



**PEER REVIEW OF
THE BOOMERANG ALLIANCE REPORT,
*NATIONAL PACKAGING COVENANT –
SAY NO TO THE WASTE CLUB***

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PEER REVIEW OF BOOMERANG ALLIANCE REPORT, NATIONAL PACKAGING COVENANT – SAY NO TO THE WASTE CLUB

1. BACKGROUND

The Packaging Council of Australia (PCA) has commissioned Perchards to carry out a peer review of the Boomerang Alliance’s critique of the National Packaging Covenant.

Perchards is a UK-based consultancy specialising in monitoring, strategic political advice and policy analysis on packaging and related issues worldwide. We have been engaged by some 260 companies and trade associations based in 23 countries, and have carried out projects for the European Commission and for government bodies in Australia, Belgium, Ireland, the Slovak Republic and the UK.

In Australia, we carried out a review of ten alternative policy options for the National Environment Protection Council and contributed to the impact assessment on the NEPM for used packaging materials (1998), conducted a packaging policy review for the Commonwealth Department of the Environment and Heritage (1999), and carried out a peer review of Nolan-ITU’s study on financial impacts of a container deposit system for the Environment Protection Authority Victoria (2002).

Whilst we have some familiarity with the Australian scene, our home market is of course Europe. Many of the Boomerang Alliance’s recommendations are based on policies already in Europe, so we believe we are well-placed to comment on the impact that such measures might have.

2. PACKAGING AND SUSTAINABILITY

2.1 The key questions

The Boomerang Alliance comments that

“To keep pace with growth and new trends of consumption, a new sustainable approach to managing packaging across the lifecycle of the product and packaging chain is essential”

and

“There is ongoing debate surrounding the amount of packaging within our modern industrialised society and associated environmental impacts. Industry proponents point to the benefits of packaging while environmentalists highlight the resource depletion associated with single use packaging, lack of recycling and the impacts of litter, wrapped together by an industry-fuelled convenience approach to consumption known as the ‘growth fetish’. Within this argument there is increasing acceptance of the importance of internalising external costs and for opportunities that arise for sustainable development (and packaging)...”

The key questions are,

- Does the economic self-interest of the producers of packaging and packaged goods lead to an increase or to a reduction in the amount of packaging placed on the market?
- Are the environmental and other societal costs associated with used packaging correctly allocated?
- What mechanisms could be put in place that would generate a better outcome than that likely to result from the Covenant approach?

2.2 Economic self-interest – the mind-set of the producers

The Boomerang Alliance report sets out the functions of packaging – containing, protecting and conserving products in transit and at point of sale, and thus reducing product wastage. Products are protected from tampering, and packaging is used to convey information.

However, the Alliance seems to lack understanding of how the packaging and packaged goods sector really fits into society. It talks about a “Community licence to operate”:

“It is generally recognised that industry does not have an uncontested right to operate wherever and whenever it chooses. Companies are also participants in the communal contract. They operate as part of society and not apart from it Genuine consultation with stakeholders is needed instead of the current attempts at indoctrination by wearing us down through hysterical debate, threats and financial intimidation.”

In fact, business seeks a licence to operate every time it tries to sell its goods and services. If potential buyers do not trust the company or like its products, they will go elsewhere. Public interest NGOs have a valuable role in asking awkward questions, and how business responds to these questions may influence consumers’ purchasing behaviour, but the Boomerang Alliance seems to attribute no value to the views of consumers as expressed in their purchasing choices – yet consumers are the people who are backing their opinions with their own money. The Alliance suggests, for instance, that industry should “*make a decision to deliberately move away from convenience packaging*”, or in other words, offer people what they ought to want rather than the products they do want.

German law sought to maintain the market share of refillable beverage containers at their 1991 level. If they failed to do so, there would be an automatic imposition of mandatory deposits¹ – which the Boomerang Alliance rightly identifies as something the beverage industry is very keen to avoid. In 1997 the overall market share for refillables fell below the 1991 level of 72% for the first time; in 2000 it was 65%, and in 2002, 56%. People bought what they wanted to buy.

Packaging manufacturers are in the service business. Their job is to provide producers of products with solutions to the problems of distribution and storage, and to do this as cheaply as possible. The use of resources costs money, so they want to *minimise* their output of

¹ *After a delay to ensure that this was part of a long-term trend, not a one-off aberration.*

packaging material per unit of packaged product, and minimise the number of vehicle-miles needed to distribute the empty packaging and full goods.²

Similarly, economic pressures lead packaged goods manufacturers to specify the least packaging needed to satisfy the needs of the customer (the retailer or business end-user) and the private consumer.³ Companies analyse social trends and consumer preferences and try to be the first to find new ways to meet a latent demand. Mothers increasingly working in jobs outside the home, the faster pace of life, small households consisting of young people or elderly people unwilling or unable to prepare food from scratch, are trends that have presented business opportunities, but these trends were not initiated by the packaged goods industry. Rather than saying, as the Boomerang Alliance does, that “*consumers have been trained to expect a ‘no mess, no fuss’ array of single serve packaging options to provide a maximum convenience*”, it would be fairer to say that consumers have come to expect that industry will supply whatever packaging formats they need to fit in with their lifestyles.

In any case, more packaging does not mean more waste. Pira International and University of Brighton (2004) reports that for ready meals, the preparation waste is reused and distribution waste is less than 1%. Only the pack and meal are transported. In contrast, for a meal prepared from ingredients in the home, there may be less packaging but 10%-20% of the ingredients are wasted during distribution. The pack, product and preparation waste must all be transported, and the preparation waste is then discarded in the home.

In 1997, a multi-stakeholder group (including NGOs) brought together by INCPEN (the Industry Council for Packaging and the Environment) in the UK identified the following trends:

² According to Pira International and University of Brighton (2004), the amount of food given to one million cats in the UK each day in 1993 would have filled more than 23 lorries. By 2002, thanks to lightweighting of the packaging and changes from moist/semi-moist cat food, only 22 similar lorries would have been needed. This means that 2690 fewer vehicle movements are required each year to distribute cat food in the UK.

³ Perchards (2003) reviewed how a number of companies were implementing the Packaging (Essential Requirements) Regulations, which transpose a provision in the EU’s Packaging and Packaging Waste Directive requiring that packaging weight and volume is limited to the minimum needed to maintain the necessary level of safety, hygiene and acceptance for the packed product and for the consumer.

One food company reported that it looks at the possibilities for lightweighting each year and at other times if there is a commercial opportunity. Changes are then introduced if they can be made within the company’s quality parameters. Invariably there are costs associated with lightweighting of primary packages (for instance mould costs, or an increase in secondary packaging weights) and these considerations all have to be balanced. There may be source reduction opportunities in developing new packages that are not necessarily there in existing packages, so in a rapidly changing market competitive advantage is gained by the natural optimisation process regardless of legislation or guidelines. The reverse is also true, that non-growth packages may not be worthy of investment in further minimisation due to high fixed costs.

<i>FACTORS LEADING TO CHANGES IN THE AMOUNT OF PACKAGING DEMANDED</i>		
	LESS PACKAGING	MORE PACKAGING
The economy	Recession	Economic growth
Increasing number of one-person households		More goods, more smaller portions to avoid food wastage – more packaging
Ageing population		More easy-open features & clearer type size for instructions, require more material per pack
More women working full-time outside the home		More ready-meals which need more sophisticated packaging;
Families tending not to eat together		Small portions avoid food wastage, but need more packaging
More meals eaten away from home	Catering packs mean less packaging per serving	
Health concerns		Demand for fewer preservatives, means more packaging to provide same shelf-life
		Encouraging children to eat fruit – small portions packaged to appeal
		Increased demand for tamper-evidence and child-resistant closures, means more material per pack
New technology, materials, machinery	Facilitate lightweighting	“Smart” packs may require more packaging
Introduction of Regional Distribution Centres	Fewer vehicle movements and less shrink-wrapping because loads are better structured	

A study carried out by the Institute for European Environmental Policy for INCPEN (IEEP 2004) identified an array of drivers which impact on the amount of packaging placed on the market:

“Changing demographics and lifestyles, including the trend towards smaller households, an ageing population, an increase in the number of people living alone, and demands for convenience, all have an impact on the type of products demanded by the consumer. Industry needs to respond to these changes but itself has no control in determining demographic trends.

Where industry does have control is in the designing of packaging that is ‘fit for purpose’. Packaging needs to fulfil a number of criteria to ensure that the product is delivered to the consumer in good condition. Industry is faced with a number of trade offs, balancing the need to reduce the environmental impact of packaging with the need to ensure that it performs well, and prevents wastage of products in the supply chain. The specific demands placed on the packaging by the end-user may be relatively limited compared with those demanded by production, distribution and storage processes. These demands and trade offs are rarely evident to the final consumer.”

A European standard on prevention by source reduction, adopted in 2000 and subsequently revised (CEN, 2004a), sets out a procedure for assessment of packaging to ensure that the weight and/or volume of its material content is at the minimum commensurate with the maintenance of functionality, safety and hygiene, and acceptability of the packed product to the final user. The standard is based on a self-assessment approach similar to the approach in systems standards such as the ISO 9000 and ISO 14000 series.

Companies restructure, people change jobs and personal experience is lost, but the prevention standard's methodology provides for a *systematic* approach to packaging minimisation based on a large number of experts' ideas and experience, which may well be more effective and complete than the practices developed within a single company. It also establishes a culture of continuous improvement, and a "prevention" rather than "cure" approach to decisions on packaging.⁴

2.3 Allocating costs

The Boomerang Alliance has identified two issues where it believes that distorted price signals are discouraging recycling and favouring over-packaging:

- *"To date the packaging industry has successfully externalised most of the costs associated with the end-of-life management of packaging materials. Unless this is reversed, reform around packaging waste cannot succeed."*
- *"Packaging enjoys a position where all of the costs arising from end-of-life management activities such as recycling, disposal in landfill and litter have been externalised through funding by rate payers via the auspices of local government The net result is that the packaging industry and consumers are receiving a 'perverse' subsidy from rate payers."*

The Boomerang Alliance believes that these issues are closely linked:

"The environment is treated as a 'free' service for the provision of resources and the receipt of waste. For example in the case of packaging there is no link between packaging choice and costs associated with end-of-life management issues such as re-use, recycling, disposal in landfill and litter. Industry often views economic instruments to correct externalities as unfairly penalising their industry, but they are entirely consistent with both the user and polluter pays principles well enshrined in legislation and current policy. As a result of not addressing this issue, neither the producer nor the consumer pays for the cost of their actions."

⁴ *The basis for complying with the standard is identification of the "critical area" which governs the achievable limit for source reduction. That is to say, if the packaging is reduced further, it will fail to meet the listed performance criteria – product protection, packaging manufacturing process, packing/filling process, logistics (including transport, warehousing and handling), product presentation and marketing, user/consumer acceptance, information, safety, legislation, and any other relevant issues.*

If no critical area is identified, the packaging is not in compliance with the standard and the potential for (further) source reduction is to be investigated. If on the other hand tests show that further source reduction will result in an unacceptable increase in the packaging failure rate, the critical point has already been reached.

“Packaging enjoys a position where all of the costs arising from end-of-life management activities such as recycling, disposal in landfill and litter have been externalised through funding by rate payers via the auspices of local government. This eliminates any feedback loop to either industry or the consumer. This is compounded by the fact that the consumer is often not the rate payer, and the rate payer is not necessarily the household resident Additionally, local government can only charge a flat fee and only to rate payers, which does not accommodate or encourage desirable changes in behaviour from household to household and which is not fair on owners who do not occupy. (Owners are not responsible for the payment of other services such as electricity, water, gas or phone, so why should they pay for waste management services?)”

These remarks raise the following questions:

- Are the external costs arising from packaging waste management significant enough to justify intervention and any associated costs of administration?
- Is the difference between the consumer and the payer of local taxes significant enough to justify setting up some kind of EU-style fee payment structure together with the inevitable administration and enforcement costs?

As the Boomerang Alliance points out, the Polluter Pays Principle (PPP) means that the cost of goods and services which cause pollution in production and/or consumption should include the expense of measures imposed by public authorities to ensure that the environment is in an acceptable state (OECD, 1975).

There are two points here. First, the OECD did not define the “polluter”. According to this definition, it appears to apply to the product itself rather than to the producer or consumer. We would agree with the Alliance that a charge borne by the community as a whole (through flat-rate local taxation) is not PPP.

However, all human activity generates pollution to some extent, so PPP is not an absolute. It is triggered only where the public authorities decide that the environment is not in an acceptable state. The Boomerang Alliance and the producers may have their own diverging views on this, but it is for the authorities to make their own judgements. Thus the Alliance’s statement that

“the polluter pays principle requires the full costs associated with the environmental impacts, arising both from producing packaging and also its end-of-life management through recycling, be incorporated into the price of the goods”

is not necessarily true. It is not necessarily untrue, either. In reaching their conclusions, the public authorities will no doubt take into account considerations of economic efficiency.

Another way of relating cost to individual behaviour, and one which would have a broader impact on consumers than a packaging levy, is to introduce variable charging (“Pay-as-you-throw”, or PAYT). More and more local authorities are charging for household waste collection by weight or volume, and in Ireland it has been universal since January 2005. The options are to

- *pay by weight* – bins are weighed at the collection point and the householder is billed for the amount of waste collected;
- *pay by tag* – householders affix previously purchased tags to bins that are full and ready for collection. Collectors empty only the tagged bins; or

- *pay by bag* – refuse bags are tagged with pre-purchased tags by the householder.

This works very well alongside “bring” systems, but less well in conjunction with kerbside collections, as there is a temptation for householders to dispose of their general waste free of charge in the recycling bag or bin rather than pay to have it taken away.

2.4 Internalising external costs

Internalising external costs involves identifying environmental costs hitherto unpriced but borne by the community as a whole in the form of pollution or loss of amenity, and building them into the price of the product. This can be done in one of two ways:

- by imposing some kind of tax or levy (preferably having first costed the external environmental impacts in an objective and scientific way), or
- by mandating producers to undertake certain actions at their own expense so that the costs are internalised.

The use of economic instruments for packaging has tended to focus on its waste disposal implications rather than on total environmental impact. This simplification is useful in that it reduces the issues to a manageable number – internalising waste disposal costs is far more straightforward than attempting to internalise all pollution costs – but it can lead policymakers astray if they forget that waste disposal is only one environmental impact among many and that there might be a trade-off between waste disposal and other parameters such as energy consumption.

EUROPEN, the European Organization for Packaging and the Environment, has juxtaposed an economist's calculations (Brisson 1995) with actual packaging tax levels. Even if wrong by a factor of ten, which is highly unlikely, the evidence of this and other studies – EUROPEN (2000) cites CSERGE et al (1993), Hatch and Miles (1993), Palmer, Sigman and Walls (1996), Pearce and Turner (1992), Smith (1995) and WMAC (1981) – suggests that the external costs of packaging are relatively low, certainly lower than either the costs of operating Green Dot and other industry-funded support systems for packaging waste management, or of taxes high enough to change consumer behaviour.

BRISSON'S PACKAGING CHARGE (IN EUROS PER 100 CONTAINERS)		
	Weight-related collection and disposal charge	Weight-related collection + volume-related disposal
UK data		
330 ml aluminium can (8% recycling)	0.04	0.05 - 0.09
330 ml steel can (10% recycling)	0.06	0.11 - 0.18
1 litre beverage carton (no recycling)	0.07	0.11 - 0.17
1 litre glass bottle (no recycling)	0.86	0.50 - 0.64
1 litre glass bottle (86% recycling)	0.16	0.09 - 0.12.
Danish data		
1 litre beverage carton	0.04	0.52 - 0.70
1 litre refillable glass bottle (99.5% recycling of bottles withdrawn from circulation)	0.06	0.04 - 0.05
	.	.
1.5 litre refillable PET bottle (95% recycling of bottles withdrawn from circulation)	0.08	0.12 - 0.17
	.	.
Swedish data		
330 ml aluminium can (83% recycling)	0.02	0.07 - 0.12.

TAXES CHARGED IN 2000 ON NON-REFILLABLE CONTAINERS (IN EUROS PER 100 CONTAINERS), INCLUDING REBATES			
	Denmark	Latvia	Norway
500 ml:			
plastic bottle	10.7	0.63	6.5
glass bottle	10.7	0.83	14.2
can	10.7	0.42	9.7
carton (juice)	6.7	0.50	7.4
1 litre:			
plastic bottle	21.4	1.25	6.5
glass bottle	21.4	1.67	14.2
carton (juice)	13.4	1.00	7.4
2 litres:			
plastic bottle	42.8	2.50	6.5

GREEN DOT FEES CHARGED IN 2000 ON NON-REFILLABLE CONTAINERS (IN EUROS PER 100 CONTAINERS)				
	Belgium	France	Germany	Spain
500 ml:				
plastic bottle	1.0	0.5	4.1	0.4
glass bottle	0.7	0.1	2.5	0.1
can	0.2	0.1	1.0	0.1
carton (juice)	0.5	0.3	1.6	0.2
1 litre:				
plastic bottle	1.3	0.6	4.9	0.4
glass bottle	1.2	0.1	4.3	0.2
carton (juice)	0.6	0.4	2.2	0.2
2 litres:				
plastic bottle	1.5	0.7	5.7	0.5

EUROPEN (2000) will be updated in 2005, but meanwhile, the Ecolas and Pira International (2005) study on the economic and environmental impact of the EU's Packaging and Packaging Waste Directive, prepared for the European Commission, has calculated the total financing need for packaging waste management for the 15 countries in membership of the EU in 2001 as follows:

TOTAL FINANCING NEED FOR PACKAGING WASTE MANAGEMENT IN EU-15, 2001⁵				
SCENARIO	euros p.a.		A\$ p.a.	
	Total cost (millions)	Cost per capita	Total cost (millions)	Cost per capita
<i>Zero recycling or energy recovery</i>	6 170	16.3	10 489	27.7
<i>Recycling & energy recovery rates likely if no Directive</i>	6 600	17.5	11 220	29.8
<i>Cost of achieving the 2001 recycling & energy recovery rates</i>	6 800	18.0	11 560	30.6

Thus according to best estimates, and on the basis of the official data submitted to the European Commission, the financing need for packaging waste management is no more than A\$ 28 per capita (A\$ 566 million on a national basis), and the incremental cost of meeting recycling targets of 53% (the EU-15 average in 2001) is a further A\$ 2.9 ((A\$ 58.6 million on a national basis).

The Boomerang Alliance says that rate payers pay some A\$ 294.5 million for kerbside recycling, which equates to A\$ 14.6 per capita. This will not include the cost of disposing of packaging not collected through the kerbside system waste.

2.5 Who should pay for packaging waste management – taxpayers or consumers?

The Boomerang Alliance report returns repeatedly to the theme that if correct price signals are to be sent to intending purchasers, consumers, not local government taxpayers, should fund packaging waste management.

This raises the following questions:

- Are the impacts on consumers and taxpayers sufficiently different to justify the expense of setting up a separate levy system?
- Are the real costs of packaging waste management – or the additional costs of collecting packaging waste separately from other household waste – large enough that adding them to the price of the product would make a significant change to consumer behaviour?

⁵ Whereas the National Packaging Covenant only covers household packaging, the Directive covers business-to-business packaging also. However, the costs of collecting and sorting packaging waste from businesses can more or less be financed from the sale of the collected material, so the cost estimates cited above are comparable with those for Australia.

The Boomerang Alliance comments that

“a boom in single serve consumption has fuelled an out of home market that now represents up to 50% of consumption.”⁶

Also,

“only 70% of all homes are owner-occupied, leaving up to 30% of tenants enjoying a free ride. Tourists also account for a significant share of consumption, with 39% of tourist spending in Australia in 2002/03 going on shopping, takeaway and restaurant meals and food products.”

Let us break these figures down:

- Most of the packaging from fast food consumed away from home is likely to be discarded on the premises, in which case the restaurant operator bears the cost of managing it. If it is discarded away from the premises, it may be discarded responsibly, in a street litter bin, or it may be littered.

Thus the majority of fast food packaging will be disposed of at no cost to the local taxpayer, but the remainder will be disposed of at a substantially higher cost – especially if it is littered.

- Food eaten in conventional restaurants arrives in catering packs, which use less packaging material per unit of packaged product. These will also be disposed of at the restaurateur’s expense.
- Tourists, by definition, eat away from home, and a smaller proportion of their spending will go on packaged goods than for residents. Tourists may dispose of fast food and beverage packaging in the street, but by bringing money into the local economy they will add more to the local tax base than they add to the local government’s cost burden by increasing the cost of packaging waste management.

And do tenants really enjoy a free ride? Surely their rent charges take account of the waste management services which their public or private sector landlord has to pay? And if they are subsidised to some extent, then this means that those better able to pay are subsidising the less well-off. Thus at worst this is progressive taxation.

The EU’s Packaging and Packaging Waste Directive does not prescribe how its recovery and recycling targets are met, but in all but two member states, one or more collective compliance schemes either take full responsibility for separate collection of packaging waste from households or compensate the local authorities for the additional costs of separate collection.

Industry currently bears around 70%-75% of the cost of managing the recovery of household packaging waste in EU-15. We have estimated the operational costs of the industry-funded organisations to be some 2,500 million euros per year and administrative overheads a further 300 million euros per year. With a population of 378 million, this equates to between 6.6 and 7.4 euros per head, depending on whether admin costs are included, i.e. between A\$ 11 and

⁶ *Later on, the report makes it clear that it does not mean that 50% of consumer packaging is consumed away from home, as this passage suggests, but that away-from-home consumption represents 50% packaging waste in the case of packaging for certain products – beverage containers and other convenience items such as confectionary, chips, fast food etc.*

A\$ 13 per head.⁷ Australia-wide, and even more so EU-wide, the costs are rather large, but when divided per capita they are not. It is hard to see that this level of additional cost would serve as a particularly strong price signal to consumers, or that it would justify much of an administrative edifice to raise and disburse this funding, given that the average person probably makes at least 1500 purchases of packaged goods per year:

PURCHASING PATTERNS IN THE UK						
	Number of purchases per year			Average annual purchases per person		
	1 person household	2 person household	3+ person household	1 person household	2 person household	3+ person household
Food & drink	2200	2900	3300	2200	1450	<1100
Clothing & personal care	290	460	630	290	230	< 210
Home & interior	175	180	185	175	90	< 62
Education, leisure, transport	650	840	960	650	420	< 320
<i>Total</i>	<i>3315</i>	<i>4380</i>	<i>5075</i>	<i>3315</i>	<i>2190</i>	<i><1658</i>

Source: Kooijman (2000)

The average UK household (2.3 people, nearly half a cat, a third of a dog), purchases 4,300 items a year – 2850 food and drink items, 470 clothing and personal care items, 180 home and interior items, and 800 items connected with education, leisure and transport (INCPEN, 2001).

2.6 Relevance of the European experience

If the only purpose of such an edifice is to bring about the transfer of such small sums of money in per capita terms, why then has it been created in Europe? The answer is that the Directive was prompted more by Single Market concerns than by the environment.⁸

The German Packaging Ordinance of 1991 established a recycling system template – producer responsibility, collective funding of recycling by industry, and material-specific targets. When it first appeared, there was great concern that it would destroy embryonic recycling activities in neighbouring countries. The German system required used packaging to be collected and taken back by the reprocessor free of charge. The German collection targets were very high, and the vast quantities of material collected could not all be absorbed by the German recycling market. The surplus was exported, and reproducers in other countries who had previously had to pay for material collected locally, were now able to take in German material at a low or even negative price.

Some neighbouring countries decided that the best means of defence against this was to adopt legislation setting their own national targets to ensure that local packaging waste was still collected and that local reproducers were not driven out of business by their subsidised German competitors. Some people of course felt that the German Ordinance was a good idea anyway, and deserved to be emulated.

The Packaging and Packaging Waste Directive restored some order by ensuring that all member states took steps to ensure that recycling systems were set up and developed. It

⁷ The basis for these calculations will be set out in the draft final report for the European Commission by Perchards, FFact Management Consultants and SAGIS Ltd (Perchards et al 2005).

⁸ As was made clear by its legal base, Article 100a (now Article 95) of the Treaty.

established a trade-off – industry would see to it that the targets were met, and in return the Directive would guarantee that packaging which complied with the Directive would be guaranteed free circulation throughout the Community.

At the time it was adopted, some member states had well-developed Bottle Bank systems and there was some recycling of beverage cans. Kerbside collection was in its infancy. This was a very different situation from the current state of play in Australia, where a comprehensive nationwide collection system has been put in place for household packaging waste without the benefit of European-style regulations and financing systems.

3. PACKAGING ISSUES

3.1 Recycling rates

The Boomerang Alliance report says that

“each year Australians consume over 3,365,000 tonnes of packaging, with a ‘real’ recovery and recycling rate of only 20%. A boom in single serve consumption has fuelled an out of home market that now represents up to 50% of consumption. This locks society into a position where even an 80% success rate in capturing materials through kerbside recycling cannot hope to achieve an effective recycling rate of better than 36% (nett of contamination).”

However, it seems that there is a great deal of uncertainty about what the true recycling rates in Australia are. The focus of the Covenant has been on consumer packaging, but this probably represents less than half of the total packaging placed on the Australian market. Business-to-business packaging is relatively clean and homogeneous, and there are far fewer outlets to collect from. We have seen a suggestion that more than one-third of all packaging placed on the market is collected from business premises for recycling. Added together with the estimated 20% collected from the kerbside, that would mean that Australia’s overall packaging recycling rate is more than 50%, a more than respectable performance.

In 1997, the year after the 15 EU member states were required to transpose the Packaging and Packaging Waste Directive into national law, the recycling rate in EU-15 was 47%. In 2001, it was 55%.⁹ The European Environment Agency has been conducting a study on the effectiveness of packaging waste management systems in five member states, and has concluded that recycling is reaching its upper limits in some countries.¹⁰ This has already been reflected in the targets which the revised Packaging and Packaging Waste Directive has set for 2008 – member states may set their recycling target between 55% and 80%.¹¹

⁹ *This figure is inflated by the fact that the member state with the largest population, Germany, is also the member state with the highest recycling rate – 82%. In 2001, Finland, France, Greece, Ireland, Italy, Portugal, Spain and the UK reported a recycling rate of less than 50%.*

Note also that in the EU the recycling rate is based on the tonnages of packaging delivered to a recycler, not those actually recycled. It is questionable whether full allowance is made for moisture and contamination, including the presence of broken plastic toys, metal objects and other waste that should not find its way into the system.

¹⁰ *As reported to the member states on 2 February 2005 at the Technical Adaptation Committee on the Packaging and Packaging Waste Directive (the “Article 21 Committee”). The EEA’s report has not been published yet.*

¹¹ *The ten new member states, and three of the EU-15 countries, have been allowed a later deadline to meet these targets.*

Unfortunately Australia has no reliable system for measuring the amount of packaging placed on the market or the amount being recycled. Some States collect some data, but these are incomplete, and there are no data on the amounts of empty or filled packaging imported. If targets are to be set, it is essential that Australia develops a uniform national packaging data collection system as quickly as possible, and that all States and Territories commit to adopting it.

The national packaging database should include business-to-business packaging as well as household packaging. The Covenant did not cover business-to-business packaging because this was not seen as a problem, but in terms of resource conservation the distribution channel makes no difference. Also, the boundaries between business-to-business packaging and household packaging are increasingly blurred – the corrugated box used for a computer may end its life on business premises or in somebody's home.

The Boomerang Alliance report goes on to say that

“Traditionally, post consumer packaging waste has been managed through the kerbside recycling system. When first introduced, kerbside recycling drove significant environmental improvement, but as the volumes of packaging waste increase and the types of materials used in packaging diversify, the kerbside system is becoming increasingly stressed.

Kerbside rates of recovery have stagnated, and in many cases are declining – over 116,830 tonnes of recovered materials are lost through contamination each year. Over 1,500,000 tonnes of packaging is consumed away from home, of which nearly all is lost to litter or landfill. As a standalone system, it has reached the point where kerbside cannot cope; the overall cost to manage this system now stands at nearly \$300,000,000 per annum.”

David Davies Associates have done a great deal of work on waste diversion rates across the world, and this suggests that the Boomerang Alliance probably have unrealistic expectations about what is possible.

David Davies Associates (2004) measured overall waste diversion rates and was not specifically concerned with packaging. It is important to remember, therefore, that the following waste diversion rates include green waste and other recyclable material as well as packaging:

- In Europe, best practice performance in the recycling and composting of household waste is a diversion rate of around 200-225 kg per person per year, of which 100-125 kg is bio-waste and around 120 kg consists of dry recyclables (75-80 kg paper, 23-35 kg glass, 20-30 kg plastics and metals and 3-5 kg textiles). Examples can be found in most Western European countries, but they tend to be in rural areas with fewer than 250 people per km².
- The best performing provincial and urban areas (1,000-2,500 people per km²) have achieved diversion rates of 45% (Bonn, Seattle and Peel, Canada, for example), but these are not always sustained. The only local authority we are aware of which has achieved more than 45% is Ghent, which has claimed 55% diversion.
- As regards larger metropolitan areas and cities, the best performers (Berlin, Geneva, Hanover, Munich, Stuttgart, Vienna and Zurich) achieve something like 30%-36% diversion, equivalent to 150-200 kg per person per year. Other major cities in high-performing countries do less well, for instance Amsterdam, The Hague and

Rotterdam all have a 16%-17% diversion rate, equivalent to 60-70 kg per person per year. London diverted 50 kg per person in 2002/3.

- The largest and most densely populated city examined, New York City, has a population density of 10,200 people per km². Recycling has been mandatory since 1989, there is a mandatory deposit system for beverage containers and a weekly multi-material kerbside service to 100% of households, but the recycling rate has never exceeded 21%.

WEIGHT OF PACKAGING USED PER HOUSEHOLD IN THE UK			
Household size	Number of products (per capita)	Weight of products (kg per capita)	Weight of packaging (kg per capita)
1-person	3,400	1,600	120
2-person	2,200	1,200	90
3+ person	1,400	1,000	70

Source: Kooijman (2000)

3.2 Collection costs

The A\$ 300 million annual cost of kerbside collection cited by the Boomerang Alliance is the gross cost; as indicated above, the net cost, taking account of the value of the material and the avoided cost of landfill disposal, is considerably lower.

We agree with the Boomerang Alliance's comment that

“the problem with prescribing a technology [i.e. kerbside collection] to achieve an environmental outcome is that better and more efficient opportunities to realise sustainable outcomes are squeezed out from consideration”.

However, kerbside collection was the dominant system for packaging waste management at the time the National Packaging Covenant was introduced, and it remains so today.

The Boomerang Alliance report says that 91% of Australian households have access to a kerbside recycling collection system. This is astonishingly high. In Europe, glass is almost invariably collected through “bring” systems (Bottle Banks), and there is a mix of “bring” and kerbside collection for the other packaging materials.

Kerbside collection requires the least effort from consumers, so it achieves the highest collection rate. By the same token, the material collected tends to be of lower value because of a high level of mis-sorting and contamination. Australian packaging waste management costs could undoubtedly be reduced if “bring” were substituted for kerbside collection in the areas with the highest collection costs. This would mean that less packaging material is collected, but the collected material would more readily find a market.¹²

The problem of an excessive amount of valueless material being collected at high cost is exacerbated by the absence of any municipal waste incineration facilities in Australia to recover energy from heavily contaminated flexible packaging,¹³ composites or mis-sorted

¹² To contain costs in the US, there is a trend away from high-cost segregated collections towards lower-cost co-mingled collection for subsequent sorting at MRFs (Material Recovery Facilities).

¹³ Wrappers for bacon and other fatty foods, for example.

materials. Germany has a very high recycling rate, but a German official recently stressed that “*a successful packaging waste management policy requires a successful waste management policy. Packaging waste which is not separately collected joins the residual waste stream. To optimise waste management, you need to recover energy from the residual waste through incineration.*”

The Boomerang Alliance comments that

“*waste to energy consumes the resource rather than capturing it for ongoing use.*”

This is not quite true, as it has one more life, as energy – but then 95% of oil is burned as a fuel without having an intermediate life as a plastics product. If material has no value as a secondary raw material, it is better not to waste resources collecting, transporting, sorting and finally dumping it.

This is the opposite of what the Boomerang Alliance is saying:

“*Ultimate targets for recycling must be set at a high standard of at least 80% by 2010 – milestones must guarantee that the level of recovery is subject to not only continuous improvement but also reduction of the gap between ultimate recovery and consumption.*”

Target-setting demands a little more analysis than the Boomerang Alliance appears to have carried out. There are three basic approaches:

- Set a target for the percentage of packaging placed on the market which is to be collected, and another target for the percentage of collected packaging which is to be sent for recycling (*the approach originally adopted by Germany in 1991, and the approach in the EU Directive on Waste Electrical and Electronic Equipment*);
- Set a target for the percentage of packaging placed on the market which is to be recycled (*as in the EU Packaging and Packaging Waste Directive*);
- Set a limit for the tonnage of packaging which may be landfilled (*the original Austrian and Swiss approach, now replaced by EU-style recycling + energy recovery targets*).

Setting a recycling target requires recognition of the “leakage” at every stage in the process. Analysis of recycling in Europe shows how sensitive recycling rates are to changes at any stage:

Total waste		Targeted materials		% of households served		Households cooperating		Capture by households served		Quantity collected for recycling
100,000t	x	75%	x	100%	x	80%	X	100%	=	60,000t 60%
100,000t	x	70%	x	95%	x	70%	X	80%	=	37,000t 37%
100,000t	x	65%	x	85%	x	70%	X	80%	=	31,000t 31%
100,000t	x	50%	x	50%	x	70%	X	80%	=	14,000t 14%

Thus, it is necessary to build up a set of assumptions for each stage in the process before deciding on a realistic outcome.

If the Boomerang Alliance really means that the target should be 80% recycling of household packaging, rather than 80% collection, then this is a quite impossible aim.¹⁴ Even 80% collection involves an unlikely combination of best-case assumptions:

Total waste		Targeted materials		% of households served		Participation by served households		Capture by served householders		% collected for recycling
100%	x	100%	x	100%	x	80%	X	100%	=	80%

Thus to collect 80% of household packaging for recycling, *all* materials would have to be targeted – bacon, meat and cheese wrappers, petfood sachets, crisp packets, detergent boxes, soap wrappers, the lot. Every household would have to have a kerbside collection service, and pickups would have to be frequent enough to ensure that nothing was missed. Consumer co-operation, which is generally around 60%-70%, would have to be at the top end of what can be expected.

And once this 80% has been delivered to a recycler, maybe 25%-40% of it, the flexible plastics and much of the paper and board, will be rejected as too badly uncontaminated or unsaleable. More than enough higher-quality paper and board is available from the commercial and industrial waste stream.¹⁵

In our view, the starting-point for developing a realistic recycling target for Australia might be something like this:

- Target rigid packaging. The fractions useful for recycling might be rigid plastics (say for the purposes of illustration 16% of household packaging), metal packaging (14%), glass (20%) and maybe cartonboard (15%) – a total of 65%. That would mean leaving in the waste stream flexible plastics (about 4%), composites (another 4%) and flimsy or contaminated paper (27%).
- Assume that 90% of households are served by kerbside collection.
- Assume 75% participation by the households served, and that 90% of the targeted packaging is collected from participating households.

That would result in –

Total waste		Targeted materials		% of households served		Participation by served households		Capture by served householders		% collected for recycling
100%	x	65%	x	90%	x	75%	X	90%	=	39%

¹⁴ As stated in footnote 9, Germany reports an 82% recycling rate. DSD, which is responsible for managing the vast majority of packaging waste from households, reported 2003 recycling rates of 99% for glass, 161% for paper and board, 97% for plastics, 74% for composites, 121% for steel and 128% for aluminium.

Recycling rates exceeded 100% for some materials because of unlicensed packaging placed by consumers in DSD collection containers. DSD reports that there are still some areas, particularly in the large cities, where the level of mis-sorting is high. DSD is already using 25% of sorting residues as refuse-derived fuels.

¹⁵ Another problem with recycling targets for post-consumer packaging waste is that it may impel companies to use this lower-quality material in place of clean production waste (offcuts, etc).

– *but these assumptions must be checked under Australian conditions before any serious work can be done on setting targets.* Targeted materials might in reality represent considerably less than 65% of household packaging waste.

The Boomerang Alliance insists that

“All materials should be returned for resource recovery, irrespective of material type. Both the current NPC and the NPC MkII do not support this approach, instead pointing to difficulties associated with fluctuations in commodity prices. It is conceivable that under the NPC all support for recycling would be removed if there was negative value for recycle such as PET or HDPE.”

If the Alliance is going to be so profligate with resources, it is scarcely surprising that nobody wants to pay the bills. The problem with the Zero Waste concept is that it overlooks the resources that have to be consumed in the effort to recycle marginal material that nobody wants to use. Anything is recyclable if you try hard enough, and if money is no object, but recycling is an industrial process with its own environmental impacts, and it is worth doing only if there is a net environmental gain.

The Boomerang Alliance argues that

“even if kerbside is 100% effective, a significant proportion of packaging materials will only ever achieve a 50% recovery rate because of public place and commercial consumption (cafes, restaurants, pubs and clubs). A 50% loss is a significant systemic problem which kerbside recycling alone cannot overcome.”

This is true, but it is an easy problem to solve. Packaging materials arising as waste at catering outlets are available in much greater quantities than those from private households. What is needed is a duty-of-care requirement to ensure that the waste-holder arranges for them to be sent on to a recycler rather than sending them to landfill. Insofar as this adds to the outlet’s operating costs, it will be passed on to his customers. There may not even be an added cost, as the operator already has to dispose of the material somewhere.

3.3 Litter

The Boomerang Alliance comments that

“Litter has been a significant problem in Australia for many years. The Litter Control Committee was established in 1979 to better understand the litter problem and develop a national approach to litter control... More than 20 years later, NPC MkII simply puts forward the vague proposal that ‘aspects of litter’ be considered. There is still a serious litter problem in Australia, and a holistic approach is required to address it.”

Litter is a serious problem everywhere. It is a societal problem in the Western world, where people increasingly nurture their private space while abusing public spaces, and in the Third World, where aesthetics are a long way down people’s lists of priorities. It sometimes occurs because there are no facilities where used packaging and other waste can be discarded away from home – if street stalls are selling food in polystyrene containers but there are no litter bins, littering is inevitable. In some Western European countries, litter bins have been removed from airports, railway stations and tourist sites because they are an easy place for terrorists to plant bombs.

Packaging waste accounted for approximately one-third of total litter collected on Clean Up Australia Day in 2003. That means that an anti-litter policy addressed solely at packaging would fail to capture two-thirds. The Boomerang Alliance refers to littering on remote beaches, which is surely the result of dumping waste from ships and boats: that too would not be affected by measures focusing on packaging. As the Alliance rightly says, a holistic approach is required.

The Boomerang Alliance proposes building the cost of litter management into the price of goods. It reports that Victoria alone spends approximately A\$ 50 million p.a. on litter, which equates to some A\$ 10 per head.

There seem to be four options:

- the status quo, where the financial burden falls on local government;
- imposing a clean-up tax or levy on products likely to be littered;
- requiring operators to undertake litter abatement actions at their own expense; or
- placing an artificial value on the litterable product to encourage its return.

Arguably, the whole community benefits from litter pickups, not only because of the immediate visual improvement, but also because of the abundance of evidence that people are less likely to litter in places where there is no litter on the ground already. Thus, there is much to be said in favour of the present policy of imposing the cost on the community through the local government budget, particularly since this avoids costly financial transfers.

Imposing a cost burden on the products most often found in litter would be no more equitable. Many people who consume packaging and other littered products away from home dispose of them thoughtfully, so a litter tax on these products would be rough justice.

Given the extremely heterogeneous nature of litter, it is doubtful whether market restrictions, taxes or mandatory deposits on particular types of packaging will have much effect on the overall litter problem.¹⁶ Litter is a behavioural issue which needs to be addressed holistically through concerted action by central and local government and by producers and retailers of products likely to be littered.

Ireland is however addressing the issue product by product. Already in 2002, Ireland imposed a tax of 0.15 euros (A\$ 0.25) per bag on plastic shopping bags as a litter abatement measure.¹⁷ The levy applies at the point of sale in supermarkets, shops, service stations and all sales outlets. Retailers are obliged under law to pass on the full amount of the levy as a charge to customers at the check-out.

Soon after the levy was introduced, the Government announced that the number of plastic carrier bags used had fallen by 90%. No follow-up studies on the longer-term effects have been published to see whether this reduction has been sustained, and critics (for instance Moriarty, 2004) have pointed out that

¹⁶ Which includes food litter, which can attract vermin, and discarded chewing gum, which is expensive to remove.

¹⁷ *The Waste Management (Environmental Levy) (Plastic Bag) Regulations 2001. The Regulations set out a large number of exemptions, including reusable shopping bags sold for 0.70 euros (A\$ 1.2) or more.*

- new rubbish bags now have to be purchased as carrier bags are no longer available for this secondary use. *“A major retailer in Eire reported an increase in sales of plastic bin liners of 70% and others reported increases of 20% in sales of black bin bags;”*
- *“consumer demand for paper bags in high-street stores has led to severe environmental costs in terms of transport and fuel usage as they take up 10 times the storage volume of plastic bags”;*
- *“customer theft increased hugely after the introduction of the tax as people now leave stores with products in their hand.”*

The Government is now considering responses to a consultation on the findings of a consultancy study on ways of dealing with litter from fast food packaging, chewing gum and ATM receipts. On 9 February 2005 the Environment Minister said that he intends to seek a negotiated agreement with the fast food sector involving "litter protocols, action plans, targets and so forth". He will also ask them to commit to phasing out the use of polystyrene in fast food packaging in favour of biodegradable materials.¹⁸

Meanwhile the UK Government has endorsed a Code of Conduct for the fast food industry (DEFRA, 2004). The purpose of the Code is to develop recommendations for best environmental practice for fast food operators to reduce litter and waste in the local environment. It is designed to be supported by other agencies, in particular local authorities.¹⁹

Mandatory deposits are another option supported by the Boomerang Alliance. Mandatory deposits came into force in nine US states between 1972 and 1983.²⁰ The leading US authority on litter measurement, Dan Syrek of the Institute of Applied Research, conducted a series of litter studies in a number of US states during this period, including a series of “before and after” studies in the states where mandatory deposits were imposed on non-refillables, and “side-by-side” studies comparing results in adjacent deposit and non-deposit states.²¹

¹⁸ *The idea that degradable materials will degrade quickly enough to result in a significant reduction in the amount of accumulated litter is a dangerous one. Degradable materials do not disappear overnight, and any policy based on the assumption that nature will take care of littering could only make things worse by creating greater toleration of the act of littering.*

¹⁹ *Outlets are divided into a number of categories, and operators in each category are invited to sign up to a number of appropriate commitments, such as clearing all litter from shop frontage to pavement at specified intervals – in some categories, carrying out litter patrols to a specified distance from the outlet; completing a litter management checklist annually; maintaining a level of cleanliness – cleansing frontage as necessary; ensuring provision of a specified number of litter bins; reviewing packaging use; asking customers if they want a bag; and displaying anti-littering posters and messages. The Code explains in detail how to carry out these commitments.*

²⁰ *The only deposit law adopted in the US since then was in Hawaii in 2002. A related measure was California’s Advance Disposal Fee, adopted in 1986.*

²¹ *Since 1973 the litter survey methodology developed by Syrek has been used in 72 surveys in 20 US states, 4 Canadian provinces and the island nation of Bermuda. His survey teams have counted close to 2 million items of litter at 5660 locations. The Institute For Applied Research is a public benefit, non profit research organisation, and most of these surveys were carried out for government agencies conducting anti-litter programmes. A few were done for industrial groups seeking alternatives to restrictive legislation.*

These studies relate to another time and place, but they were carried out with a very robust methodology and they present an unsurpassed view of the effect of this policy measure on littering.

One of these studies (Syrek, 1980), prepared for a Special Joint Committee of the Michigan Legislature to study the impact of the Beverage Container Deposit Law, collected samples²² in September 1978 and September 1979. The deposit law came into force on 3 December 1978. It was found that while beverage container litter had declined by 85%-88%,²³ the changes in total litter rates were not statistically significant:

IAR FINDINGS ON DEPOSIT LEGISLATION EFFECTIVENESS				
	Measurement Parameter	Beverage container Litter rate	Other Litter rate	Total Litter rate
BEFORE-AND-AFTER STUDIES				
Michigan 1978	Visible items per mile	226.0	1447	1673
Michigan 1979	Visible items per mile	6.3	808	815
	% change	-91.5%	+2.1%	-10.5%
California 1986	Visible items per mile	70.0	1836	1953
California 1993	Visible items per mile	42.2	1970	2013
	% change	-63.9%	+7.3%	+3.1%
ADJACENT STATE STUDIES				
California 1974	Visible items per mile	228.2	1998	2226
Oregon 1977	Visible items per mile	27.6	1930	1958
	% difference	-87.9%	-3.4%	-12.0%
Pennsylvania 1984	Visible items per mile	167.5	3117	3285
New York 1984	Visible items per mile	52.7	3485	3538
	% difference	-68.5%	+11.8%	+7.7%
AVERAGE ALL FOUR STUDIES				
Before (non deposit)	Visible items per mile	184.6	2100	2284
After (deposits)	Visible items per mile ²⁴	35.4	2216	2251
	% difference	-80.8%	+5.5%	-1.4%

Source: Syrek (2003)

In 1980 the IAR recalculated the data to give the following results from “before and after” studies in other states:

- the 1972/3 ADS Study in *Oregon* found a 68% decline in beverage-related litter, a 1% rise in all other litter and a total litter reduction of 15%;
- the 1973/4 *Vermont* State Highway Department Survey found a 76% decline in beverage-related litter and a 5% decline in all other litter;

²² From 30 rural roads, 10 heavily used urban freeways, 39 street frontages in cities of varying size, 9 urban picnic and play areas and 11 rural picnic areas, campsites, beaches and lake shores.

²³ The higher figures were the result of an adjustment for rainfall and temperature.

- the 1977/8/9 *Maine* Department of Transportation Study found a 65% decline in beverage-related litter by 1979, with all other litter up by 9% and a total litter reduction of 10%.

The IAR's cautious conclusion from this was that when adjustments are made for traffic volume, income levels and state highway clean-up frequency,

“the differences between states are not great ... While it appears that states with deposit legislation, as well as those with total litter control programs, appear to have lower rates than those surveyed which did not have total litter control programs, it is impossible to assert at this time that this can be demonstrated at even moderate levels of statistical significance.”

More recent work (Syrek, 2003) shows that under US conditions, beverage container deposits are by far the most expensive way of eliminating one item of litter:

*“Beverage container deposit programs are also a very expensive way to reduce litter since it does not appear to have any significant effect in reducing non container litter. As a consequence, the added handling cost of the redemption system, must be absorbed solely by the reduction of covered beverage containers in litter. The problem is that unlike the 1970s, when a relatively large percentage of containers sold ended up as litter, our data from recent surveys indicates that, without deposits, less than 0.3% of all containers sold now end up as litter. This means that since only one of 164 containers sold end up as litter, the handling costs for 164 containers is now being spent to prevent a single potential item of litter. **Based on a conservative estimate of a little over 2 US cents per container to maintain a redemption system, this works out at a cost of US\$ 3.42 (A\$ 4.4) to prevent the littering of one container.”***

By comparison, the IAR estimates that

- paid, targeted advertising costs US 1.3¢ (1.7¢ Australian) to eliminate one item of litter,
- “adopt-a-highway” schemes US 14.1¢ (18.0¢ Australian),
- comprehensive statewide litter control programmes aimed at preventing rather than removing litter US 14.2¢ (18.2¢ Australian), and
- litter pickup programmes US\$1.41 (A\$ 1.80).

Between 2 and 8 additional cleanings per year are required to cut litter by 50%.

This research is discussed in more detail in Perchards *et al* (2004).

4. THE NATIONAL PACKAGING COVENANT

4.1 The contrast with Europe

We are struck by the irony that as critics of the Covenant are trying to push Australia in the direction of prescriptive European-style legislation focusing almost exclusively on waste minimisation, the EU is trying to move in the opposite direction.

EU environmental policy is currently based on the 6th Environmental Action Programme, which was laid out in a Commission Communication, *Environment 2010: Our future, Our choice* (European Commission, 2001). In it, the Commission noted that experience from existing directives on packaging waste and end-of-life vehicles suggested that

“there is a need to create a consistent policy at Community level to encourage recycling in general. This needs to take account of the various environmental impacts and even trade-offs involved. The aim is to recover and recycle wastes to levels that make sense, i.e. to the point where there is still a net environmental benefit and it is economical and technically feasible.”

The Commission commented that

“today's environmental problems require that we look beyond a strictly legislative approach and that we take a more strategic approach to introducing the necessary changes in our production and consumption patterns.”

Environment Commissioner Margot Wallström explained²⁵ that the problems arising from major sources of pollution such as big industrial facilities had been addressed, and now we had to deal with dispersed environmental problems which are a by-product of the way we live, work, spend our leisure-time and commute.

New ways needed to be found to work more closely with the market via businesses and consumers. This could take the form of working with businesses to develop tools aimed at helping companies understand EU environmental requirements and how they should be met. While companies that fail to comply with environmental law should be punished, the Commission would support the development of national (but co-ordinated) company environmental performance reward systems. Environmental agreements could be used as a complement to legislation when they have targets against which progress can be effectively monitored.

Catherine Day, Director-General of the Commission's DG Environment, later provided further insight into the Commission's thinking.²⁶ Raw material consumption is no longer considered to be a major problem, as the market adjusts to this. However, there is a real problem with certain renewable resources, such as fish and clean water, she said. Climate change is the top priority, which has implications for energy policy. Thus, there is a case for shifting the focus away from the management of solid waste and towards energy conservation. For packaging, that shift in emphasis would make lightweighting important but the spotlight would move away from packaging. As packaging represents such a small proportion of total waste,²⁷ it would no longer be a priority waste stream but would slot in to broader policies.

To establish a framework for more holistic, less prescriptive policies, the Commission is developing a series of “thematic strategies” in consultation with stakeholders. One of these deals with waste prevention and recycling, and another with the sustainable use and management of resources.

²⁵ *At a conference organised by the European Parliament and held on 28 November 2000.*

²⁶ *At a European Voice conference held in Brussels on 1-2 March 2004.*

²⁷ *In the UK, glass represents 6% - 8% of household waste, paper and steel each 5% - 6%, plastics films 3% - 4%, rigid plastics 2% - 3%, and aluminium less than 1%. Packaging represents about 3% of the waste going into landfill.*

The consultation document (European Commission, 2003) which opened the consultation on the Thematic Strategy on waste prevention and recycling, made some comments which challenged some of the key assumptions underlying EU waste policy up to that time:

- Is there too much focus on municipal solid waste? Should policymakers not concentrate on the hazardousness rather than the tonnages of waste?
- Landfill and incineration standards are improving enormously, and recycling has its downside, so policy should not be based on “recycling at any cost”;
- There is no point setting prevention targets unless there is robust data to underpin them, and a clear idea of the measures needed to achieve them.

The challenge for the EU is to find ways of broadening its approach to resource management without damaging the huge administrative edifices put in place at national level to meet its recycling targets. These were originally designed as natural monopolies which would raise funds from packaged goods companies and channel them to local government, but over the years the national competition authorities have allowed the waste management companies to eat into these monopolies, until finally in October 2004, a US finance house acquired the packaged goods producers’ shares in the German organisation DSD, which will henceforth compete on equal terms with all other players. The consequences of this are yet to be seen, but the example of the UK, where a multiplicity of compliance organisations has always been allowed, shows that one effect is that competing organisations will meet their legal obligations (i.e. the minimum recycling rates laid down) and will do no more.

The National Packaging Covenant has always been based on a holistic approach to the environment. Companies are required to identify how they can best contribute to environmental improvement, document this by way of Action Plans, implement the plans and report the results. Now that everybody has got used to this, it is right that Covenant II should ratchet things up a notch by demanding tougher scrutiny of the Action Plans and more quantifiable results.

4.2 Criticisms of Covenant Mk II

The Boomerang Alliance makes the following criticisms of the proposed Covenant Mk II:

Absence of Performance Targets

“Without an overarching scheme or targets, the NPC MkII is little more than a ‘check-a-box’ reporting requirement. While reporting on these issues may cause some companies in the packaging sector to look at certain aspects of their operations, it places no greater burden than, for instance, signing up to the Global Reporting Initiative ... The absence of any targets represents a policy of maintaining the status quo.”.

The environment is a very complex organism. As Jane Bickerstaffe of INCPEN once put it, “poke it in one place and it tends to pop up somewhere else.” Externally-imposed requirements can all too often have unintended consequences. The environment cannot be micro-managed: once controls are in place to deal with major environmental hazards, routine environmental decision-making needs to be devolved rather than dictated from outside. Therefore what is needed is a framework to ensure that company managements regularly review the environmental impacts of their activities, identify and implement possible improvements, and expose their plans and actions to external review.

The introduction of targets would mean that everybody would focus on the same objective or objectives – waste minimisation, if the Boomerang Alliance has its way. Since environmental impacts are much broader than that, a framework which forces each company to think about the issues, and find its own way by devising and meeting its own Key Performance Indicators, is more likely to yield results – provided there is rigorous scrutiny of the Action Plans and subsequent reports, and a willingness to reject those found to be inadequate.

This management systems approach is much more in tune with modern environmental policymaking than the Boomerang Alliance's outmoded command-and-control approach.

Involvement of Consumers

“There are no roles and responsibilities or specified actions for consumers and the community at large within the NPC MkII.” The Covenant must establish price signals, for “it is unrealistic to expect producers to discourage consumption of their product through provision of accurate information.”

Covenant Mk II places the responsibility on industry: consumers have no role in developing corporate environmental management systems. Policy should aim to ensure that producers give due weight to environmental considerations as well as fitness for purpose so that the consumer cannot possibly make a bad packaging decision.

Consumers do of course have a role in co-operating fully with recycling systems and in avoiding littering.

We do not understand why “provision of accurate information” should discourage consumption. As explained above, the packaging industry is in the business of adding value rather than maximising throughput of material.

Limitation on Intelligent Discrimination

“The NPC MkII states that ‘the Covenant must avoid discrimination between different forms of packaging’. As a policy however, this is a contradiction with the central objective of the NPC MkII which implies that different packaging will have different impacts. Most importantly, the only way to reduce impacts is to selectively discriminate against those materials and systems of packaging that are resource intensive, not recyclable and degrade the environment through their manufacture, use and disposal.”

The evidence does not support the Boomerang Alliance's assertion. Ecolas and Pira International (2005) explains why. “LCA has revealed that for competing packaging systems the difference between the LCA results are often small. There are reasons for this. The main cost of packaging is not made up of indirectly related costs (such as the up-front R&D costs that can dominate the price of new pharmaceutical products, for example), rather the cost of packaging is closely related to the cost of energy and materials that make up the pack. Also, packaging manufacture is generally relatively straightforward in terms of inputs and outputs; unusual or highly polluting outputs seldom arise. This means that the environmental impact of packaging tends to be closely related to its energy use and material inputs. The result is that the cost of packaging is likely to be more closely related to its environmental impact than may be the case with many other products.”

It is true that some manufacturing processes may be more polluting than others, but this relates more to the performance of individual plants rather than to particular packaging

categories. The environmental performance of specific plants is undoubtedly an issue for command-and-control regulation.

We agree that for all practical purposes, some packaging materials are more recyclable than others. However, this does not mean that less recyclable packaging is worse for the environment. Flexible composite packaging, tailored to utilise the properties of each constituent (an air or moisture barrier, resistance to pests, and so on) may require fewer resources to produce and transport than a more easily recyclable mono-material pack.²⁸

“This stance in the NPC MkII could be seen as blocking opportunities for biodegradable packaging or other forms of materials that are more environmentally friendly.”

As manufactured, PE is unstable and requires antioxidants and stabilisers to make it durable. LDPE, HDPE, LLDPE, PP and PS are among the polymers that can be oxo-biodegradable; meanwhile cellulose, polysaccharides and their derivatives and polyesters are hydro-biodegradable.

All polymers are biodegradable, given sufficient time and the right conditions, but they are only useful if they can fit into a waste management system. Composting requires inherent biodegradability without pretreatment, but oxo-biodegradable material requires pretreatment (UV light, heat).

The big danger is that degradable polymers will inadvertently be mixed with conventional polymers, which makes the whole masterbatch unrecyclable. Therefore, degradable plastics need to be confined to certain product categories where there is no possibility of their contaminating other materials.

In any case, it may be rash to assume that biodegradable plastics are intrinsically more environment-friendly. According to PlasticsEurope, the methane given off by degradable material is 22 times worse than CO₂ in terms of global warming potential. Therefore, if 5% of degradable material is landfilled, there is a net environmental disbenefit.

One benefit of degradability is that degradable materials may be manufactured from renewable resources such as alcohol, but this will not be economic until oil prices rise sufficiently. This is an issue that goes well beyond packaging policy.

Rejection of Industry Responsibility

“The NPC MkII is a rejection of responsibility ... For example, the provision of recycling services for domestic purchases forces local government – and therefore rate payers – to bear the burden of responsibility. The responsibility for littering is implicitly noted as being in the consumer’s sphere of responsibility.”

This was discussed above.

Ignoring Impacts of Litter

“The NPC MkII reveals a policy stance that litter is not an issue for the packaging industry....As far back as 1982 it was recognised that there would be an improvement

²⁸ *The Boomerang Alliance’s condemnation of liquid paperboard packaging as “a nightmare for resource recovery” misses the point. This is a highly resource-efficient system, whose principal environmental advantages come at the storage and delivery stages. Nevertheless, this type of packaging achieves a high recycling rate in some European countries.*

in consumer behaviour and littering habits if packaging design took more account of disposal problems and the need to recycle. More than 20 years later, NPC MkII puts forward the vague proposal that “aspects of litter” be considered, as opposed to achieving tangible outcomes.”

Litter is not specifically a packaging issue; it is a social responsibility issue. We have already recommended to the European Commission (Perchards *et al*, 2004) that a major Europe-wide collaborative exercise, involving both the public and private sectors, should be put in train to quantify the litter problem, study littering behaviour, assess the impact of litter abatement measures under various conditions, and apply those measures shown to be successful.

After ten years of neglect, litter is moving up the political agenda again. The broadest possible coalition is needed to attack the problem and find durable solutions. These will undoubtedly involve parts of the packaged goods sector, but too narrow a focus on the products that make up one-third of the problem will leave the fundamental behavioural issues untouched.

Reliance on Kerbside Recycling

“The problem with prescribing a technology to achieve an environmental outcome is that better and more efficient opportunities to realise sustainable outcomes are squeezed out from consideration.”

We agree – but surely this was a response to demand at the time of the first Covenant for “transitional measures” to support kerbside collection until it could become self-sustaining. We warned at the time that that day would never arrive.

Industry Dominated Decision Making

We do not believe that it would be appropriate for us to comment on a process of which we have no detailed knowledge.

Voluntary Initiative

“The major process limitation within the NPC MkII is not so much that it is a voluntary agreement as much as it is up to signatories to set their own targets in their action plans. The only requirement for signatories is that ‘quantifiable targets’ be set with key performance indicators developed as part of Covenant Signatory Action Plans

This leaves the scope of the target up to the individual signatory and results in a classic gaming scenario. For instance, if an individual company sets goals that are too far in front of the rest of the industry, then that company will be at a commercial disadvantage. This has the effect of putting downward pressure on leadership and innovation and results in tokenistic targets. With no overall industry targets to be met, the NPC MkII presents as a rudderless ship.”

We have already addressed the first point. We believe that if companies set goals appropriate to their own businesses, they will sometimes be able to identify long-term resource savings that eventually generate financial savings; and if their initiatives cost money, it is up to the company to use this to generate marketing kudos.

“The NPC MkII also sets industry funding contributions at \$3 million per year. With over 600 signatories this represents an average contribution of under \$5,000 – a

cheap option for industry to be seen as doing the right thing. Furthermore the Covenant makes it clear that this money will not be available to ‘subsidise’ collection costs, prop up product prices or any other aspect that is not good practice.”

The focus of both Covenants has been more on internal actions than external subsidy. We understand that the funding offered under the first Covenant was not fully taken up, so the size of the subsidy fund does not seem to have been a limiting factor.

Conflict of Interest within the National Packaging Covenant Council

We do not believe that it would be appropriate for us to comment on a process of which we have no detailed knowledge.

Unanimous Decision Making

“A primary limitation of the NPC MkII is the inhibition placed on the ability of jurisdictions to act independently of the NPC process with regard to packaging. Jurisdictions’ ability to regulate or change the playing field by introducing an extended producer style of program are severely hampered if they accept the requirement for ‘consistent and harmonious polices [with the NPC] and systems for the management and disposal of used packaging’.

As the NPC MkII will be unable to be modified except by unanimous decision of the NPCC, there will no opportunity to engage industry seriously on the issue of internalising the existing negative social and environmental impacts associated with their activities, one of the key components of extended producer responsibility. This puts the NPC MkII at a double disadvantage, firstly by not addressing the internalisation of costs it puts signatories at odds with growing calls to make market systems more sustainable (e.g. EBA 2004), and secondly by locking in this stagnation for the next five years.

The NPC requirement of unanimous decision making literally represents the abdication of government’s responsibility to protect its citizens and delivers control into the hands of the ‘waste club’. the process ensures that industry will only do what it wants to while governments stand idly by.”

In Europe, we are constantly struggling to deal with the unintended consequences of unilateral national actions. Australia is a much more homogeneous society than Europe, so there should be much less need to break ranks.

The idea that the Covenant represents a fixed settlement for a finite period of time is an important part of securing companies’ commitment to this voluntary agreement. Companies need a stable legal framework if they are to plan ahead, and particularly if they are to commit resources that will only yield fruit in the long term. The unanimity rule is a strong incentive to get the framework right in the first place.

Internal Regulation of Covenant Signatories

“If a company does not join the Covenant they are subject to the provisions of the National Environment Protection Measure (NEPM) on Used Packaging Materials (1999). This contains provisions regarding the undertaking or assurance of activities related to the management of end-of-life packaging materials and reporting on recovery data. However, as the NEPM does not stipulate recovery targets, it can be viewed as enforcing a slightly more rigorous reporting regime than the Packaging Covenant, but hardly counts as a severe penalty.

If an organisation does join the Covenant, the principal obligation remains the same as the original NPC, namely to produce an Action Plan in line with NPCC guidance and then to report annually on progress against this plan. Action plans are sent to NPCC who undertakes a pre-registration assessment review according to set criteria. This is not a review, merely an administrative device to ensure that all the boxes are checked.

If a report or plan is not received by the specified due date, a lengthy process of overdue, show cause and non-compliance letters is initiated by NPCC. The worst that can happen as a result of this process is ‘expulsion’ from the Covenant and being placed under the regulation of the NEPM.”

We agree that compliance with the NEPM should be significantly more onerous than compliance with the Covenant. The Covenant is being tightened up, and the NEPM should be strengthened too. We submitted some ideas on this back in 1998.

5. THE BOOMERANG ALLIANCE’S AGENDA FOR ACTION

The Alliance calls for Covenant Mk II to be sent back to the drawing board for further negotiation, so that the following requirements can be incorporated:

“Development of overreaching targets to achieve key goals in resource conservation, waste avoidance, recycling rates, and wider issues within ecological lifecycle – such as 80% recovery by 2010”

This is one of the few places in the report where the Boomerang Alliance mentions wider environmental issues. As we have already made clear, we believe that an undue focus on recycling is sup-optimal. There are other environmental issues, many of them considerably more important.

Given the complexity of environmental optimisation, we believe that the basic approach of the Covenant is very sound, as it does give companies the flexibility to make a difference where they can. For this reason, we would recommend that targets and KPIs are considered in conjunction. Statutory targets should be kept to a minimum – but in return, there must be rigorous scrutiny of Action Plans and of the reports on the outcomes achieved, and a NEPM strengthened in line with the more rigorous demands of the new Covenant.

“A mandatory commitment to continuous improvement with a minimum acceptable performance standard that ensures trends for overall loss of resources are reducing, not increasing”

As was pointed out in section 2.2, the packaging industry does not operate in isolation from wider social and economic trends. There are however many economic drivers which impel it to operate as resource-efficiently as possible, and many tools available to help companies do this in a systematic way – for instance environmental management systems and, specific to packaging, the European standards on source reduction (CEN 2004b) and material recycling (CEN 2004d). The CEN standards are worthwhile in their own right, but carry the additional benefit that packaging produced in conformity with them cannot be locked out of European markets on grounds of non-compliance with the EU’s Packaging and Packaging Waste Directive.

We heartily agree that continuous improvement should be the aim, but this is more likely to be achieved through a management systems approach than through obligatory compliance with more or less arbitrary statutory targets.

“Definitions of the level of responsibility that the supply chain bears and a plan to shift (over time) a fair share of the burden onto industry”

“Industry” can bear a burden in one of three ways – through reduced investment, with its long-term effect on international competitiveness; through lower wages, salaries and dividends; and, most likely, through higher consumer prices. As we explained in Chapter 2, we do not believe that the reallocation of costs from taxpayers to consumers would be economically efficient.

What is needed, is to ensure that knowledge and commitment permeates through industry to ensure that managers at all levels have a proper appreciation of and commitment to resource-efficiency, and that the tools are available to help them find ways of continually optimising their operations. We believe that Covenant Mk I did the groundwork for this, and that Covenant Mk II should build on those foundations.

“A critical independent assessment of EPR and other economic instruments”

For the reasons given, we are not convinced that EPR is the answer, but there is certainly a case for studying variable charging. However, as we warned in section 2.3, there is a danger that this would add to the cost of the kerbside collection service by increasing contamination and mis-sorting to unacceptable levels.

“Funding for an independent assessor to compare and contrast different approaches against the NPC so that an impartial and informed assessment can be made”

We have no comment on process issues.

The Boomerang Alliance also endorses a number of key points that have already been put to the NPCC:

“The strengthened Covenant must provide compulsory benchmarks for improved environmental outcomes which can be achieved by avoidance, reuse and recycling. The Covenant must set sector-wide targets which focus on reduction, reuse and recycling of packaging materials. These sector-wide targets must translate into compulsory, individual targets for signatories.”

KPIs rather than compulsory targets, for the reasons explained above.

“The NPC MkII must drive substantial changes in the way goods are delivered to consumers and the way packaging users are provided with options and incentives for reuse and recovery.”

This suggests that somebody should dictate how companies in the packaging supply chain do business. It is an approach that was not notably successful in the German Democratic Republic. As the example of the German refill quotas has shown (see section 2.2), the market has a habit of reasserting itself.

The Boomerang Alliance has already commended the continuous-improvement approach, and we believe that is the right way forward.

“Action plans should include detailed actions, targets or measurable outcomes (that reflect the higher level targets that have been set for the industry sector or packaging material type), timeline, responsibilities, funding allocations, measures to adopt the Environmental Code for Packaging and information on how data will be collected to measure performance. Compulsory components must be highlighted and reported on.”

We agree.

“Abandon the ‘should not discriminate between different forms of packaging’ clause – which is contrary to a genuine commitment to product stewardship. In the case of raw material suppliers, signatories should commit to develop, or continuously search for and specify, the lowest impact materials available.”

No, for reasons explained in section 4.2. How are “the lowest impact materials” to be identified? There are many different environmental impacts, and they cannot be boiled down to a single-figure star rating system (see Ecolas and Pira International, 2005). Also, impacts vary according to time and place. Continuous improvement will weed out poor performers, but the outcome should not be specified in advance.

“Appoint a multi-stakeholder group including technical and academic expertise and environmental and consumer affairs representatives to revise the current environmental Code of Practice for packaging. The Code should act as a screening mechanism to prevent new packaging materials entering the market that contain hazardous elements and that are not fully compostable, reusable or recyclable.”

The EU’s Packaging and Packaging Waste Directive specifies that packaging, whether reusable or not, must be recyclable, compostable or energy recoverable, and there is a set of six standards to verify this. One of these standards, and two reports, can be used to verify the minimisation of hazardous substances in packaging (which is not a real problem). CEN (2000a), CEN (2000b), CEN (2004a), CEN (2004b), CEN (2004c), CEN (2004d), CEN (2004e) and CEN (2004f) refer. We have already commended the use of these standards by any Australian company whose products might find their way to Europe (and at least one Australian company mentions compliance with the CEN standards in its Action Plan).

The difference between the European framework and the proposed requirement endorsed by the Boomerang Alliance is that there is no place for energy recovery. This is unsurprising, as Australia does not have municipal waste incinerators with energy recovery facilities. However, this may be seen as a way of outlawing flexible plastics. In fact, as footnote 14 shows, Germany has shown that it is possible to recycle these materials, if cost is not a concern. The only non-compostable material for which there is no recycling system in Europe is ceramic.

“The composition of the Council should be prescribed so as to provide for a balance of all interests consistent with the philosophy of shared responsibility embedded in the Covenant and so as not to be at the discretion of industry and government representatives.”

We have no comment on process issues.

“We support proposals for better oversight and evaluation of signatories’ action plans and the notification and follow up of non-signatories. However, consistent with the intent of the NEPM, sufficient resources must be allocated to ensure compliance. Failure to reach targets embedded in action plans should trigger the

mandatory imposition of policy instruments aimed at achieving the relevant target for material efficiency and recovery.”

If companies fail to meet the targets set out in their Action Plans, they must explain the reasons for this. If investigation reveals that a company has not made a serious effort to fulfil its Plan, expulsion from the Covenant must be an option – but the punishment has to be proportionate to the crime.

“Companies should be required to conform to AS/NZS 14021: 2000 Environmental Labels and Declarations – Self declared Environmental Claims and Labels. This requires environmental claims to be relevant and specific. For recyclable packaging we recommend the use of mobius loop (as per the Standard) but with specific information added such as percentage and type of recycled content (‘50% post consumer recycled content’) and instructions for take back or recycling.”

We agree that there should be effective controls on environmental claims, but we are not convinced by the other labelling recommendations.

Recycled content claims would be difficult to measure, impossible to police, could lead to fraudulent claims and would lead to market distortions. As far as imported packaged goods are concerned, they could also give rise to WTO complaints.

The more general the recycled content claim, the more likely it is that consumers will interpret it in more than one way. For example, if the pack consists of a bottle, label and closure, would a 50% post-consumer recycled content apply to the bottle alone or to the entire pack?

If fillers are buying, say yoghurt pots, from a variety of packaging suppliers, or the packaging manufacturers are sourcing their raw materials according to market conditions, the recycled content may fluctuate considerably. Thus either the label would need to declare *minimum* recycled content, or else a range of labels with different declarations would need to be stocked (and administrative controls put in place to ensure that the right labels were always used).

Fundamentally, though, general use of a recycled content declaration would lead consumers to believe that this was the most important, or even the only, environmental parameter, which is far from true.

Around 70% of primary packaging is used in foods. Recycled materials can only be used for food contact applications where this will present no risk to health, which means that a recycled content declaration would give an unfair advantage to materials which are reprocessed at high temperatures (glass and metals) over materials which are not (paper and plastics).

In the case of paper and plastics packaging, for strength and safety reasons more recycled material is sometimes needed to perform the same function as the virgin equivalent. The resultant weight increase can more than negate any environmental gain from using the recycled material.

There is no intrinsic reason why closed-loop recycling should be better for the environment than any other sort of recycling. The important thing is to maximise the range of market opportunities. The secondary materials market has traditionally been entrepreneurial, and should be kept as unfettered as possible.

On-pack instructions for take-back and recycling are possible only if there is a uniform system nationwide. A website address is a better way of giving consumers access to all the information they might be seeking.

“Regardless of any policy framework developed within the NPC process, a stronger reform agenda to develop specific solutions will also need to be developed. This should include the development of specific EPR and other ‘end of pipe’ schemes at the state and national level need ongoing attention.”

In our view, one of the strengths of the Covenant is that it focuses on optimisation of the entire packaging supply chain rather than on end-of-pipe solutions.

“Specific actions for investigation should include:

- ***Landfill bans on all packaging waste materials***
- ***Mandatory ‘plain English’ labelling indicating the packaging’s recyclability;***
- ***Investigation of market based ‘take back’ schemes to recover high quality, uncontaminated resources (glass, aluminium, steel, PET).”***

Landfill bans or restrictions on certain materials have been tried in some European countries. One effect is to increase the amount of packaging waste exported to jurisdictions where this ban does not exist. If Australia were to ban the landfilling of *all* packaging materials, then good packaging systems that use minimal resources in production and distribution but are not worth recycling would be driven off the market. It is pointless to conserve "visible resources" – raw materials – at the expense of using "invisible resources" – fossil fuel energy.

Subject to the proviso that packaging waste collection systems should only be put in place where they are resource-efficient, then those packaging materials that are readily recyclable should be recycled. It follows that it is helpful for information to be provided telling consumers which packs should be put out for recycling.

Take-back schemes, as we understand them in Europe, involve a collective guarantee. In a number of EU countries, the competition authorities are beginning to attack these arrangements. One EU member state that does not have a collective financing organisation is the Netherlands. There local authorities representing some 30% of the population have banded together to set up an organisation to market the used packaging materials they have collected. In general, local authorities do not see themselves as being in the risk business, and it is right that they should not speculate with ratepayers’ money, but a professional trading organisation that can sell collected material at the best price is undoubtedly a valuable resource.

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