

Southern Waste Strategy Authority



Regional Policy

Plastic Shopping Bags

**Version 2.0
May 2005**

1. Summary

In recent years, community concerns have been followed by a number of communiqués issued by the Environment Protection and Heritage Council (EPHC) on the subject plastic bag management. This debate has prompted some councils to consider what steps they might take to assist in discouraging the use of plastic bags.

The SWSA's five-year strategy envisages consultations with the state government to investigate options for the phasing out of plastic bags, including the encouragement of greater reuse and recycling. This paper was prepared to review the available facts regarding this community problem, and to propose a regional policy appropriate to the responsibilities of local government.

1.1 Objectives

A review of the available data is contained within this paper. It was undertaken to identify the priority objectives and most appropriate solutions to the plastic bag problem.

The priority objectives are the reduction of plastic bag litter, and the reduction of wildlife fatalities.

In considering potential strategies to achieve these objectives, it should be remembered that plastic bags fill established needs, for which alternatives must be found. Member councils wishing to encourage the use of alternatives should note the following:

- Paper bags are less resource efficient than plastic bags and also contribute to litter, although they are less likely to present a hazard to wildlife.
- More information is required regarding the effectiveness of compostable bags in combating the litter and wildlife fatality problems.
- Reusable bags appear to be the best alternative, but there are significant hygiene, cost and compatibility problems. It will be necessary to consult with all interested parties, to work through the potential solutions.
- The dedication required to change habits, suggests that a substantial public education campaign is likely to be required to encourage the reuse option by a significant number of shoppers. Plastic bags are likely to continue to serve needs other than as shopping bags, so that continuing education will be required with respect to their correct disposal.

1.2 Recommendations

The recommendations below are based largely on those of the National Plastic Bags Working Group, as appropriate to local government. Member councils are encouraged to develop specific action plans that are consistent with this policy, and continue to contribute to the evolution of the policy.

1.2.1 Policy

- SWSA will monitor the development of the Retailers Code of Practice, to update its website and this policy, as necessary.
- SWSA has sought, and will continue to seek the views of the retail industry and the Department of Primary Industry, Water and Environment (DPIWE) regarding this policy.

1.2.2 Public Awareness

- SWSA will continue to keep the plastic bag section of its website up to date, and to offer its website as an avenue for communication with industry and consumers.
- SWSA has substantially upgraded its litter reduction program with the formation of the Tasmanian Litter Reduction Taskforce, which, thanks to sponsorship support from BIEC, Collex, and Norske Skog, has introduced the \$75,000 p.a. 'Don't Waste Tasmania' TV campaign.
- The above campaign is supported by an extensive upgrade of litter and recycling bin signage throughout the region.
- SWSA will publicise examples of good commercial practice, with respect to the provision of recycling services - e.g. via Case Studies on its website. Systems must 'close the loop', leading to actual recycling.
- SWSA will support the development of viable plastic bag recycling programs through its membership of the National Packaging Covenant.
- SWSA to consider opportunities in the future, to extend its program of Demonstration Projects to plastic bag recycling, if a commercially viable closed-loop system can be established in Tasmania.

1.2.3 Future Developments

- SWSA will continue to monitor the information available regarding compostable bags, in relation to the capabilities of products to meet our objectives.
- SWSA has used the EPHC's draft guidelines as the basis for updating this policy with respect to landfill litter management (see Appendix A).

- SWSA will continue to monitor the results of research and keep member councils informed.
- SWSA will monitor the review process and keep member councils informed.

2. Introduction

A report prepared for the National Packaging Covenant Council by the National Plastic Bags Working Group, forms the basis for much of this paper. The paper has been published by the Environment Protection and Heritage Council (EPHC) and is available on its website. The EPHC is the peak ministerial environment protection council, representing the federal and state governments in Australia. Compiled by some of the leading waste management authorities in Australia, the paper notes that further information is required in many areas, before rational decisions can be made. The paper should be compulsory reading for anyone researching this issue. The report observed in part:

The high visibility of High Density Polyethylene (HDPE) plastic bags, and the extent to which their use has pervaded society, is seen by some members of the community as a symbol of the 'wasteful society'. However, given that alternatives are readily available (depending on personal choice), and that a recycling collection system has been in place for several years (albeit a system that relies on consumer action), it is interesting that the majority of consumers continue to use the equivalent of one new plastic bag per day whilst complaining that 'someone' should do something about the issue.

This is supported by data collected by Clean Up Australia from news poll surveys conducted during their 2001 *Bag Yourself a Better Environment Campaign*: although 92% of those surveyed indicated that the effects of plastic bags on wildlife was a major concern, the majority of respondents indicated that they weren't likely to use an alternative (72%), reuse a bag (63%), or recycle a bag (64%).

The National Plastic Bags Working Group report proposed a comprehensive strategy to address this issue. This comprised educational measures, a retailers' Code of Practice, improvements in recycling practices, and further study into issues such as degradable alternatives, in addition to examining possible legislative options.

In December 2002, the EPHC released a set of targets to address the plastic bag disposal problem. The target date for achievement of these objectives was December 2004:

- Government to develop legislative options.
- Retailers to develop a Code of Practice.

- Targets include a 50% reduction and 50% recycling of HDPE (overall 75% reduction in the waste stream), and the participation of 90% of retail chains and 25% of small retailers.
- Significant progress towards these targets by December 2003.

In May 2003 the EPHC released a Communiqué that expressed disappointment that the retailers draft Code of Practice failed to deal adequately with the targets. It foreshadowed the consideration in August 2003, of legislation to introduce a 25c levy.

Later, the EPHC agreed to accept a revised Code of Practice developed by the Australian Retailers Association regarding the management of plastic bags.

Ministers agreed to accept the Code as long as it includes:

- Baseline data on current levels of use and recycling to be provided by all signatories to the Code.
- A transparent auditing standard and process to be put in place.
- Regular reports (e.g. six monthly) on implementation of the Code to be made to the Ministers and be publicly available.
- Retailers to provide a transparent, fair market choice between light-weight single use carry bags and multiple-use bags.
- The Retailers Association to enlist the signatures of as many small independent retailers as possible.

If the Code as amended is not implemented and/or targets not reached, mandatory measures will again be considered. Work by the Council on the development of these measures will continue.

Ministers indicated their support for phasing out light weight single use carry bags containing HDPE within five years and agreed that the ARA be asked to enter into negotiations during the life of the Code to specify actions beyond 2005 to achieve this objective. (the Code is available from the ARA website www.ara.com.au/).

Legal advice will be sought on how retailers may provide information to customers on the true costs of single and multiple use bags. This information will allow customers to make an informed choice.

With the subject of the Retailers Code of Practice now apparently settled, the best guide to the future intentions of the EPHC is considered to be the full recommendations of the Working Group. The key issues are summarised below, then consideration is given to the actions that might be taken by the SWSA and its member councils.

3. Objectives

Statements from a range of sources cite a variety of objectives with respect to reducing the use of plastic bags - including resource conservation, reducing the amount of waste to landfill, greenhouse gas reduction, litter reduction and wildlife fatalities. If effective measures are to be taken, it is obviously important to focus on the problem we really want to solve.

3.1 Waste Disposal Problem?

- Statements frequently refer to the 6.9 billion plastic bags that form part of the waste stream, but do not acknowledge that this represents only 0.2% of total solid waste. An estimated 6.67 billion units or more than 96% of plastic bags are disposed to landfill.
- Plastic bags take between 20 and 1,000 years to break down in the environment. However, the environmental impact of plastic bags in landfill is likely to be low due to their essentially unreactive nature. It appears that plastic bags may have some landfill management benefits including stabilising qualities, leachate minimisation and minimising greenhouse gas emissions. However, dense layers or strata of bags have been discovered in older landfills, increasing the cost of resource recovery operations, and the cost of landfill reuse.

The overwhelming majority of plastic bags are properly disposed and on the balance of opinion, do not appear to constitute a significant problem in terms of the quantity nor the management of waste entering landfills.

3.2 Greenhouse Gas Problem?

In comparison with the 30 to 40% of green and food wastes that enter the waste stream, plastic bags are not a significant greenhouse gas contributor.

3.3 Litter Problem?

- The available data suggests that plastic bags represent 0.8% of the litter stream by weight, and are the tenth most littered item (BIEC). Data collected by Clean Up Australia and Keep Australia Beautiful suggests that plastic bags comprise around 2% of litter by item count. However, plastic bags are a very visible component of the litter stream, and their material persistence means that the number of bags in the environment will increase over time. Plastic bag litter can block gutters and drains, creating stormwater problems - as can other components of litter.
- By comparison, cigarette butts represent some 58% of litter, (Community Change, 2001) and can have devastating impacts on the landscape, on wildlife, and the economy through bushfire ignition.

- Litter can be either deliberate or inadvertent. Plastic bags lend themselves to inadvertent litter due to their lightness and easy ability to ‘balloon’ with wind, and this may occur from disposal routes such as litterbins and landfills, and from animal interactions with rubbish bins.
- Litter associated with waste management activities is mainly associated with unloading operations at landfills rather than with the compaction and burial of waste. This windblown litter is largely contained by litter fences within the landfill site, and by perimeter fence litter.
- Consumer behaviour is still the most significant reason for plastic bags entering the litter stream: the Nolan-ITU report estimates that people litter between 30 and 50 million bags each year, compared with 20 to 30 million bags inadvertently littered during waste disposal.

Plastic bags are a small, although highly visible component of the litter stream. However, no special considerations appear necessary with respect to plastic bags, when formulating public litter reduction campaigns.

Consumer behaviour is the most significant cause of plastic bag litter.

Local government has a particular responsibility with respect to the control of inadvertent litter associated with waste disposal sites.

3.4 Wildlife Hazard?

- Plastic bags are of significant concern in the marine and other aquatic environments, as aquatic life can be threatened through entanglement, suffocation and ingestion. The 1995 *State of the Marine Environment Report* found that pollution originating from the continent contributes up to 80% of all maritime pollution and is a major threat to the long-term health of near-shore marine systems. However, more robust information on the origins of marine debris is required.
- The 100,000 plastic bags that have been estimated to cause wildlife fatalities represent 0.0014% of the total bags used, suggesting that any control measures will need to be very carefully considered, in order to be effective.
- No information is available to predict the effectiveness of the various proposed plastic bag control measures to anticipated changes in the level of plastic bag litter, nor to lower levels of wildlife fatalities.
- Cigarette butts are also known to be responsible for wildlife fatalities, and given their greater preponderance in the litter stream, specific measures to control cigarette butts have been incorporated into the SWSA’s Litter Reduction program.
- Plastic bag litter on land does not appear to be a major problem for wildlife. There is some evidence of stock losses from Victoria, however autopsies following stock losses in the ACT have failed to find plastic bags as the cause of death.

Plastic bags are of particular concern with respect to marine wildlife and bird fatalities, together with cigarette butts.

Stock losses on land do not appear to be a significant problem.

The proportion of plastic bags involved in wildlife fatalities is very small, indicating that control measures will need to be extraordinarily well targeted. Better information is required.

4. Managing the Consequences

Plastic bags currently fulfill a number of needs; hence it is necessary to carefully consider the alternatives that may replace them.

- It is estimated that the making of a plastic bag uses up to 40% less energy, produces up to 80% less solid waste, 72% less atmospheric emissions and 90% less waterborne waste, than a paper bag. Paper bags would also be expected to contribute similarly to litter. No information is available regarding wildlife fatalities, but the risk would be expected to be lower.
- Present information suggests that the new compostable bags consume approximately the same energy as HDPE plastic. The quoted degradation periods of 10 - 45 days cast doubt on their effectiveness with respect to the litter and wildlife fatality problems, so more information is needed.
- Consumer requirements for speed through Supermarket check-outs, require that alternatives should be checked to ensure that they are compatible with existing packaging systems.
- Plastic bags have acknowledged advantages over reusable bags with respect to food hygiene.
- The data shows that plastic bag consumption averages one bag per person per day, and that 53% originate from supermarkets. This suggests that a visit to the supermarket, shopping for a family of four once per week, will require some 15 shopping bags. The change to a reusable option will therefore require considerable dedication.
- Plastic bags are reused by up to 75% of purchasers (after the introduction of a plastic bag levy in Ireland, the sale of plastic bags for kitchen tidies increased by 77%).

Paper bags are less resource efficient than plastic bags and would continue to contribute to litter, although they are less likely to present a hazard to wildlife.

More information is required regarding the effectiveness of compostable bags in combating the litter and wildlife fatality problems.

Reusable bags appear to be the best alternative, but there are significant hygiene, cost and compatibility problems. It will be necessary to consult with all interested parties, to work through the potential solutions.

The dedication required to change habits, suggests that a substantial public education campaign is likely to be required to encourage the reuse option by a significant number of shoppers. Plastic bags are likely to continue to serve needs other than as shopping bags, so that continuing education will be required with respect to their correct disposal.

5. Role of Local Government

It is clear that a comprehensive management program should be put in place to ensure that achievement of the objectives is not frustrated by unexpected consequences. A program of effective consultation with local government has been notably absent from the debate. Similarly, the current media debate is no substitute for consultation with an informed general public.

Whilst the SWSA accepts that local government must play its part in this process, that role should not be expected to extend beyond its capacity and responsibilities.

The Authority believes that a thorough and considered process will be required to effectively manage this problem, and has used the Working Party's recommendations and priorities (below) to form the basis for considering the involvement of local government.

6. Working Party Recommendations

6.1 High Priority

(A) Education & Awareness

SWSA has sought the views of the retail industry and DPIWE regarding this policy.

SWSA will continue to keep the plastic bag section of its website up to date,

and to offer its website as an avenue for communication with industry and consumers.

SWSA has substantially upgraded its litter reduction program with the formation of the Tasmanian Litter Reduction Taskforce, which, thanks to sponsorship support from BIEC, Collex, and Norske Skog, has introduced the \$75,000 p.a. 'Don't Waste Tasmania' TV campaign.

(B) Code of Practice

SWSA will monitor the development of the Retailers Code of Practice, to update its website and this policy, as necessary.

(C) Plastic Bag Recycling

SWSA will publicise examples of good commercial practice, with respect to the provision of recycling services - e.g. via Case Studies on its website.

SWSA will support the development of viable plastic bag recycling programs through its membership of the National Packaging Covenant.

Systems must 'close the loop', leading to actual recycling.

SWSA to consider opportunities in the future, to extend its program of Demonstration Projects to plastic bag recycling, if a commercially viable closed-loop system can be established in Tasmania.

(D) Degradable plastics

SWSA will continue to monitor the information available regarding compostable bags, in relation to the capabilities of products to meet our objectives.

(E) Legislative Options

Not applicable to SWSA.

6.2 Medium Priority

(F) Landfill Litter Management

SWSA has used the EPHC's draft guidelines as the basis for updating this policy with respect to landfill litter management (see Appendix A).

(G) Further Research

SWSA will continue to monitor the results of research and keep member councils informed.

6.3 Low Priority

(H,I) Not applicable to SWSA

(J) Review

SWSA will monitor the review process and keep member councils informed.

7. References

- (1) National Plastic Bags Working Group, Plastic Shopping Bags in Australia - Report to the National Packaging Covenant Council, Dec 2000
- (2) Clean-up Australia
- (3) Nolan-ITU in association with RMIT Centre for Design and Economics Research and Consulting (2002), *Plastic Shopping Bags – Analysis of Levies & Environmental Impacts*.
- (4) Community Change (2001) – *Littering Behaviour Studies 3: Measuring Environmentally Desirable Behaviour*.
- (5) Novamont – *Mater-Bi: The Biodegradable Thermoplastic Material*. Information booklet

APPENDIX A

Guidelines for Plastic Bag Litter Management at Landfills

Introduction

These guidelines have been adapted from the consultation draft circulated under the auspices of the Environmental Protection and Heritage Council (EPHC), dated 19/8/04.

The guidelines are not designed to be prescriptive. They provide suggested means of achieving the goal of reducing unintentional littering at landfills. It is intended that voluntary implementation of the guidelines by landfill managers will assist a national movement towards improved litter management. The guidelines are intended to complement existing litter management and prevention policies, including educational activities.

Landfill Litter Management

Landfill disposal contributes to the inadvertent litter problem with loose bags capable of becoming windblown litter. To be effective, litter control strategies should include both engineering solutions and management options. Litter at landfill sites is largely associated with delivery and unloading of waste rather than with compaction and burial operations as the latter process generally punctures the bags and makes them less likely to become windblown.

Desired Outcome

Landfill operators should take all reasonable steps to:

- Prevent the generation of litter.
- Prevent litter accumulation on the premises.
- Prevent litter leaving the site.
- Prevent off-site litter accumulation within the vicinity of the premises.
- Regularly clean up litter both on and in the vicinity of the site.

Recommended Controls

Appropriate procedures should be developed and incorporated into landfill management systems. Recommended litter controls are:

- a) Mobile litter screens should be used that are easily erected, highly portable and able to withstand local wind conditions whilst loaded with litter.
- b) Litter screens should be designed to retain litter on site even during variable wind conditions.

- c) Mobile litter screens should be located downwind of the working face and relocated as necessary in accordance with wind changes.
- d) All site fencing, gates and litter screens should be regularly cleared of litter. Fences in close proximity to the tipping area and in prevailing wind directions may require more frequent attention.
- e) Consider establishing a contingency plan to deal with extreme events that could cause gross litter problems.
- f) Regular inspection of the disposal site and surrounding areas should be conducted to identify any litter for manual removal. Litter outside the tipping area should be regularly collected and action taken to prevent its reoccurrence.
- g) Landfill operators should incorporate into their maintenance work program regular retrieval of litter that has escaped the site.
- h) Litter must not be deposited or allowed to accumulate in waters or leachate dams.
- i) It is preferable that landfill tip face management:
 - be managed to minimise wind dispersal of litter (for example through orientation that minimises the effect of prevailing wind conditions) and landfill operations managed to ensure that as far as practicable, litter is retained on site.
 - use the available waste compaction equipment to consolidate the surface of the working area where operational activities allow this.
 - involve progressive application of cover material during the course of the operating day to ensure that the minimum surface area of waste is exposed at any one time.
- j) Should minimise the size of the working tip face.
 - Audits of the litter control system should be conducted as part of the management system, to ensure the effectiveness of the litter management programs in place.
 - An appropriate communication strategy should be implemented to ensure that all users of the landfill site understand the necessity for the covering of loads.
- k) Litter management programs should consider the inclusion of a public awareness strategy, including a phone number for the reporting of litter matters to the landfill manager.