



Review of Signatory Action Plans and Annual Reports – Supplementary Work

Part of the mid-term review of the National Packaging Covenant

Final Report

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Report to the National Packaging Covenant Council

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Executive summary

The Centre for Design at RMIT University generated an extensive document on action plans and annual report findings collected from 140 signatories to the National Packaging Covenant Council (NPCC) in July 2008, as part of the Mid-Term Review of the NPC. Additional information was requested by the NPCC to identify specific examples where signatories have initiated change within their organisations as a result of NPC criteria and the Environmental Code of Practice for Packaging (ECoPP) guidelines. The eleven case studies presented were compiled by using text that was available and documented in the signatories' action plans and annual reports. This was a challenging exercise as many of the signatories did not clearly detail the process by which many new programs or initiatives were implemented (in most cases they were extremely brief). The following information draws on eleven separate signatories and demonstrates where they were able to make environmental savings and in some cases how they were able to make those savings.

One recommendation would be to enhance these case studies and/or collect new case studies utilising data collected specifically from the signatories (e.g., via telephone interviews). This would provide the opportunity to explore in more detail how specific initiatives were implemented.

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Case study one

This company manufactures plastic packaging and has achieved the following significant environmental savings:

- Reduction of 90 tonnes of solid waste (56%) going to landfill over a 3-year time period.
- Reduction of 7 GJ per tonne of plastic manufactured over a 4-year time period resulting in a reduction of greenhouse gas emissions of 123 kg CO₂eq/tonne.
- Reduction of water by 1.03 kL/tonne of plastic manufactured over a 4-year time period.
- The ongoing promotion of bulk ordering for customers (1 tonne bulk bags versus 25kg paper sacks) has resulted in approximately 195,000 paper sacks being eliminated.
- Use of 15 tonne bulk containers to transport additives eliminating 600 metal drums per annum.
- The elimination of cardboard boxes to package finished goods at one site resulted in a saving of 32.6 tonnes of corrugated cardboard packaging per annum.
- Larger on-site bulk silos installed, allowing for a more efficient use of bulk transport by using B-double trucks opposed to semi-trailers. This has reduced the number of delivery trips per annum (750 B-double trips versus 1304 semi-trailer trips).
- Developed a new bottle design resulting in a 0.5% reduction in bottle weight saving approximately 15 tonne of material per annum.
- Reduction of 3.7% of non-prescribed waste sent to landfill (733m³).

Case study two

This company is a major brand owner selling personal care products. Management at the company continue to ensure that all stock keeping units (SKU's) planned for introduction into the Australian marketplace are subjected to a stringent review during the product development process. An education and awareness program ensuring sales representatives are advised of their commitment to the NPC has also been implemented.

Recently they introduced an automated picking line operation to improve productivity and throughput. This enabled the company to achieve a 20%-25% reduction in the amount of void fill newsprint used to package representative orders. They also reduced the number of different sized shippers (distribution cartons) used to transport representative orders from four to three and reduced shipper size therefore reducing the amount of board required to manufacture them. Previous initiatives successfully implemented into the organisation in line with NPC practices include:

- Only using 100% recycled content corrugated shippers;
- Using non-heavy metal water based inks;
- Re-using corrugated shippers and eliminating layer pads;
- Reducing paper usage through education of on-line order placement for representatives;
- Installation of recycling bins in office areas for paper; and
- Buy recycled purchase programs.

Case study three

This large food and beverage franchise retailer has more than 700 franchises worldwide. They are also a brand owner and understand the importance of educating their franchisees regarding the environmental and social impacts of their operation. This is reflected in many of the strategies outlined in the company's action plan including the minimisation of bulk packaging, reduction in material use in retail packaging and providing reusable packaging to the consumer.

A number of initiatives have been implemented that have resulted in environmental savings including:

- *Reduction in Packaging Use:* In order to reduce the amount of single use high-density polyethylene (HDPE) carry bags, they introduced reusable non-woven calico 'Enviro-bags' and single use paper bags. This resulted in a 12% reduction of single use plastic bags (comparing 2004-05 to 2003-04) and a 2% reduction in LDPE bags over the same period. By conducting regular reviews of packaging sizes it was determined that savings could be achieved with the development of a new paper bag for a particular food item. Previously these items were packaged in over-sized bags resulting in excessive paper waste therefore the production of a smaller bag size minimised packaging use for this product range.
- *Paperless Communication:* In order to reduce the amount of hardcopy in-house communications throughout the 700+ franchises worldwide, the company upgraded and increased the functionality of their online/internet capabilities accessible to all franchisees. This has resulted in a significant reduction of procedures requiring paper including internal newsletters, product ordering and financial statements.
- *Research:* Another initiative was participation in a number of independent research activities. This included collaborating with an Australian University and an independent research centre on a major project intended to improve their own environmental and social performance in the supply chain. The main outcomes of this research were to further investigate the reduction of packaging materials and increasing the use of 100% recyclable options.

Case study four

This brand owner manufactures a range of dairy and soy foods. They provide bulk products for the food services industry as well as products for retail sale in major supermarkets and various health food stores and delis. Initiatives undertaken include:

- The Environmental Code of Practice for Packaging (ECoPP) has been used to consider possible effects that packaging design will have on the environment.
- Process packaging waste generated, due to equipment failure and malfunction during the filling operation, has been reduced with the incremental replacement of aging and faulty machinery.
- An onsite collection of polypropylene plastic for recycling was successfully established in September 2006 resulting in 43% of total waste sent for recycling.
- A system to monitor and record all forms of packaging used in the manufacture of products was implemented. Packaging waste in the production process data is generated from these records and used to produce an average percentage “waste packaging figure” calculated at 8.15%, decreasing slightly from 9% the previous year. The proportion of packaging waste in the production process continues to be reduced by purchasing ingredients in bulk where practical. For example, there is a high demand for the supply of yoghurt to a number of retail customers in bulk containers, which include 2, 5 and 10kg buckets and 1000kg palecons. A recycling collection for the buckets has been set up on site, and the palecons are reusable.

Case study five

This company is a manufacturer of materials and packaging systems for the fresh food industry. Significant environmental savings were achieved by the organisation in the first year of reporting for NPC Mark II including:

- Saving 130 tonnes/annum of barrier sealant film by down gauging from 54um to 38um.
- Reducing material usage through light weighting of thermoformed tubs resulting in a saving of 34 tonnes/annum.
- Increasing the number of film rolls packed per pallet by 40% through the use of reusable roll cradles.
- Increasing the amount of recycled resin used in thermoformed sheeting (396 tonnes/annum used).
- Eliminating cardboard packing by implementing bulk packaging of barrier trays.
- Increasing the recycled content in cartons purchased from supplier – ranging from 33% to 100% recycled content.
- Increasing paper and cardboard recycling by 11% from onsite facilities in one year.

The company achieved ongoing environmental savings in the second year of reporting for NPC MKII including:

- An ongoing increase in the recycled content in cartons purchased from suppliers – range from 40% to 100% recycled content.
- Introducing larger capacity cartons for shrink barrier bags used on robotic bag loaders – reduction in carton numbers.
- Saving 174 tonnes/annum of barrier extrusion by down gauging and yield improvements.
- Introducing a reuse program for cardboard cores used in packaging of extruded barrier sealant film.
- Improving extruder yield resulting in a saving of 110 tonnes/annum.
- Introducing a returnable cartons policy for reuse of up to 5 times resulting in a reduction in carton numbers.
- Reducing waste going to landfill by utilising scrap regrind into subsequent processes resulting in the diversion of 10 tonnes/week to landfill.

Case study six

This brand owner is a global company producing a range of alcoholic and non-alcoholic beverages. The New Product Development (NPD) protocol that recognises the Environmental Code of Practice for Packaging (ECOPP) has been implemented across the organisation. The main packaging material used by the organisation is glass and so there has been a particular emphasis on increasing the recycling rates of this material. Examples of achievements include:

- All standard materials have been down gauged reducing resource consumption and improving transport efficiencies.
- All standard products are distributed on pallets drawn from a common pallet pool and are fully reusable.
- Glass cullet, recycled aluminium cans and rejected polyethylene terephthalate (PET) material is returned to the manufacturer for reuse.
- A significant increase in 20 litre polyethylene drums used to deliver chemicals are being collected, cleaned and returned to the supplier for re-use.
- All office buildings have paper recycling and photocopy toner cartridge recycling in place.
- 98.4% by weight of packaging material has at least some recycled content. This was achieved over a 12-month period (target was 95%).
- Developed training materials for use in induction and ongoing training of personnel highlighting the key commitments to the NPC. All sales and marketing staff were also trained in Corporate Social Responsibility and its place in the NPC guidelines.

The signatory observed some adverse outcomes in relation to key performance indicator number 4 “changes to protection, safety, hygiene, shelf life or supply chain considerations affecting amount & type of packaging used”. They were as follows:

- Average glass weight per bottle (for one product) increased due to standardising to one bottle for some product brands and an ongoing shift towards premium product, which typifies heavier bottles.
- Due to customer occupational health and safety (OHS) requirements, packaging for one product is shifting from 12 bottle cartons to 6 bottle cartons with an increase in the ratio of cardboard per kg product delivered.
- Divider boards have been deleted from most cartons (for one product) where their removal could possibly result in product damage or consumer safety risk.

Even though these changes were adverse to the covenant outcomes, the signatory identifies that there was a slight net reduction in packaging use per litre delivered during the period.

Case study seven

This brand owner is a large distributor of consumer lifestyle products and children's toys. The vast majority of the products they market are sourced from overseas. Consequently, this limits the influence they have on their suppliers for environmental improvements of the packaging used. The signatory has investigated the reduction in packaging material use, the use of recycled and recyclable products and implemented a best practice recovery system. Specific examples include:

- Undertaking a comprehensive review of their packaging suppliers to identify the percentage of recyclable packaging materials used.
- Encouraging suppliers to include the recycle logo on all relevant packaging components.
- Liaising with suppliers, based on their new Covenant benchmark, to encourage them to utilise a higher percentage of recyclable materials. This is reflected in their main supplier of locally produced packaging now using 90% recyclable materials.
- Guidelines and criteria detailed in the NPC prompted the company to address the large amount of returned product in its packaging going straight to landfill. As a result of this review, the company reduced the amount of stock and packaging going to landfill from 100% down to 50% by returning non-damaged stock to retailers and repairing and reselling remaining stock.
- Reviewed the packaging used for electrical display items and eliminated the use of stretch wrap resulting in a reduction of 327,012 display item units per annum going to landfill.

Case study eight

This brand owner is a major Australian food manufacturer. The following examples of improvements were identified:

Monitoring and review of inefficient packaging design resulted in:

- Laminate packaging for bulk packs being down gauged from 240um to 175um, savings anticipated being 39 tonnes per year.
- Bottom webs converted to 80 or 100kg laminate rolls, resulting in less waste at roll change.

Looking closely at the opportunities for waste minimisation in production, changes were made with:

- Reusing baking paper resulting in a savings of up to 6,000 sheets of baking paper per week.
- Resizing baking paper for a more accurate fit, which has resulted in 18,304 m² of baking paper eliminated.
- The issuing of vinyl gloves replacing the thinner one time disposable gloves. This has resulted in 52,000 gloves being diverted annually from landfill.

Investigating the amount of waste going to landfill, the following initiatives were introduced:

- Burnt sawdust is now being recycled into soil compost at a local market garden resulting in 175 tonnes of sawdust now composted.
- Clean damaged empty aluminium cans are now being collected and recycled (five tonnes annually).

Opportunities around continuous improvements were identified:

- Co-mingled recycling bins have been placed in the car park to reduce waste to landfill
- A cardboard compactor has been installed to manage all onsite clean cardboard

Case study nine

This company specialises in the manufacture of frozen appetizers for the Australian retail and food service catering markets. Their achievements from NPC related initiatives include:

- Wastage created through the double handling of imported components substantially reduced through the introduction of importing some products in their retail packaging.
- Wastage per carton (delivering product) decreased by 17%.
- Recycling of clean waste cardboard increased to greater than 80%.
- Total weight of consumer packaging sent for recycling increased by 39%.
- Total weight of consumer packaging sent to landfill reduced by 61%.
- Specification of the Kraft board used was analysed and further modifications to the board resulted in a 55% increase in recycled material content.
- A significant improvement was made in the relevance and functionality of the wastage KPI statistics that form part of the monthly report to the board.
- Ensuring all staff members are aware and familiar with NPC requirements and goals through incorporating NPC notification into all position descriptions.
- Implementing the Environmental Code of Practice for Packaging (ECoPP) into the product development procedure in the organisation's quality system.
- Review of all utility services completed and a number of waste reducing measures implemented.
- All product packaging now has appropriate recycling information printed on the consumer packs.
- All areas of the companies operations are being continually reviewed to ensure all potential waste reducing activities are identified and assessed for suitability of implementation. The aim is to continue this policy of continuous improvement into all future action plans.

Case study ten

This company is one of the largest wholesaler/distributors of fast moving consumer goods (FMCG). Environmental achievements /improvements have included:

- Saved 650 tonnes of virgin cardboard across the supply chain.
- The amount of cardboard saved via recycling initiatives totalled 2283 tonnes (an increase of 11% on the previous year), and 750 tonnes saved by using tote bins in all 4 CSD's.
- Improved product vs. packaging weight ratio from 8.74 to 8.82.
- Use of ECoPP guides & NPC checklists for high level project planning
- State co-ordinated education programs implemented with programs established to encourage consumers to recover, recycle and re-use.
- Maintained a 50% reduction on plastic bags.
- All plastic bags now have 25-50% recycled content.

Case study eleven

This brand owner is a manufacturer and distributor of chilled food products and have committed to minimising their impact on the environment by promoting waste reduction, recycling and the reduction of non-renewable resources used at all its manufacturing and distribution sites. They have achieved significant savings in a number of ways including:

- Achieved a reduction in secondary packaging use by reducing the amount of corrugated board used in shippers resulting in a material saving of 3.8%.
- Implemented bulk handling of carrots for use in factory opposed to 10 kg bags used previously, resulting in a reduction of 80,000 bags used per annum.
- A 4% product to packaging ratio improvement was achieved from baseline data of 2005.
- All packaging suppliers (excl. labels) are supplying 100% recyclable packaging products with 80% of raw material product volume supplied in reusable plastic bulk bins.
- All cardboard cartons now have 100% recycled content.
- Moved to bulk handling of ice for use in factory resulting in a reduction of 12,000 bags per annum going to landfill.
- Replaced lined cardboard boxes on pallets, to a lined reusable bulk bin containing sachets – resulting in a reduction in cardboard box use.
- Changed from cardboard octabins to reusable plastic bins eliminating cardboard use.
- Implemented an in-house recycling system whereby all aluminium cans and cardboard are collected.