

3.6.3 The Office of City Management could aid recycling through buying recycled oil and paper products, if it were economical to do so.

3.6.4 The Department of Arts, Sport, Environment, Tourism and Territories suggested that the ACT should investigate joint ventures with industry on processing ACT's recyclables.

3.6.5 A recent Commonwealth Government study has recommended that the Government use its buying power to create a market for recycled paper products – items which are not required to be held for more than ten years or presented to Parliament. It found that recycled paper is not suitable for high-speed printing or for records that are likely to be used often or kept indefinitely.

3.6.6 The Committee notes that the Industries Assistance Commission has been asked to inquire into the costs and benefits of recycling, both economic and environmental. Institutional, regulatory or other arrangement affecting the incentive to recycle are also be investigated. The report is due by February 1991.

4. OPTIONS FOR EFFICIENT COLLECTION OF DOMESTIC WASTE

4.1 Overall Strategy

Principles of Efficient Disposal

4.1.1 Given that over one third of all waste disposed at landfill is generated from households, the Committee believes that efficiency in collection will reduce the need for landfill in the future through improved management of landfill today.

4.1.2 There are many benefits to be realised for both residents and the ACT Government with improved efficiency of collection. A more efficient collection system should ensure householders have the capacity to dispose of the majority of their wastes through the domestic collection system. It should provide value for money in terms of both energy and environmental considerations as well as being relatively cheap.

4.1.3 The Committee agrees with the Office of City Management that a long-term waste collection strategy should:

- . service the needs of the community through the provision of a sanitary system that conserves and protects natural resources and the environment
- . be cost efficient and economically viable
- . be accountable and responsive to the changing needs of the community
- . ensure a safe working environment for workers, and that others are protected from hazards

4.2 Automated Collection System

Why Change the Present Collection System?

4.2.1 One of the drawbacks of the present system is that garden waste is not allowed in the small bins, thus placing the onus on householders to dispose of this type of waste either through paying private firms to remove the waste or by dumping it. The size of the present 55 litre bins militates against the disposal of large objects – householders are again required to find means of disposing of this type of waste. A more efficient system would reduce the use of environmentally unsound disposal methods.

4.2.2 The Office of City Management suggested that the collection of domestic waste needs to be rationalised to reduce the overall costs of waste management through:—

- . a reduction in the large number of individual trips by householders to the tip face and disposal sites
- . efficient collection of all household waste
- . improvements to the occupational health and safety of collection workers

4.2.3 The Australian Environment Council reported that back injuries caused by workers lifting 55 litre bins and injuries from sharp objects in the garbage have been dramatically reduced with the introduction of big bins. The three-person system is currently used both on the north and southside collections. Two contractors from the northside told the Committee that there had been very little injury to the workers using the current system although there has been one waste collector who was killed after being hit by a garbage truck.

Automated Collection System – One Person Collection System

4.2.4 In some municipalities, associated with the big bin system, is the use of a one-person collection system. Instead of one person to drive the garbage truck with two people running behind manually emptying bins, only one person is needed to both drive the garbage truck and empty the bins. Mechanical arms are attached to each side of the truck, and through a consol operated by the driver, bins are picked up from the kerbside and the contents tipped into the truck.

4.2.5 The arguments given in favour of this system include:—

- . reduced occupational health and safety claims by workers injured in picking up small bins
- . reduced direct staffing costs
- . increased productivity
- . improved worker environment
- . increased employment longevity for workers

4.2.6 The Office of City Management indicated that new legislation in the ACT will provide a statutory obligation on employers to provide new workplace health and safety arrangements to assist in eliminating workplace hazards including those in the waste collection and disposal area. Employers' duties include:—

- . ensuring workplace and equipment are safe and without risks to health
- . ensuring work systems are safe and without risks to health
- . implementation of special workplace arrangements

4.2.7 The one-person collection system is the ideally safest possible work system currently available in waste management technology.

4.2.8 Access to bins on the kerbside is needed to introduce this system. Many of Canberra's roads are wide enough to ensure a truck would have access to the bins on the kerbside. However the Committee notes that there are a number of poorly designed narrow streets, in both the older suburbs and in a few of the newly developed suburbs in Tuggeranong, forcing householders to put their garbage on the nature strip at the mouth of the small roads. These problems will remain those of the city planners. The Master Builders' Construction and Housing Association believes that the standards set for roads to enable the wide turning circles of garbage trucks is unwarranted and adds to the costs of subdivision.

4.2.9 The original members of the Committee saw the 'Rapid Rail' system in operation in the Ku-ring-gai municipal. As well, Pacific Waste Management and Waste Hawk also provided the Committee with videos on slightly different automated systems including the use of the low entry vehicle and automated lifting arm.

4.2.10 The Committee was told that under the one-person system used in Ku-ring-gai, the drivers have more involvement with their job. They are given total responsibility for maintaining and fixing bins whilst on the garbage round, adding to their job satisfaction.

4.3 Use of Big Wheelie Bins

4.3.1 Many submissions claimed that the most efficient and safest method for collecting domestic waste is using a one-person automated system, in conjunction with big bins. No discussion of efficient methods of domestic waste collection is complete without considering the issue of big bins. The current fleet of garbage trucks can be converted to a one-person collecting operation (using a 240 litre wheelie bin) and five additional new trucks purchased at a capital cost of \$2.8 million. This costing is based on the conversion to the Rapid Rail system, although there are other systems available.

4.3.2 The use of 240 litre domestic garbage bins is known as a 'total collection system'. This is because householders are able to dispose of the widest possible range of wastes, from prunings, old furnishings, objects too big to fit in the small 55 litre bins as well as food scraps and the usual garbage. The bins are usually collected weekly, and although there is a larger volume of garbage collected because of the increased capacity of the bin, there is a decrease in the amount of rubbish privately dumped at the tip by householders.

4.3.3 There were slightly more submissions favouring the introduction of big wheelie bins than there were against. Following an ambiguously worded article on the inquiry in one of the local free newspapers in Canberra, many people rang the Committee Office to give their opinion as to whether or not they wanted big bins. Although the opinions may not be typical of community concerns, 15 people were in favour of big bins and one against. The range of opinions forwarded in the written submissions are listed below.

Arguments for Big Bins

4.3.4 Reasons given for replacing the current system and introducing big bins included:

- . small bins cause traffic hazards, especially when placed close to driveways
- . small bins cause unnecessary mess to the local amenity
- . big bins reduce the demand by households for access to the tips
- . householders would be provided with a means to dispose of bulky refuse and garden rubbish
- . the design of the bin prevents dogs from knocking them down
- . the current small bins are easily blown around the windy streets of Canberra creating a driving hazard
- . big wheelie bins would make it easier for elderly people, especially those only partially mobile, to wheel out their bins rather than to lift and carry out the small bins as they do now
- . the task of the garbage collector would be safer and much less objectionable
- . tin lids easily become distorted which make it hard to keep the contents of the small bin intact
- . the big bin has health and environmental benefits in that all waste is securely contained and less prone to infestation and attack
- . weekly collection means only one, not two, early morning disturbance to residents
- . collections of unused bulky household items would no longer be necessary
- . the need for backyard burning is removed

Arguments Against Big Bins

4.3.5 Reasons given for not introducing big bins included:

- . big bins only reinforce the belief that all waste is disposable and not worth recycling
- . the old and infirm and those with physical disabilities would have difficulty using them especially wheeling them up and down steep blocks
- . people are encouraged to put more out for garbage leading to a wastage in resources and increasing the cost of maintaining landfill

- . big bins would discourage users from recycling and separating glass
- . the big bin is ugly and creates a visual pollutant especially if householders leave them permanently on the nature strip
- . after a few days in the sun, the garbage sitting in a big bin would become malodorous, especially with throwaway baby nappies etc. The smell also remains in the plastic
- . the large capital costs involved with equipping a one-person big bin collection system would be borne by the rate payer
- . time taken to empty a bin using an automated arm is longer than that required to manually empty small bins
- . the total weekly maximum volume for each householder of one 240 litre bin will be less than the current maximum volume of 340 litres under the twice weekly collection system
- . the current system is quick, efficient and provides employment on a larger scale than a big bin automated system would provide
- . not all householders would use the volume of a large bin, especially the elderly and those living on their own
- . leverage of the bin to rolling position would be difficult for short people thus discriminating against women, infirm and elderly people

4.3.6 Other interesting comments made in submissions were that big bins would mean one's "life membership to the tip" could lapse and would be "progress as was sewerage replacing the nightcart".

4.3.7 One submission requested that if big bins were introduced, garbage still be collected twice weekly to ensure that decomposing rubbish, especially in the summer months, did not cause a health risk. Another submitted that if a recycling education campaign accompanied the introduction of big bins, a weekly service only would be needed. The 55 litre bins now used in Canberra could be used as storage containers for recyclable material such as glass and paper.

4.3.8 A number of individuals requested that if big bins were introduced each householder be given the option to retain the current 55–85 litre bins. This option was given to residents in the Ku-ring-gai Council when it introduced the 340 litre bins. However within a period of about two years, all households were using the big bin system. It is interesting that mandatory recycling is now being trialled by that Council.

4.3.9 Where big bins have been introduced, the Committee was told, they have been widely accepted.

4.3.10 One submission stated that instead of changing to a sturdier big bin, dog laws should be strengthened to enable dog catchers greater powers to enter properties and catch strays. Dogs are not prevented from knocking down the small bins now because of the lax dog laws.

4.3.11 In 1985, the previous ACT House of Assembly recommended the introduction of a total waste collection system using the 240 litre bins in conjunction with automated collection trucks. It also refuted claims that old or frail people would be disadvantaged by the big bins asserting that the bins are designed for maximum ease being on wheels. In any event the Committee believes that if elderly or frail people would have trouble handling a big bin they would certainly be unable to carry out the current 55 litre bins.

Use of the "Small" 120 Litre Big Wheelie Bin

4.3.12 Arguments on the disadvantages and advantages of the big bins are usually predicated on the size of the big bin being 240 litres or 340 litres. However there is a "small" big bin available which is 120 litres. Being much smaller than the 240 litre bin it is more easily used. It would have the benefits of the larger wheelie bins but would have few of the claimed disadvantages. It would hold much less waste. There were some submissions from individuals, who, although against the introduction of the big bins, believed that smaller wheelie bins would be acceptable.

4.3.13 The Trades and Labour Council advocated the introduction of small big bins. They suggested that four colour coded 120 litre bins be given to householders (shared by flat dwellers). One bin would be the receptacle for waste and the three others for recyclable materials.

4.3.14 The Conservation Council of the South East Region and Canberra Inc advocated the use of the 120 litre bins complemented by a comprehensive recycling scheme to ensure waste volumes would be catered for. Their proposal includes:—

- . households be issued with crates for paper, glass and cans
- . recyclables be collected weekly
- . garbage be collected weekly

4.3.15 The total volumes of both the 120 litre bins combined with three or four crates as advocated by the Council, would almost equal the total maximum volume now set for weekly household collection (2x85 litres twice weekly = 340 litres).

4.3.16 Compared with the current system which allows householders a disposal capacity of 340 litres, the 120 litre bin would mean a decrease in the maximum disposal capacity of 280%. On average, householders leave out 2.2 bins per week, using 140 litres of disposal capacity.

Impact of Big Bins on Recycling

4.3.17 The Conservation Council submitted that the 120 litre bins would not have as an adverse effect on recycling as the 240 litre bins would.

4.3.18 The North Sydney City Council does not see the need for the introduction of big bins, believing that they would in any event be counter-productive of the recycling effort. The Council has a comprehensive waste collection service which allows householders one 55 litre bin collected twice weekly, as well as a weekly hard rubbish collection to remove old furniture and garden rubbish etc. Also collected weekly are recyclables – aluminium cans, glass, paper, PET and clean steel cans. The Council hopes to achieve a recycling target of 37% by weight of garbage.

4.3.19 It was impressed upon the Committee that the use of big bins (the 240 litres and 340 litres sizes) militates against recycling programs. The Ku-ring-gai Council and other councils who met with Committee members were of the view that no matter what the size of the bin, householders seem to fill it up.

Increased Volumes of Waste

4.3.20 The 1987 report on the impact of big bins on recycling by the Australian Environment Council addressed the effect big bins have on the waste generation rate. It concluded that the introduction of a 240 litre bin is unlikely to cause an increase in the total quantity of waste generated by households. The experience of other councils is that with the introduction of the bin, volume of waste for collection initially increases as the householder takes advantage of the larger disposal capacity. This increase has ranged from 30% to 100%.

4.3.21 The report states that when the increase in capacity is large, so too is the increase in waste. However there is still a notable increase in waste quantities even where there is only a small change in disposal capacity. This is because of the capacity of the big bin to accommodate bulky items. Significant contributions to the increase in garbage collected through big bins are made by packaging materials too bulky for the 55 litre bin.

4.3.22 It is reported that the Rockdale Council (NSW) replaced their twice weekly single 55 litre domestic collection service with a 120 litre bin collected weekly. The capacity increase of 9% resulted in only a minor effect on the total waste quantity.

4.3.23 If a 120 litre bin was used in the ACT, the total tonnage of domestic waste disposed at landfill each year is anticipated to remain the same, currently 111 450 tonnes. The Office of City Management submitted that if the 120 litre bins were introduced a twice weekly system would need to be introduced to ensure enough capacity is available for the increased volume of materials such as prunings.

4.3.24 Currently organic garden wastes are not allowed in the 55–85 litre bins. Typically councils allow householders to dispose of garden refuse in the big wheelie bins. Those opposed to the introduction of big bins include small businesses operating a trashpak service collecting garden clippings and other bulky nontoxic dry waste from households. The Committee has been told that big bins would effectively undermine the trash service businesses in Canberra.

4.3.25 The introduction of big bins in councils is almost always preceded by a ban on backyard burning – big bins offer a "total collection system" which includes a means of disposing of garden waste which no longer needs to be disposed of by the householder through incineration or dumping.

4.3.26 From a study on a number of municipalities in New South Wales and Victoria, it appears that the biggest contributor to the increased quantities of waste collected in the big bin is garden wastes, comprising from 50% to 97% of the increase.

4.3.27 The Conservation Council submit however that their proposal of a 120 litre wheelie bin with a number of recycling containers would not be compatible with collection of garden waste and question whether collection of garden waste is desirable anyway.

4.3.28 When the Committee visited the Ku-ring-gai Council in Sydney, members watched a garbage collector do a run. Many of the 340 litre bins used were not used to capacity and much of the volume appeared to be garden waste.

4.3.29 Currently 46% of the population in Victoria is serviced by big bins, mostly 240 litre size. Many councils, waste management firms and government bodies stressed to the Committee that before introducing big bins, an effective recycling program ought to be well entrenched. It is only in this way that the extra volumes of waste collected would be avoided.

Impact on Current Contracts

4.3.30 The current contract with Waste Hawk on the southside provides for conversion to the automated big bin system. Contracts for the northside may be terminated on one month's written notice. No contractual penalties would be incurred if a one-person automated collection system with big bins was introduced into Canberra.

4.3.31 The Committee heard that the present system, on a purely monetary basis, was cheap. The high productivity achieved is due to the high number of bins emptied per day. This is especially so on the northside where the cost of domestic waste collection is almost half that of the southside.

4.3.32 Although a number of private waste management companies canvassed the possibility of the private sector owning and maintaining its own garbage truck fleet, bins and depots, there are operational advantages with the ACT Government retaining ownership. With government ownership it is much easier to control maintenance standards and to change contractors quickly if they fail to perform their contractual duties.

4.4 Costs and Benefits of an Efficient Domestic Collection System

4.4.1 The Committee looked at the cost and benefits of introducing big bins which ultimately, through the rates system, will be passed onto households. These are outlined below:

Capital Costs

4.4.2 The Office of City Management submitted figures on the cost of changing over to a one-person automated Rapid Rail big bin system with dual control cab and big wheelie bins. The capital cost is based on the darg (number of bins collected per day) decreasing to 750 from an average of 1200. This means that an extra five trucks would need to be purchased. The existing 25 garbage trucks would also need to be converted with a compaction unit and fitted with an automated arm. The existing compaction units of the trucks would be sold. In total, the net capital cost is estimated at \$2.8 million.

4.4.3 Savings of perhaps \$200 000 may be made if the darg is increased to 850 bins but this would be the subject of negotiation with contractors and the relevant unions. Further savings on the figure may be made through the purchase of a single control cab. The more expensive Rapid Rail system gives more flexibility in lifting bins, especially on slopes.

Labour Savings

4.4.4 Weekly collections only would be necessary with a big bin system. Changing from a three-person twice weekly system to a one-person weekly system would reap net savings in wages, even though the darg would be lower. Premiums on workers' compensation would also be lower because the total wages bill would be less. The previous House of Assembly estimated that there would be a 50% saving on wages using a one-person system over the current 3-person system.

Cost of Bins

4.4.5 The cost of 120 litre bins ranges from approximately \$43.00 to \$52.00. No price is available on the Rapid Rail 120 litre bins. The cost of a Rapid Rail 240 litre bin is approximately \$82.00, whilst other brands of similar size cost approximately \$50.00. The higher cost of Rapid Rail bins reflects the lengthier 10 year guarantee on the bins.

4.4.6 Other costs associated with purchasing the bins is that of assembly and freight charges of approximately 75 cents per bin.

4.4.7 Based on the Rapid Rail system, the total cost for the purchase, assembly and transportation of bins for the 91 334 households in Canberra is approximately \$7.5 million. Over the lifespan of the bins, say 10 years, spread across 91 334 households, the cost is approximately \$8.00 per annum per household.

4.4.8 This figure is almost half that now spent by householders on purchasing bins every year. Under the present system, householders are required to purchase their own bins, and given their short lifespan, households may need to purchase one bin per year at the cost of approximately \$15.00. In total, net savings of almost \$1.4 million per annum would accrue to the household sector though the use of big bins.

Better Management of Landfill

4.4.9 The Committee is aware that in order to ensure tip space is efficiently used now for the future needs of the ACT, management of the sites must be tightly controlled. This control will not occur whilst householders are encouraged to use the tips continuously. Overall householders are estimated to make over one million visits to the tip each year. The length of the tip face needed to service the huge volume of traffic exceeds 200 metres. This length of tip face dictates the way the tips are operated.

4.4.10 With the introduction of an efficient household collection service for garbage, householders will not need to visit the tips nearly so often.

4.4.11 The Office of City Management submitted that if a total collection system were introduced it would cut by 80% the number of visits made by householders to the tip. This phenomenon was observed by the Waste Management Authority at some regional waste disposal facilities.

4.4.12 ACT householders are estimated to spend approximately \$4.5 million in petrol, oil and time visiting the tips. With the introduction of a total collection system with big wheelie bins, it is estimated that tip visits by householders will decrease by 50%–80% thus saving between \$2.2 and \$3.2 million. There would be less wear and tear on vehicles and householders would have more free time to enjoy other activities.

4.4.13 With less traffic, landfill sites could be operated more efficiently. More compaction of the tip face could be carried out thus lengthening the life of the tip. Covering garbage is an important aspect of tip management but with the current high volume of traffic, it is not possible for operators to cover the face daily but with less traffic, daily covering operations would be possible. Overall savings of \$200 000–\$300 000 could be made with more efficient landfill operations if householders decreased the number of trips to the tips.

Litter

4.4.14 With the introduction of a big bin system, savings of approximately \$168 000 would be made because of the reduced volume of litter to pick up. Household bins being struck by dogs, and uncovered trailers spoiling the access roads to tips contribute to the high costs of cleaning up litter in Canberra.

4.4.15 The Committee rejects the claim that with tip charges, more people would be encouraged to dump rubbish in national parks and other convenient locations thus contributing to the litter problem. As stated in the summary of this report, the introduction of tip charges must be considered in relation to the introduction of a better and more efficient domestic garbage collection service which will substantially reduce the need for the majority of householders to dump any waste at all.

Noise

4.4.16 One submission noted that it was unfair that their household be woken twice per week – on equity grounds, the garbage route should be rotated so that the inconvenience of early collections is shared by all members of the community.

4.4.17 Another positive aspect of introducing an efficient automated system is that one-person automated garbage collection would start later in the morning, thus reducing the noise disturbances created with the current very early morning start.

Summary of Costs/Benefits

4.4.18 The total costs to be met with the introduction of a one-person automated big bin system are summarised below:

4.4.19 Currently the total cost of the domestic collection service is approximately \$3 million per year. With the big bin automated system, these contract collection costs are estimated to rise to approximately \$3.6 million per year. Calculations are based on 91 334 households in Canberra. Component 2 is a net cost and includes the purchase and maintenance of bins for all households (estimated at \$7.5 million to be paid over a 10 year period), labour savings, and workers compensation.

	Total Costs	Cost Per Household
1. Capital costs (conversion/purchase)	\$2.8M	\$4 (7 years)
2. Net extra contract collection costs	<u>\$0.6M</u>	<u>\$5</u>
	<u>\$3.4M</u>	<u>\$9</u>

4.4.20 The total benefits to accrue with the system per annum are:

	Total Savings	Savings Per Household
1. Bin purchases by householders	\$1.4M	\$15
2. Tip trips by householders	\$2.2–3.2M	\$24–\$35
3. Better landfill management	\$0.2–0.3M	\$2
4. Litter	\$0.168M	\$1.80
5. Noise		
	<u>\$3.97–\$5.07M</u>	<u>\$42.80–\$53.80</u>

4.4.21 Comparison between the costs and benefits are easily made, even though no monetary amounts are available for the savings in labour and the quality of life improvements with decreased early morning noise levels. The above figures indicate that, on average, householders would save at least \$33.00 every year for the convenience of an automated big bin system.

4.4.22 Pacific Waste Management claim that investment in hydraulic lifting devices and one-person crews with big bins will result in marginally improved productivity in terms of the number of homes serviced each week. They note that productivity is a function of the type of system used, proximity of landfill, and negotiations with trade union bodies.

4.4.23 The Committee recommends that:

- the most efficient method of collection of domestic waste is the one-person collection system in conjunction with the use of big wheelie bins**
- the ACT Government refer to the Interim Territory Planning Authority the difficulties faced by residents in poorly designed narrow streets in receiving kerbside collection of their waste**

4.4.24 Although the maximum weekly disposal capacity is 340 litres, on average, householders dispose of only 140 litres. If 100% participation rate of a door-to-door collection of recyclables was achieved, and the volume of recyclables in the waste stream decreased, householders would still need a disposal capacity of 110 litres.

4.4.25 To provide a total collection system there must be enough room for householders to also dispose of their garden waste. With a 120 litre bin, householders would only have a very limited capacity to do this.

4.4.26 Although evidence was put before the Committee that the optimum size wheelie bin to maximise recycling is the 120 litre size, the Committee believes that, with this size, a twice weekly collection of waste would be necessary. This would involve excessive financial burden on the ratepayers of Canberra.

4.4.27 The Committee therefore cannot endorse the use of 120 litre size bins as an efficient method for the collection of domestic wastes. A bigger bin is needed to achieve a total collection system and for real savings to accrue to households.

4.4.28 The Committee was advised that, with the automated lifting equipment, it is not possible for households to choose whether to use a smaller or bigger wheelie bin. Also, there are standard bin sizes of 120, 240, and 340 litres – it would be a very expensive exercise for the ACT to have specially manufactured a non-standard bin size, for example, of 180 litre size.

4.4.29 The Committee recommends that:

- **the ACT Government trial the use of 240 litre bins in a selected zone in Canberra, with the aim of introducing big bins in all zones**
- **the trial use of big wheelle bins be introduced well after the recommendations relating to door-to-door collection services and recycling measures are introduced**
- **with the introduction of big bins, domestic waste be collected weekly**

4.4.30 Given that there are a number of high density flats in particular areas of the ACT, the Committee suggests that the ACT Government look towards more economical means of providing large disposal containers for these householders.

4.4.31 The Committee acknowledges that it is up to the ACT Government to decide how best it wishes to implement the above recommendations.

Industrial Relations

4.4.32 The Committee can foresee that with the introduction of one-person collection system from the current three-person system some uncertainty about future careers for current waste management workers may arise.

4.4.33 For example when Ku-ring-gai introduced the one-person automated system, the workforce employed in domestic waste collection decreased from 75 employees to 10. In Victoria the affected work unions might accept such a changeover to an automated system if there were positions in recycling for displaced workers.

4.4.34 The Committee recommends that:

- **the ACT Government negotiate with unions well before the planned introduction of the one-person collection system**

4.5 Hard Rubbish Collection

4.5.1 The Committee does not believe that a well planned waste collection system ought to rely totally on a big bin as the only means to improve the management of landfill. Even with the eventual introduction of big bins, householders can be further encouraged to decrease their trips to the tip through the introduction of a door-to-door hard rubbish collection.

4.5.2 A number of submissions called for an annual or twice annual collection of bulky rubbish. This suggestion came from those who did not want big bins but had no other reasonable means by which to dispose of their rubbish or did not wish to go to the tip. There will always be large objects which do not fit neatly into the big bin and many people who are too old, frail or without a car for whom it is difficult to get rid of unwanted large wastes.

4.5.3 The Office of City Management suggested a trial of a hard rubbish collection on a six to twelve monthly basis.

4.5.4 One option which the North Sydney City Council used was a system whereby if householders needed a hard rubbish collection, they could ring a 'hotline' and a date would be arranged with them. This system may be more cost-effective than strict timetabled pick-ups at certain times during the year for all households which may not need the service.

4.5.5 Although the Committee has not fully costed a hard rubbish collection, estimates, based on similar collections interstate, indicate that it could cost in the vicinity of \$0.5 million, or \$5.00 per household per annum.

4.5.6 The Committee recommends that:

- **the ACT Government introduce a hard rubbish collection for all householders on a 'needs' basis**

4.6 Alternatives to Conventional Domestic Collection Services

4.6.1 More than one waste management company suggested to the Committee that local government be relieved entirely of providing a domestic waste collection service – waste management should be contracted out to the private sector.

4.6.2 It was put to the Committee that residents should be able to negotiate directly with private waste contractors for collection of waste. Residents would be billed separately for waste collection services depending on the amount they generated. It would be possible under this scheme that residents would be charged an annual fee for excess domestic garbage.

4.6.3 The theme of "user pays" was made in a few submissions – one stated that households who don't recycle should be charged \$2.00 per garbage bag collected. Stickers for \$2.00 could be made available through post offices and that portion of the rates bill charging for domestic collections be concomitantly reduced under this system. Further, the recycling centres would be attended by officers checking that no garbage is dumped there – this would create employment.

4.6.4 Women's Association of Builders, Organisers and Designers of the Environment (ABODE) noted that such a system of purchasing "rubbish tickets" and attaching one to each garbage bag was used in the USA. It was claimed that rubbish volume was immediately decreased by 35%. The system could encourage waste minimisation.

4.6.5 The Trades and Labour Council submitted that revenue could be raised through levies on the registration of waste disposal vehicles.

4.6.6 The Committee considered that the practicalities of implementing any of the above proposals would be unlikely to outweigh any advantages.

5. OPTIONS FOR EFFICIENT COLLECTION OF COMMERCIAL WASTE

5.1 Overall Strategy

5.1.1 It is estimated that commercial and trade waste comprises almost 16% of the waste disposed at landfill. Builders' spoil comprises another 30%. Although a number of commercial businesses may separate their off-cuts from waste disposed, the Committee believes that recycling is an important key to minimising the volume of commercial waste disposed at landfill.

5.2 Collection

Collection of Commercial and Trade Wastes

5.2.1 Commercial enterprises are required to make provision on their premises for the storage and collection of their wastes and delivery to landfill. Commercial premises usually pay a trade waste contractor to collect and haul the waste to landfill. Unlike households, commercial enterprises are not charged in their rates for a specific component for waste disposal.

5.2.2 Government waste is handled in much the same manner as is waste from the commercial sector. Canberra Paper and Cardboard Recycling Co currently collects and sorts paper from government offices in an arrangement with the Department of Administrative Services.

5.2.3 The majority of trade waste is generated by government and comprises high quality paper. The rest comprises waste from commercial premises.

5.2.4 The Office of City Management, through its Urban Services Branch, runs a small commercial trade waste collection service which collects 30% of the total volume of trade waste.

Builders' Spoil

5.2.5 Builders' spoil comprises mainly waste and disused building materials such as wood, concrete and steel. Much of the builders' spoil comes from major Commonwealth works. Although the volume is difficult to calculate because of the lack of weighing facilities, it is estimated that builders' spoil disposed at landfill sites is in excess of 92 500 tonnes per annum, which is almost 30% of the total waste volume.

5.2.6 At the two landfill sites there are specific areas set aside for the disposal of clean builders' spoil. The Office of City Management notes that there were problems associated with the management of separate landfill sites specifically for the disposal of builders' spoil. These include:—

- . cost of maintaining sites
- . difficulties in policing waste entering the sites
- . overall planning and environmental considerations

5.3 Efficient Collection and Recycling of Commercial Waste

Commercial and Trade Wastes

5.3.1 There is no program in place for the recovery of wastes generated by the commercial sector. The Office of City Management submitted that they could not estimate the amount of recyclables which are in the commercial waste stream because no sampling has been carried out.

5.3.2 The waste from commercial premises varies greatly – for example, restaurants and clubs might produce a lot of organic waste and glass, whilst banks might produce only high quality paper. Hence source separation of waste from premises would be achievable.

5.3.3 The Trades and Labour Council asserted that cost efficiency of recycling initiatives are not fully achieved if there is incompatibility between domestic and commercial recycling strategies. If an obligation is imposed on households to recycle then the obligation ought also to be imposed on the commercial sector.

5.3.4 Other submissions called for mandatory recycling by major retailers, especially of cardboard, paper and plastics and called for the provision of recycling bins to retailers.

5.3.5 Canberra Paper and Cardboard collects from a number of commercial premises, including supermarkets. Many of the supermarkets, though not all, compress and bale the waste for easy removal.

5.3.6 The Office of City Management suggested establishing a recycling collection based on the individual type of recyclable material produced by each business. Recycling bins could be provided for individual premises. A recycling fee could be paid to those premises participating in the recycling scheme. Fees imposed on commercial businesses to dump at landfill may discourage waste generation.

5.3.7 Legislation can play an important role in ensuring that commercial premise implement waste minimisation and good recycling practices. As the Office of City Management notes, legislation can play a vital role to ensure that industry takes account of environmental factors.

5.3.8 The Committee recommends that:

- **commercial premises be required to provide for the collection and disposal of the bulk of recyclable materials generated**
- **the ACT Government Investigate the need for legislation to enforce recycling in the commercial sector**

5.3.9 One submission argued that there should be a system whereby adequate competition is maintained between the available trade waste service providers.

5.3.10 The Trades and Labour Council submitted that revenue should be raised through fees for licensing commercial waste disposal companies.

5.3.11 The Office of City Management noted the chemical recycling scheme run by the Environmental Protection Section whereby businesses wishing to dispose of their waste chemicals are put in contact with others wishing to buy them. The Committee commends this recycling program.

Builders' Spoil

5.3.12 The Committee could find no indication of widespread recycling, yet with 30% of the total volume of waste generated in the ACT every year as builders' spoil, every effort should be made to recycle at least a small portion of it.

5.3.13 The Committee was also told there is a large amount of soil and excavation material being dumped at landfill, especially coming from the newly developing areas of Tuggeranong which could be put aside in a special area for retrieval by builders and others who need fill. However the Office of City Management submitted that the majority of builders' spoil received at the landfill sites is unrecyclable. A certain volume of excavation material is needed as cover material for the rubbish.

5.3.14 Stricter supervision of dumping of builders' spoil at the landfill sites would be essential to separate materials which could be used for road building, such as rock from those materials which cannot. In some municipalities, the waste rock is crushed and used in building roads.

5.3.15 It was suggested to the Committee that timber off-cuts could be left with places like Revolve Ltd who recycle such goods.

5.3.16 The Committee recommends that:

- **the ACT Government investigate the extent to which builders' spoil can be recycled, especially its use in relation to:**
 - (i) **road building**
 - (ii) **community recycling in Tuggeranong and other new areas**

6. LITTER AND WASTE MINIMISATION

6.1 Overall Strategy

6.1.1 Measures such as recycling go a long way in reducing the amount of garbage that has to be landfilled. However steps can be taken before the recycling stage to ensure that the least possible volume of waste is generated. One of the principal tenets used by waste management authorities visited by the Committee is that of waste minimisation.

6.1.2 Waste minimisation contributes to a reduction in the costs of waste management. Many of the environmental groups stressed the need for a comprehensive waste management policy which aimed at minimising waste volumes to decrease harmful long term environmental effects of waste production and disposal.

6.2 Packaging

6.2.1 Minimising the resources put into packaging of consumer goods has been a popular suggestion to the Committee.

6.2.2 Many practical suggestions were made about what individuals and shopkeepers could do to minimise the amount of packaging used in shopping. Already one supermarket in Canberra is promoting recycling of used plastic carry bags by giving shoppers the chance to contribute to a major environmental group.

6.2.3 The Office of City Management submitted that the State, Territory and Commonwealth Governments could influence the large amount of waste produced from packaging by placing restrictions on the use of unnecessary packaging. One group requested that the ACT Government influence other States to introduce uniform packaging guidelines. To reduce the quantity of packaging material would require substantial modification to industry practices. The Department of Arts, Sport, Environment, Tourism and Territories suggested that the ACT put pressure on retailers not to supply needless plastic packaging to buyers.

6.2.4 The Victorian Parliamentary Committee on Natural Resources and Environment in its discussion paper on waste management (July 1989) made a draft recommendation that "the feasibility of standardising containers should be examined in order to broaden the range of containers that can be recycled". One suggestion to that Committee was that the number of plastics used for containers be limited to two.

6.2.5 The Committee recommends that:

- **the ACT Government consult with the other State, Northern Territory and Commonwealth Governments to consider ways of reducing the amount of packaging materials now used throughout the community including government agencies**

6.3 Green Spot Labelling

6.3.1 It was also suggested to the Committee that products which are "environmentally friendly", using less resources in their manufacture, could be promoted. One submission noted that Goulburn used milk cartons which are made from non-bleached recycled cardboard.

6.3.2 The ACT Recycling Campaign submitted that the government should introduce comprehensive guidelines on resource consumption. These principles should be entrenched by legislation.

6.3.3 Victoria promotes its own 'Green Spot' labelling program. A panel has been appointed to assess whether consumer goods could be classified as environmentally friendly. If they are they receive a green spot. Obviously this scheme has benefits for manufacturers in an increasingly environment conscious marketplace. The Commonwealth Government announced in September 1989 that it would hold an inquiry into the marketing and promotion of goods described as environmentally friendly. National standards by which goods can be judged were desirable in order to protect the consumer from misrepresentations. The environmentally friendly logo used in this campaign was devised and promoted by the United Nations.

6.3.4 The Committee recommends that :

- **to minimise waste, the ACT Government consider the introduction of a 'green spot labelling' program**
- **the ACT Government liaise with the other State, the Northern Territory and Commonwealth Governments on any such scheme to ensure uniformity across State boundaries**

6.4 Litter Control – Current Arrangements

6.4.1 The Office of City Management is responsible for street cleaning and litter control. This costs approximately \$1 million per year comprising \$856 000 in collection costs and \$159 600 in disposal costs.

6.4.2 Resources include a staff of 36 litter pickers, a fleet of small litter vans and two small garbage trucks. The costs of cleaning the town centres at night is not included. 13 300 tonnes of litter is collected each year.

6.4.3 The Office of City Management submitted that more efficient litter control is needed in the ACT. They propose that this can be achieved through:–

- . working more closely with the packaging industry
- . changes to litter legislation to control practices which are known to contribute to litter
- . publicity campaigns
- . imposition of heavier penalties for littering

6.4.4 There are a number of improvements to the Litter Act which are being considered by the Department of Urban Services including:

- . that trailers be covered – this would decrease litter on tip access roads and consequent clean-up costs
- . banning junk mail on car windscreens and in letterboxes when households have a sign requesting no junk mail
- . those caught littering having to do community service work, rather than being fined

6.4.5 The Office of City Management also argued that big bins with fitting lids would considerably reduce the amount of litter generated during garbage collection. They estimate that approximately \$192 000 per annum in litter collections would be saved simply by introducing big bins.

6.4.6 The Committee recommends that:

- . **the ACT Government take steps to reduce the amount of littering through introducing more stringent legislation, including a requirement that trailers be covered, and increasing penalties for littering**
- . **all litter bins in public places maintained by the ACT Government, have well fitting lids**

6.5 Container Deposit Legislation

6.5.1 In South Australia, one of the means by which litter has been controlled and recycling encouraged has been through the mandatory introduction of deposits payable by consumers on beverage containers.

6.5.2 The Social Policy Committee of the ACT Legislative Assembly, in its report on public behaviour in the ACT, was concerned at the problems created through consumption of alcohol at public entertainments such as the Street Car Nationals and the Canberra Festival Food and Wine Frolic. It recommended that container deposit legislation be introduced to prevent the massive littering problem which occurs at these events. Much of this litter comprises beer bottles and other beverage containers.

6.5.3 The Conservation, Heritage and Environment Committee heard views that it was the threat of container deposit legislation being introduced in other States which motivated container manufacturers to take responsibility for collection and recycling of used containers.

6.5.4 Legislation in South Australia is held up as an effective means by which high levels of recycling of beverage containers (glass, aluminium) are achieved.

6.5.5 Container deposit legislation has been the subject of a number of research studies, parliamentary and government inquiries. It is not intended to go into great detail about the conclusions of these reports here.

6.5.6 However, during the course of this inquiry the Business Regulation Review Unit (BRRU) released its report on the effectiveness of container deposit legislation based on the extension of the South Australian legislation being adopted in the rest of Australia. The BRRU was established in 1985 to service the Structural Adjustment Committee of Commonwealth Cabinet in the area of business regulation.

6.5.7 Members of this Committee took the opportunity to meet with the author of the BRRU report and representatives from the Litter Research Association, a body whose members comprise manufacturers of beverage containers. The Australian Soft Drink Association submitted that container deposit legislation was discriminatory, inefficient and a burden to consumers.

6.5.8 The BRRU report concludes that the benefits of legislation are outweighed by the costs of the scheme, the magnitude of costs being \$500 million to benefits of \$15 million.

6.5.9 Some of these costs include time and petrol expended by consumers taking back containers, cost to businesses of storage, transportation and costs of washing equipment and scourers.

6.5.10 The report concludes that the aim of the legislation, to reduce litter, may not have been achieved. It claims that South Australia has not outperformed other States in litter reduction, rather litter volumes had been falling well before the legislation was introduced in 1977. At the same time, a system of on-the-spot fines for littering was introduced. The report claims that the legislation may have caused some substitution of one litter type for another – there appear to be more bottle tops

and juice cartons in the South Australian waste stream compared with the other states.

6.5.11 However more than one submission noted that the data used in the BRRU report was obtained largely from the packaging and beverage container manufacturing industry. Checking the data by independent means has not been possible.

6.5.12 It was submitted to the Committee that where container deposit legislation has been introduced, consumers still need educating to encourage the return of the majority of containers.

6.5.13 Some of the submissions supported the imposition of deposits or taxes on packaging, including plastics, to ensure that the user pays. It was suggested to the Committee that mandatory legislation would be more applicable in the case of newspapers than containers. One suggestion was that revenue from deposits on containers or levies on non-recyclable packaging could be used to subsidise collection services and an on-going recycling management board for the ACT.

6.5.14 It has been suggested that container deposit legislation be introduced if the beverage industry does not take steps towards reversing the trend to one-way containers.

6.5.15 The Australian New Zealand Environment Council has recommended that container deposit legislation be held in abeyance until industry had shown that voluntary anti-litter initiatives are effective.

6.5.16 Achievement of recycling targets for manufacturers are one way of demonstrating the effectiveness of voluntary anti-litter measures. For example, the Environment Protection Authority of Victoria has given the beverage container industry in that State a set period in which to achieve particular recycling levels. This was the momentum which led to the development and use of 'recycling bags' in door-to-door collection of recyclable glass (containers) as mentioned previously.

6.5.17 The Office of City Management submitted that, given the proximity of the ACT to New South Wales and cities such as Queanbeyan, the introduction of container deposit legislation would present practical difficulties. Goods sold in the ACT would need to be specially packaged to identify them from similar products in Queanbeyan and NSW, otherwise shopkeepers could face losses from an influx of refunds claimed for goods bought in NSW.

6.5.18 The Committee was told that NSW had considered but not introduced container deposit legislation because of administrative problems and because the benefits are not proven.

6.5.19 The Committee believes that part of the dilemma of recycling materials such as glass and plastic will be alleviated through the provision of a door-to-door collection service for all recyclables.

6.5.20 The Australian Soft Drink Association proposed that, in conjunction with other segments of the beverage industry and suppliers, it consult with the ACT Government to help achieve a model voluntary multi-material recycling program.

6.5.21 The Committee recommends that:

- . the ACT Government enter into discussions with the New South Wales Government, Litter Research Association and the Australian Soft Drink Association and other beverage and packaging bodies, about participation in an anti-litter campaign for the ACT**
- . the organisers of major public events such as the Canberra Festival, Summer Street Car Nationals etc be charged for any clean up costs incurred through littering at these events**
- . the organisers of public events provide special recycling containers for the collection of glass, PET and aluminium**
- . if, after all of the above littering policies recommended are ineffective in their aim of reducing litter, the ACT Government consider the introduction of container deposit legislation**

6.6 Trial of the One-Use Glass Milk Bottle

6.6.1 ACI in conjunction with the ACT Milk Authority and producers and distributors of Canberra's milk supplies, launched a three-week trial of a non-refillable one-litre milk bottle in October 1989. ACI produced 10 000 specially designed bottles which were retailed through Shop Rite's 25 Canberra stores. The one-litre bottle can only be crushed down for cullet and reused in making new bottles.

6.6.2 Despite the fact that the price of the one-litre bottle was 22 cents more expensive than the carton, it was extremely popular with consumers. The three week trial lasted only 13 days because supplies of the bottle ran out. It was an obvious success.

6.6.3 Home delivered milk demand commands 35% of the total market share for milk with the 600ml bottle commanding 18% of the total milk market. The return rate for bottles, despite the lack of deposits, is about 95%. After the trial, milk in glass has now increased its market share by 11%.

6.6.4 In the past, shops have refused to stock the 600ml bottle. However, coinciding with the three week trial, Owl supermarkets began selling the bottled 600ml milk and have continued to do so.

6.6.5 Some individuals and the ACT Milk Authority expressed concern when consumers were throwing out the 600ml milk bottle, instead of returning it for re-use. Conversely some consumers tried to return the non-returnable one litre bottle for re-use. Only 3156 of the 9107 600 ml returnable bottles had been returned by November. This shortfall was sufficient for the ACT Milk Authority to warn that if consumers did not return them for re-use prices would go up accordingly.

6.6.6 The Milk Authority has urged those businesses and authorities involved with the trial to market a returnable and refillable one litre glass milk bottle.

6.6.7 Concern was expressed by environmental groups that the one litre non-refillable milk bottle was not environmentally friendly even though it was made from glass. Its only use, if it was returned to a bottle bank, was to be crushed as cullet and melted down to make new bottles which is claimed to be more energy intensive than merely washing used bottles.

6.6.8 ACI have moved towards single fill (non-refillable) bottles for some time. Less glass is needed with single fill because the bottle is not subject to the same stresses as a multi-fill bottle. The decision was also justified on the grounds that pollution is created from the washing detergents, contaminants are not always detected on the washing line and that it is cheaper to crush and re-melt glass than it is to wash bottles.

6.6.9 It was submitted to the Committee that glass production would fall by 56% if there was a return to refillable glass.

6.6.10 The whole exercise shows up the dilemma of container deposit legislation and use of resources. Does the consumer of the one litre non-refillable bottle pay all the costs associated with its production? Should all milk be available only in refillable containers and banned from all supermarkets. Is it more important to use and recycle glass as containers, or more important that all glass containers be made refillable?

6.6.11 The submission by Brickwood Holdings Pty Ltd and Commercial Polymers Pty Ltd outlined the advantages of the high density polyethylene white two litre plastic bottle milk containers. Compared with glass and paperboard, the plastic container does not cause ozone depletion, uses less energy to manufacture and distribute, does not require forest harvesting or mining, generates smaller industrial and post-consumer waste and offer better recovery options.

6.6.12 The ACT Milk Authority claims that their motivation to introduce the one litre bottle for trial arose from their concern at the long-term effect that 5 million plastic and 15 million plastic coated paperboard cartons used for milk each year was having on the environment.

6.6.13 The Australian Soft Drink Association noted a report by McGregor and Parish (1984) of Monash University who concluded that because of the heavier weight of the refillable bottles, greater bulk and recovery requirements, total energy savings with refillable glass bottles may never be realised.

6.6.14 The Committee recommends that:

- the ACT Milk Authority carefully consider and publicly specify any gains that can be made if the one litre non-refillable milk bottle is permanently introduced into the ACT**

6.6.15 The Committee recognises that the role of education is vitally important to ensure returns of all glass bottles are ensured.

7. PUBLIC EDUCATION

7.1 Overall Strategy

7.1.1 The Committee believes that no matter what it recommends in terms of an efficient and effective waste management strategy, education about the strategy is vitally important. Ultimately it is the members of the community who are responsible for implementing practices which constitute good waste management, including recycling and waste minimisation. Education and information campaigns are good means by which to keep the public interested and informed.

7.1.2 Now is a good time to introduce a comprehensive waste management strategy because the community's sympathy with environmental issues is evident.

7.2 Importance of Education

7.2.1 Frequent reminders to householders of recycling programs, waste minimisation practices and the need to recycle ensures high participation rates. Strong visible support from the Government is also important.

7.2.2 The Litter Research Association attributes the New South Wales "Do the Right Thing" litter reduction campaign as an important factor in the reduction of litter in the State over a period of two years.

7.2.3 The view that education was integral to a recycling strategy for the ACT was supported by many councils, waste management authorities and other organisations including the Australian Association for Environmental Education Inc.

7.2.4 They called for the public to be informed on the aspects of recycling and waste management and then given the opportunity to participate in the solution. Initiatives that they believed important include:—

- . more media campaigns encouraging people to be responsible for minimising waste, and the benefits of recycling
- . public input through competitions on ways for dealing with specific waste problems such as disposing of car batteries
- . involve students in sound waste management principles
- . set community targets for minimising waste and publish the results
- . organise bi-annual large scale cleanups of community areas such as lakes through community organisations and encourage communities to do this for themselves
- . use encouragement and awards rather than punitive fines and legislation to encourage recycling and waste minimisation

7.2.5 Many ACT schools are already participating in recycling programs. The submission quotes from an article which outlines the potential role of schools:—

- . acting as a drop off depot and providing leadership and example
- . shaping long term attitudes of students so that recycling is a habit

7.2.6 Impediments to recycling includes lack of awareness, general indifference, inconvenience, personal impotence, inconvenient collection systems, or a belief in technical solutions. One recent study concluded that adolescents and young couples without children are less likely to recycle because it is seen as old fashioned or unsightly.

7.2.7 Some of the suggestions the Association covers in its submission include:—

- . the community must be helped to understand the link between resource usage and environmental problems
- . people need to understand how they can be involved in recycling
- . publicity must be clear
- . strategies must be simple, and facilities accessible and regular
- . existing community structures be used to facilitate dissemination of information
- . strategies must be evaluated and approaches modified

7.2.8 The NSW Waste Management Authority submitted that the community now demanded a recycling service in addition to a waste collection service and it was important to let the community know about current recycling arrangements through television and newspapers.

7.2.9 The Committee recommends that:

- . **the ACT Government, when introducing the recommendations on recycling, inform the community through both the electronic and printed media**
- . **the ACT Government regularly remind citizens of recycling initiatives, their contribution to recycling, how to minimise waste and the location of recycling facilities**
- . **the ACT Government consider how public queries on recycling will be handled and the possible creation of a position within the Office of City Management to handle such queries**

7.3 New Residents Package

7.3.1 Two Sydney councils visited by the Committee, issue to new residents a 'New Resident Package' comprising information on the utilities and services, including garbage collections. Woollahra offers a checklist of who should be notified of the change of address, a map of the district, list of recreational facilities, Council services, library card, electoral enrolment form, and phone number and addresses of basic local services. Ku-ring-gai Council include information on how to use the big bin. Names and addresses of new residents are collected from the NSW Land Titles Office when new homes are purchased.

7.3.2 It was taken in evidence that the Capital 7 television recycling reminders which are broadcast on the nightly news program had helped to considerably improve the paper collections for the Canberra Paper and Cardboard Recycling Co.

7.3.3 One submission called for a ACT Recycling telephone hotline. It would need one officer to answer queries from the public on recycling generally.

7.3.4 The Committee recommends that:

- . the ACT Government Introduce a 'New ACT Resident' package with Information on waste collection services**

APPENDIX 1

VOLUME OF WASTE GENERATED IN THE ACT

The total amount of waste generated for disposal is 314,000 tonnes per annum comprising –

Domestic Waste		35.0%
. Household Delivery	74 450 tonnes	23.7%
. Domestic Collection	37 000 tonnes	11.8%
Trade Waste	50 000 tonnes	15.9%
Builders Spoil	92 500 tonnes	29.4%
Queanbeyan	25 000 tonnes	8.0%
Other	35 000 tonnes	11.2%
. Other	15 000 tonnes	4.8%
. Litter	13 300 tonnes	4.2%
. Sewage Ash	7 000 tonnes	2.2%

Total domestic waste comprises 111 450 tonnes per year representing an average generation rate of 400kg per person per year.

APPENDIX 2

VOLUME OF RECYCLABLES COLLECTED IN THE ACT

Total recyclables claimed each year	20 905 tonnes
Paper	14 500 tonnes
Car bodies* (metal)	2 350 tonnes
Organic material	1 500 tonnes
Glass	1 230 tonnes
Aluminium	516 tonnes
PET	small amount
Oil	816 400 litres
Other material	salvaged at Mugga Lane landfill by Revolve Ltd

* Collected through government contract and excludes tonnages collected by commercial scrap merchants in the ACT.

APPENDIX 3

COSTS OF WASTE MANAGEMENT

Litter

Costs associated with collection and disposal of litter is \$1 million annually

Landfill Disposal

The average costs of landfill disposal is \$12.00 per tonne

Recycling

Cost of the recycling programs run by the ACT Government is \$375 690 per annum although there are offsetting savings of \$251 00 through landfill savings.

Domestic Waste Collection

Total average cost of collecting waste from each household is approximately \$48.00 per annum. This comprises two components –

- . \$39.00 for domestic collection and maintenance of trucks (see Table 1 for breakdown of this cost)
- . \$7.00 for the average cost of purchasing trucks which have an economic life of seven years
- . \$2.00 for other overhead costs

Table 1 – Household Waste Collected 1988–89
costs measured in dollars per annum, waste measured in tonnes per annum.

	No. of h/holds	Waste collected tonnes	Repairs/ mainten. \$	Costs of collect. \$	Average cost per h/hold
North	42 444	16 600	225 000	1 020 296	\$29.43
South	48 890	19 300	337 500	2 012 895	\$48.08
Total	91 334	35 900	562 500	3 033 191	\$39.37

APPENDIX 4

COMPOSITION OF ACT HOUSEHOLD WASTE

	Percentage of total waste (%)	Percentage of waste potentially recyclable (%)
Paper		
Newsprint	3.2	3.2
Cardboard	4.1	4.0
Treated (waxed)	1.9	0
Disposable (tissues)	4.2	0
Other (magazines etc)	5.7	5.7
Total	19.0	12.9
Organic		
Food	37.9	0
Garden Waste	6.6	0
Total	44.5	0
Glass		
Brown	5.1	5.1
Clear	5.6	5.6
Green	2.9	2.9
Total	13.6	13.6
Plastics		
PET Bottles	0.8	0.8
Other Plastics	9.5	0
Total	10.3	0.8
Metals		
Steel (mainly cans)	4.0	0
Aluminium	1.0	1.0
Other	0.3	0
Total	5.3	1.0
Other		
Wood	0.2	0
Textiles/Clothing	1.5	0
Rubber	0.3	0
Dust and dirt	5.0	0
Total	7.0	0
Hazardous Wastes	0.3	0
Total	0.3	0

APPENDIX 5

SUBMISSIONS RECEIVED

Organisations

ACI Petalite

ACT Council on the Ageing

ACT Electricity and Water

ACT Milk Authority

ACT Recycling Campaign

Australian Association for Environmental Education Inc.

Australian Soft Drink Association

Blohm and Voss (Australia) Pty Limited

Brambles Record Management

Brickwood Holdings Pty Ltd

Canberra Paper and Cardboard Recycling Co

Cleanaway

Comalco Aluminium Limited

Commonwealth Minister for Administrative Services

Conservation Council of the South-East Region and Canberra (Inc)

Corkhill Bros. Sales Pty Limited

CSIRO

Delta Property Maintenance

Department of the Arts, Sport, Environment, Tourism and Territories

Diverse Products Ltd

Geoff Quayle

G H Todd Pty Ltd

Koomarri

Lindsey Browne and Associates

Litter Research Association

Master Builders' Construction and Housing Association of the ACT
Metal Recyclers (NSW) Pty Ltd.
M.G. Metals
Office of City Management
Neutralysis Industries Pty. Ltd.
Pacific Waste Management
Parkwood Recycling
Scott & Furphy
S & E Recycling
Society of St Vincent de Paul
Southern Excavations
Thiess Contractors Pty. Ltd
Tom's Trash Paks
Trades and Labour Council
United Scientists for Environmental Responsibility and Protection (ACT Branch)
Waste Hawk
Women's Association of Builders, Organisers and Designers of the Environment

Individuals

Susan Beams
D.G. Bradfield
Gwendoline M. Brereton CMRS
Win Brodie and friend
Pat and Therese Bullman
G. C. Calderwood
Mrs J. A. Clarke
Keith A. W. Crook
Dr Les Davies

John D. Daley
Yvette Devlin
Mr L. J. Downer
Mrs G. Duggan
Thomas Graham Freeman
Dr John Halligan
Ian Harman
Margaret Heap
Heather Jeffcoat
P and S. Layton
Squadron Leader J.A. Leeke and residents of Spiers Street Wanniasa
Renee Leon
Julie Macklin
Mrs Iris Miles
Mr R. Mooney
K. B. O'Brien
F. E. Peters
H. A. Richardson
Ms Lyndal Spear
Penelope St Clair
A. Struzina
Riawati N. Subiago
Bryon and Marcia Sullivan
Barbara Tipson

APPENDIX 6

LIST OF WITNESSES AT PUBLIC HEARING ON 15 SEPTEMBER 1989

<u>Name</u>	<u>Organisation Represented</u>
Michael G. Sinclair	Chairman, ACT Milk Authority
Greg Johnson	Secretary, ACT Milk Authority
Christopher J. Gosling	ACT Recycling Campaign
Julian W. Webb	ACT Recycling Campaign
Elinor McKone	ACT Recycling Campaign
Kerrie R. Tucker	ACT Recycling Campaign
Kym Bergemann	Blohm and Voss (Australia) Pty Ltd
Hubert Brandts	Blohm and Voss (Australia) Pty Ltd
Colin E. Power	Canberra Cardboard and Recycling Co.
Brian Corkhill	Corkhill Bros. Sales Pty Limited
Mark Grinsted	MG Metals
Patrick C. Bullman	Milk Vendor
Kenneth J. Michie	Northside Garbage Contractor
Kevin R. Faull	Northside Garbage Contractor
John Rocke	Parkwood Recycling
Geoffrey C. Eather	Waste Hawk – GTC Recycling
Barry W. Thomas	Waste Hawk – GTC Recycling

APPENDIX 7

ORGANISATIONS AND FACILITIES VISITED

Sydney – 3, 4, 5 September 1989

ACI Australian Glass Manufacturers

Australian Paper Manufacturers

Cornalco

Independent Oil Refineries

Ku-ring-gai Council

Lucas Heights Landfill and Recycling Station

North Sydney City Council

Pacific Waste Management

Waste Management Authority of New South Wales

Woollahra Council

Melbourne – 30, 31 August 1989

ACI Australian Glass Manufacturers

Environment Protection Authority

Smorgon Plastics

Sunshine City Council

Mr Ted Tanner, MP, Chairman of the Victorian Parliamentary Standing Committee on Natural Resources and Environment

Preston Bottleyard

Canberra

Ainslie transfer station

Belconnen recycling centre

Canberra Paper and Cardboard Recycling Company

Mugga Lane landfill

Revolve Ltd Job Creation and Recycling at Mugga Lane

West Belconnen landfill

Belconnen recycling centre

APPENDIX 8

DISSENTING COMMENTS BY MR BILL WOOD, MLA

Canberrans have a concern to protect the environment and to save the world's limited resources. Our citizens recognise that by recycling they can play a major role in reversing society's extravagant use of materials. Indeed, a substantial part of the "waste" stream is not waste but useable and useful material.

The city/state nature of the ACT provides an excellent opportunity for far sighted procedures to achieve a high level of recycling. I am confident that Canberrans will welcome the opportunity to establish a system which is the model for the rest of Australia.

Because the unquestioned need for recycling is the basis of this inquiry and report, I must dissent from the major recommendation that "big bins" (240 litres) be introduced. This proposal will have such a detrimental impact on other important recommendations that the majority report is rendered ineffective.

During the course of the inquiry it became absolutely clear that the use of the big bins and the associated "total collection" concept will have three highly undesirable effects:

1. reduce the level of recycling
2. increase the volume and variety of waste
3. increase the cost of the collection of garbage to the ACT taxpayers

Big bins will collect nearly twice the current volume of waste. They are designed to take everything. There is simply no point in planning a recycling campaign in company with big bins.

There are two options for a garbage collection compatible with recycling – retain the present system or introduce a weekly collection with a wheeled 120 litre bin. The latter has the advantage of reducing the volume of weekly household collection, thus encouraging people to look to recycling to handle much of their waste. It is, however, more expensive.

On the basis that I believe that Parliament and Government will need to review this majority report, I recommend that the present collection system be retained, at least for the immediate future.

This will enable a period during which the concept that waste is not waste but a reusable resource can be more widely accepted in the ACT community.

With the support of a weekly household collection of recyclables through suitable containers and with extensive and appropriate facilities throughout the city and at the recycling centres (not tips) we can achieve a very high rate – in excess of 50% – of recycling.

The system we can introduce will save resources, protect the environment, reduce costs and increase employment.

Two other matters need comment. Container deposit legislation must be introduced. This will be effective in removing the wasteful and hazardous scattering of glass beverage containers in particular. There is no substance to the argument that it is not practicable to do this in the "island" ACT.

Canberra citizens already pay through their rates for their use of the tips. At present, therefore, no further charges should be imposed for entry to tips. This policy could be reviewed, especially in relation to commercial users, once the extensive recycling program is well established.

B. WOOD