remains in separate 240L MGBs to be collected daily. On further inspection it was observed that a number of these bins were either half full, or contained plastic bottles, which create air pockets in the bins.

Due to the large number of trade exhibits being held in the Convention Centre, including other sources, large quantities of cardboard packaging are generated on a regular basis. Currently there exist two leased compactor/balers located, one at each loading bay.

With regard to the collection of garbage and recycling from the lower loading bay (below the Tower), it is also worth noting that space and access restrictions make it difficult for service contractors to collect garbage and recycling bins from this area.

1.2. Kitchen/ Bar Areas

The numerous kitchen and bar areas located throughout Wrest Point each present a number of challenges, of which space restrictions seems to be a common factor. It is in these areas that the first examples of source separation are taking place. Each area has separate garbage and recycling receptacles of varying sizes, each lined with a black bin liner. It is however, difficult to ascertain which receptacles are being used for garbage and which are being used for recycle, as none of them are labelled in any way. This might also account for the occasional items of contamination ending up in the holding bins.

For OH&S reasons a separate bin is located in each kitchen/ bar area for the collection of broken glass and/or crockery.

No provisions are currently in place for the recovery of HDPE plastic milk containers, which at present, are ending up in the waste stream. In the main kitchen alone approximately 108 empty 2L milk containers are being disposed of daily, with larger quantities being generated in the busier periods.

2. Stage 1 Recommendations

2.1 Baseline Audit

It has been proposed that a baseline audit be carried out over the course of one week to measure quantities of recyclate being generated in the Casino Bar, Pier One bar, Pier One Kitchen, Main Kitchen and Pastry Kitchen.

2.2 Infrastructure Improvements

Following the baseline audit, it is proposed that improvements be made to the above mentioned bar and kitchen areas regarding bin signage and handling procedures.

For OH&S reasons, it is recommended that one or two portable battery operated bin lifters be purchased for utilisation at the loading bays to assist with the emptying of the MGBs into holding/ skip bins.

To improve economies of scale, it is suggested that Wrest Point look at the current contract arrangements in place with the aim of improving on the number and type of collections i.e. replacing the existing daily separate MGB garbage collection service with a less frequent skip bin service and investigating options for running a commingled food and beverage container system that may or may not also include cardboard.

2.3 Current Waste and Recycling Data

In order to make improvements to the current systems and services in place, it will be necessary to obtain the following information from Wrest Point:

- 2.3.1** Tonnages of garbage and recycling being collected by service provider/s for the last twelve months or over the last three years (if available). This will give a better picture of any trends needing to be accounted for.
- 2.3.2** Present service arrangements and costs. For the purpose of evaluating improvements that can be made.
- 2.3.3** Any current employee induction material relating to the handling of waste and recycling. This will then allow for the modification of existing material and/or the development of new material.

2.4 Second Audit

Following the implementation of improvements to infrastructure arrangements, it is proposed that a second audit and site visit be carried out (after a honeymoon period of

approximately three months). An interim review of the program will then be discussed at this time prior to moving on to stage two.

Shaun Cousins
(SWSA)

John Donaghy
(AFGC)

APPENDIX C

SUMMARY OF RELATED BIEC PROJECTS

a) 4 and 5 Star Hotel Co-mingled Recycling Project

The average composition of waste from a number of Melbourne CBD 4 and 5 Star Hotels was found to be (weight basis):

- 17.6% beverage containers
- 19.0% other recyclables
- 22.0% dry general waste
- 41.4% wet general waste (mainly food)

As a result of the project, an average of 55% of recyclables was recovered (best 89%), including 75% of beverage containers.

b) 3 Wise Monkeys

With very limited room back-of-house, over 75% of recyclables were recovered, including 100% of glass. BIEC provided educational/ promotional material (e.g. coasters etc), to raise staff awareness, resulting in zero contamination in glass and less than 1% in cardboard.

c) Castle Hill Tavern

A co-mingled recycling trial was introduced, with infrastructure and educational/ promotional material provided, resulting in over 75% of material recycled, compared with almost zero previously. The recovery rate of bottles and cans was over 90% and cost savings were estimated at \$550 per month.

d) Coogee Bay Hotel

This hotel already had a recycling program in place, but after fact sheets and promotional materials were provided by BIEC, the recovery rate improved from 39% to 64%.