

# Australian Packaging Covenant

Annual Report for calendar year 2018



**D<sup>®</sup>** D&D Technologies  
World's most trusted gate hardware

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Australian Packaging Covenant Organisation

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## 1. Foreword

*Sustainable packaging plays an essential role in our business by maintaining the conditions under which humans and nature can exist in productive harmony, as well as protecting and preserving our products and brand.*

*Our sustainable packaging designs have a positive impact on our suppliers, our customers, our staff, and the wider community. Our sustainable packaging designs do not just care about today, but about its impact in the years and decades to come.*



*'One Nation – Global Impact'*



## 2. Executive Summary

The **Australian Packaging Covenant Organisation (APCO)** has played an important role in our global operations from Product Development through to Supply Chain and Sales and Marketing. Most importantly, the **APCO** has been one of the vehicles that helped to shape our operations for a more sustainable future.

Benefits were gained from the packaging and environmental perspectives, as well as cost savings to the business.

In 2018, all our US Retail product Lines rolled over to new bulk packaging configuration. If we were to continue with the previous 2\*6 packaging configurations, we estimated a potential saving of \$64,96.35 in shipping costs and 15,645.81kg in the use of cardboard packaging.

D&D is looking forward to turn the 2020 forecasted environment and cost savings into a reality for the next reporting period.



### 3. Background

“The **Australian Packaging Covenant Organisation (APCO)** is a sustainable packaging initiative which aims to change the culture of business to design more sustainable packaging, increase recycling rates and reduce packaging litter.”

As a result of our obligations to the **APCO**, the team at D&D Technologies is strongly committed to achieve its **APCO** goals of sustainable packaging through responsible design, recycling and product stewardship. As a signatory to the **APCO** guidelines, we together have laid out a robust schedule of achievable targets supported with key performance indicators in the year 2016. These KPIs are then implemented, tracked and monitored by the Product Development Team.

D&D is a dynamic organisation with aspiration in creating innovative gate hardware products and solutions. With the recent introduction of our latest MagnaLatch® ALERT, this has opened new opportunities for D&D not only in terms of packaging, but also responsibly shipping and disposal of Lithium Batteries. In 2015, MagnaLatch® ALERT was awarded a prestigious Good Design Award.

As prescribed in the **APCO**, all signatories are required to report annually on their progress and achievements. All signatories, including D&D Technologies, are measured accordingly. This process is so, that by the year 2020 all signatories must satisfactorily have met all the **APCO** goals that were laid out to achieve.

For 2016-2020 period, D&D has welcomed a new challenge to the business by involving various cross-business functions in the **APCO** from Product Development through to Logistics and Supply Chain. Under the principle ‘One Nation – Global Impact’, D&D shall continue to invest resources in making the world better place, as shown by our MagnaLatch® for pool and child safety gates.



## 4. Our 2020 APCO targets

For 2020, our target as follows:

Performance Goal	Outcome	Key Performance Indicators	Targets
<b>1. Design</b> – optimize packaging to use resources efficiently and reduce environmental impact without compromising product quality and safety	Improve consumer information about appropriate disposal.	<b>1.</b> Proportion of New and Existing products that are in accordance to the APCO guidelines.	100% of D&D A and B class products compliant by 2020.
	Review all existing packaging in accordance to the guidelines.		
	Improve on the application of cut case cartons to reduce the use of individual packaging.	<b>2.</b> Minimise the individual packaging.	100% of D&D retail gate accessories compliant by 2020.
	Specifying strength criteria of packaging to the Product Design Brief process.	<b>3.</b> Minimise packaging waste.	Continuous improvement in the reduction of waste packaging and reworking of products as a result of packaging defects over the previous period.
	Apply packaging environmental performance matrix to the New Product Process.	<b>4.</b> Proportion of New and Existing products that are in accordance to the APCO guidelines via metrics.	100% of D&D A and B class products compliant by 2020
	Audit the use of Sustainable Packaging Guidelines by Covenant signatories.	<b>5.</b> All signatories shown to be applying the Guidelines in packaging decisions.	Covenant Signatories assessing 100% of new packaging and 50% of existing packaging against the Guideline.

Performance Goal	Outcome	Key Performance Indicators	Targets
<b>2. Recycling</b> - efficiently collect and recycle packaging	Increase the percentage of D&D's carton content that is recyclable.	<b>6.</b> Percent increase over 2015 levels.	Continuous improvement in the recycling rate
	Increased the percentage of recycled materials used in D&D's day to day operations.	<b>7.</b> Percent increase over 2015 levels.	
	Implement a Data Management system for assessing and improving data acquisition for recycling of cardboard material from production facilities.	<b>8.</b> Sound knowledge of and confidence in performance data (including key issues and trends).	Annual acquisition of high quality performance data.



Performance Goal	Outcome	Key Performance Indicators	Targets
<b>3. Product Stewardship - demonstrate commitment of all signatories.</b>	<i>Streamline and improve in the supply of packaging.</i>	<b>9. Minimise supply chain costs, risks and lead time by implementing a dual supplier policy for packaging that minimises transportation costs and reduce indirect impact on the environment.</b>	<i>An auditable process by 2020.</i>
	<i>Increase/improve the recycled content used in Plastic bags.</i>	<b>10. Implement the use of recycled Plastic bags.</b>	<i>100% of Australian trade product range compliant by 2020.</i>
	<i>Feasibility study on cardboard Finished Goods packaging</i>	<b>11. Identify with Signatories on products that can use cardboard packaging.</b>	<i>Financial and environmental assessment by 2020.</i>



Figure 4.1. Retail clamshell vs Retail Pouch, which was successfully implemented in previous APCO Action Plan 2010-2015.

## 5. Initiatives

D&D has set out a five year plan to address the following:

- a. Evaluating packaging using SPG (Sustainable Packaging Guidelines) for our US retail product lines.
- b. Consolidating and harmonising packaging material specification to reduce waste during our manufacturing process, whilst improving kerbside recyclability of our packaging material.

### Initiative A

Currently our US retail product lines are packaged in 2\*6 inner and outer carton configurations, as shown below.



Figure 5.3. Current 2\*6 inner and outer carton packaging configuration for our US Retail Product (LLAARS).

Whilst this packaging configuration is a request of the customer, however, this has increased our transport and logistic footprints as opposed to packaging the product in the outer cartons only.

An example is illustrated below showing the differences between packaging the same product for our retail and trade customers:

Product Name	Product Code	Outer carton volume (m <sup>3</sup> )	Quantity per outer carton	Units per m <sup>3</sup>
LokkLatch US retail	LLAARS	0.0361	12	332
LokkLatch US trade	LLAA	0.0485	50	1030



Figure 5.4. Current bulk packaging configuration for our US Trade Product (LLAA).

Under internal reference IRN2135, an initiative was raised to review packaging configuration of our US retail line.

Our APCO goals for **Initiative A**:

*APCO Goal One: Design*

- i. *Designing or implementing a standardised outer carton for our US retail line.*

*APCO Goal Two: Recycling*

- i. *Minimising the use of cardboard packaging for our US Retail product line.*
- ii. *Use of recycled cardboard packaging or the application of 'recyclable' markers on cardboard material.*
- iii. *Provide on-site recovery system for recovering cardboard material.*

*APCO Goal Three: Product Stewardship*

- i. *Working closely with the US sales and marketing team for customer approval of the bulk packaging configuration.*
- ii. *Reducing transport and logistic footprints, including metrics to ascertain reduction in transport and logistic footprints throughout the APCO period of 2016 to 2020.*

D&D has implemented bulk packaging of all its US Retail Products in November 2017 under ECN047.17. We successfully rolled out bulk packaging configuration under ECN090.18 for new SKUs introduced in December 2018. The following packaging configurations were implemented:



US RETAIL PRODUCT	2*6 Packing Configurations				Bulk Packing Configurations				VARIANCE	
	OUTER CARTON PART#	QTY PER OUTER CARTON	PRODUCTS PACKED PER m³	SHIPPING COST PER PRODUCT	OUTER CARTON PART#	QTY PER OUTER CARTON	PRODUCTS PACKED PER m³	SHIPPING COST PER PRODUCT	\$	%
LLAABRU	TCARP000017PA	12	219	\$0.753	MLC00000011PA	36	742	\$0.228	-\$0.52	-70%
LLAARU	LLMK2RP0012PA	12	333	\$0.753	MLC00000011PA	48	990	\$0.171	-\$0.58	-77%
ML3TPKARU	MLTPRP00018PA	12	104	\$1.506	MLTPRP00016PA	12	268	\$0.717	-\$0.79	-52%
ML3VPKARU	ML300000064PA	12	151	\$1.506	MLC00000011PA	18	371	\$0.456	-\$1.05	-70%
MLTFS2RU	MLTPRP00018PA	12	104	\$1.506	MLTPRP00016PA	12	268	\$0.717	-\$0.79	-52%
TCA1S3RU	TCARP000017PA	12	219	\$0.753	TCAMK200009PA	24	594	\$0.269	-\$0.48	-64%
TCA3S3RU	TCARP000017PA	12	219	\$0.753	TCAMK200009PA	24	594	\$0.269	-\$0.48	-64%
TCHD2S3RU	TCARP000017PA	12	219	\$0.753	TCAMK200009PA	12	297	\$0.538	-\$0.22	-29%
LLAARS	LLMK2RP0012PA	12	333	\$0.753	MLC00000011PA	48	990	\$0.171	-\$0.58	-77%
LLDABKRS	TCARP000017PA	12	219	\$0.753	MLC00000010PA	12	361	\$0.538	-\$0.22	-29%
ML3TPKARS	MLTPRP00018PA	12	104	\$1.506	MLTPRP00016PA	12	268	\$0.717	-\$0.79	-52%
ML3VPKARS	ML300000064PA	12	151	\$1.506	MLC00000011PA	18	371	\$0.456	-\$1.05	-70%
MLSPS2RS	LLMK2RP0012PA	12	333	\$0.753	TCAMK200008PA	12	1367	\$0.078	-\$0.67	-90%
MLTFS2RS	MLTPRP00018PA	12	104	\$1.506	MLTPRP00016PA	12	268	\$0.685	-\$0.82	-55%
MLVPS2RS	TCARP000019PA	12	196	\$0.837	MLC00000011PA	18	371	\$0.456	-\$0.38	-45%
TCA1S3RS	TCARP000017PA	12	219	\$0.753	TCAMK200009PA	24	594	\$0.269	-\$0.48	-64%
TCA3S3RS	TCARP000017PA	12	219	\$0.753	TCAMK200009PA	24	594	\$0.269	-\$0.48	-64%
TCA4RS	TCARP000019PA	12	196	\$0.837	MLC00000011PA	24	495	\$0.342	-\$0.49	-59%

Table 5.5. Packaging and Shipping cost analysis of US Retail Products in current 2\*6 inner and outer carton configurations vs bulk packaging



**Initiative B**

Currently all our retail pouches are supplied by more than one supplier, each varied material specifications. The variances in material specifications can cause packaging issues during manufacturing that ultimately adds unnecessary waste. In addition, inadequate material specification can lead damage products, but also opportunity for people to open the packaging to view the contents.

An example is highlighted below:

	AU RB (Supplier A)	US CB (Supplier A)	AU RO (Supplier A)	US RS (Supplier A)	Supplier B
PET Layer (µm)	12	12	12	12	
VMPET Layer (µm)	12	12	12		12
NY Layer (µm)	20	20	15	15	12
PE Substrate (µm)	115	115	120	130	127
<b>Total (µm)</b>	<b>159</b>	<b>159</b>	<b>159</b>	<b>157</b>	<b>151</b>



Figure 5.5. Illustration of the laminate structure for the Retail Product Line).

Under internal references ECR017.16 and ECR037.16, our product development team is currently working with sales, marketing and supply chain in harmonising material specifications for our pouch material. Once the material specification has been harmonised, the packaging artwork will include the material specifications for supplier conformance. D&D is currently reviewing supply agreement to further reinforce material specification and to include recycling markers on pouches.



Our APCO goals for **Initiative B:**

APCO Goal One: Design

- i. Standardise material specification for our pouches.
- ii. Improve see through window to reduce unnecessary opening of product packaging.

APCO Goal Two: Recycling

- i. Minimising waste in production and on the retail shop floor.

APCO Goal Three: Product Stewardship

- i. Working closely with suppliers to standardise material specification.



Figure 5.6. Retail Pouch Range



## 6. Our 2018 Achievements and Forecasted 2019 Projections

Internal references IRN2135, ECR017.16, ECR037.16, ECN047.17 and ECN090.18 were raised for the following initiatives:

- Initiative A* – Evaluating packaging using SPG (Sustainable Packaging Guidelines) for our US retail product lines. Internal references IRN2135, ECN047.17 and ECN090.18
- Initiative B* – Consolidating and harmonising packaging material specification to reduce waste during our manufacturing process. Internal references ECR017.16 and ECR037.16.

For *Initiative A* (Evaluating packaging using SPG – Sustainable Packaging Guidelines) for our US retail product lines), we have seen a positive result in reducing consumption of cardboard packing.

Based on actual 2017 and 2018 figures and our 2019 forecasted figures, Table 6.5 and Figure 6.6 below show the environmental impact on the business by changing the packaging configurations of our US Retail Products.

PACKAGING IMPACT (CALENDER YEAR)	2015	2016	2017	2018	2019
QTY of US Retail Products Shipped to DDINC	9,552	25,630	107,136	113,627	118,082
Quantity of Packaging used (kg)	1278.376	3430.148	13104.130	5555.711	5840.955

Table 6.5 Environment impact trend on packing US Retail Products in bulk packaging configurations

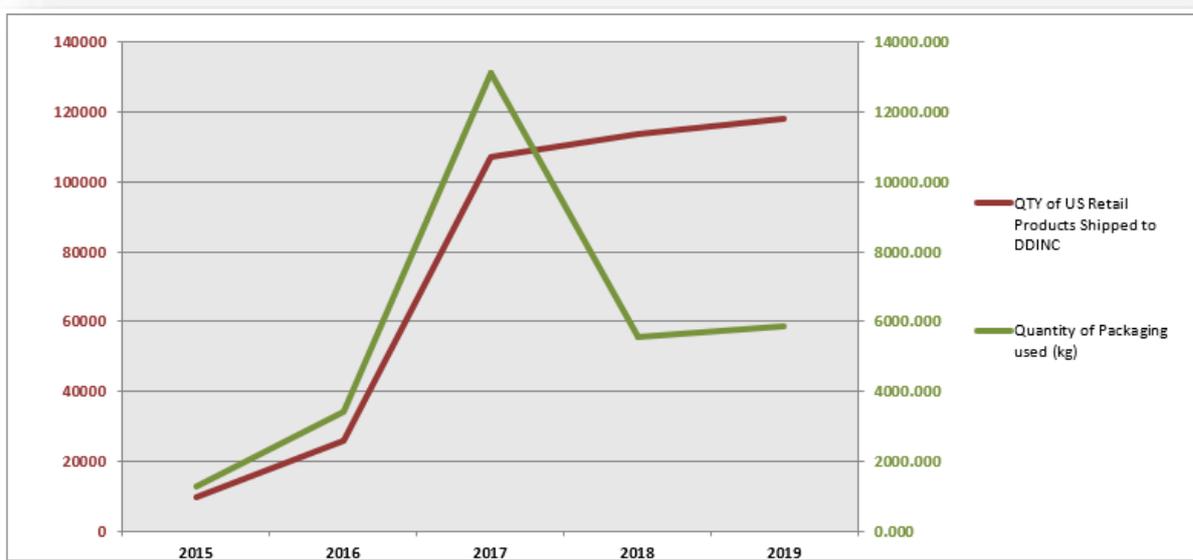


Figure 6.6 Environment impact trend on packing US Retail Products in bulk packaging configurations

For 2019, we estimated a potential saving of 9962.32kg in the use of cardboard packaging, if we were to continue with the previous 2\*6 packaging configurations.

Not only is this initiative reduces our carbon footprint by reducing transportation and minimising packaging, we expect additional benefits by reducing our freight cost.



Based on 2019 forecasted figures, Table 6.7 and Figure 6.8 below show the shipping cost impact on the business by implementing efficient packaging of our US retail product lines.

SHIPPING COST IMPACT (CALENDER YEAR)	2015	2016	2017	2018	2019
QTY of US Retail Products Shipped to DDINC	9,552	25,630	107,136	113,627	118,082
Cost of Shipping US Retail Products to DDINC	\$9,081.43	\$22,362.21	\$90,560.99	\$41,941.67	\$26,944.85

Table 6.7 Shipping Cost Impact of US Retail Product lines from 2015 to forecasted 2019.

In 2017, the calculated shipping cost for the US Retail product line was \$90,560.99 based on the shipping of 107,136 products.

Based on the 2018 calculated figures, the number of products shipped to the US increased by 6,491 US Retail product (around 6% increase). However, the calculated shipping cost did reduce by 54%, which equates to a cost saving of \$48,941.67 over 2017. The drop in shipping cost was due to the implementation of bulk packaging. The shipping cost variance between the current 2\*6 inner and outer carton configurations VS bulk packaging can be found in Section 5 (Initiative B).

For the 2019 forecast, we estimated a further greater potential saving of \$61,973.16 in shipping costs, if we were to continue with the previous 2\*6 packaging configurations.

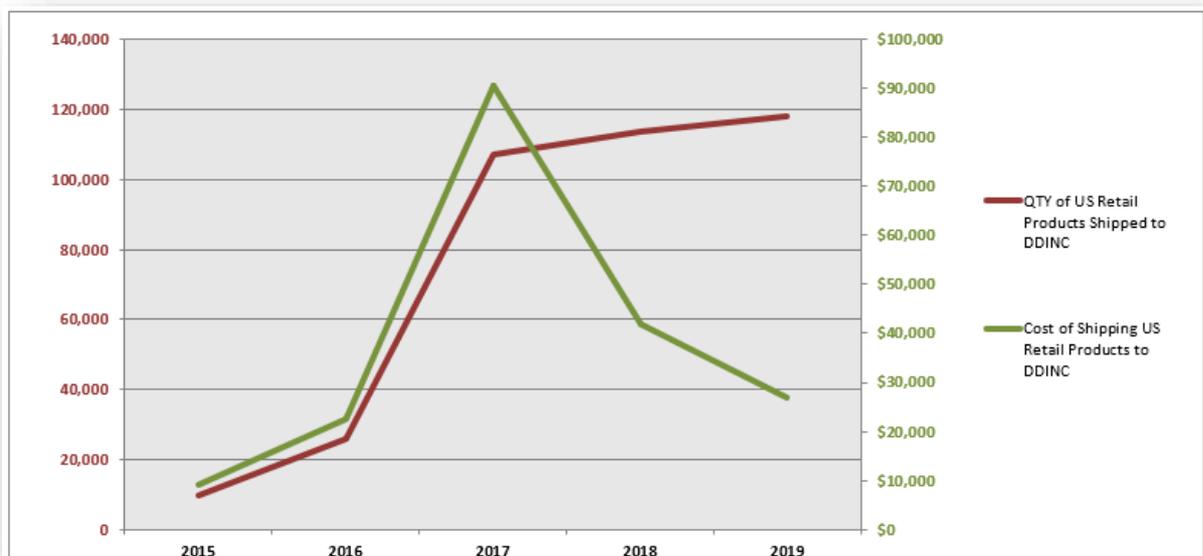


Figure 6.8 Shipping Cost Impact of US retail product lines from 2015 to forecasted 2019.

D&D shall continue to track progress of this initiative throughout the 2016-2020 reporting period.



## 7. New Opportunities and Challenges

D&D will be exploring new opportunities in reducing our cardboard packaging consumption by consolidating the range of cardboard packaging being consumed during manufacturing. D&D currently consumes over 40 different models of cardboard packaging. To prevent stock shortage, each model of cardboard packaging carries a safety stock level. In addition, each model carries a Minimum Order Quantity (MOQ) with the supplier. The combination of a safety stock level and MOQ increases our consumption of cardboard packaging. The challenge is consolidate the models of cardboard packaging whilst meeting strict demands from our customers. D&D has already achieved the first hurdle by changing the packaging configurations for the US Retail Product Line.

D&D will be exploring new opportunities and closely working with suppliers on the design and technical specification for lightweight recycled LDPE flexible packaging for our trade product lines.



## 8. Conclusion

Cost is often the initial driver for a packaging change, but utilising the four principles of the Sustainable Packaging Guidelines (SPG) to reinforce the business proved to be beneficial.

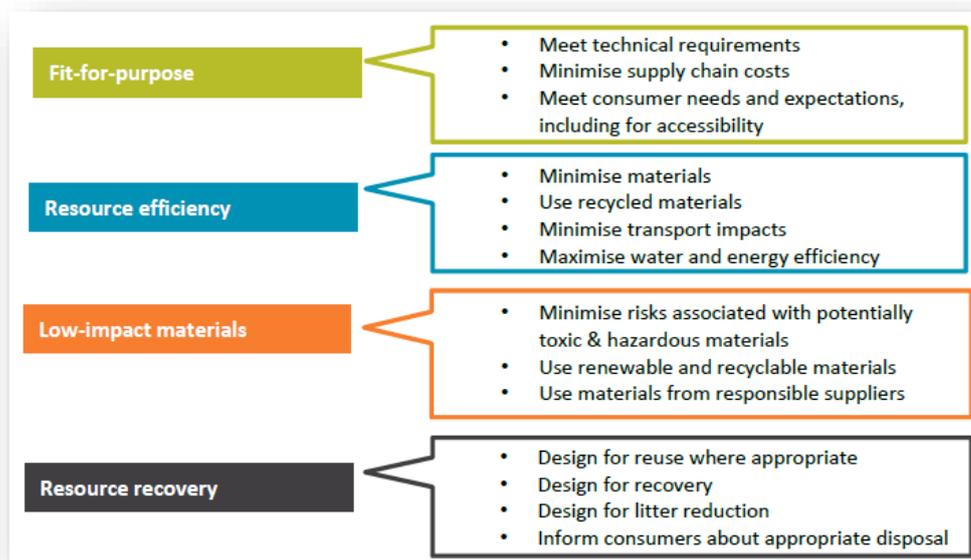


Figure 8.1. Four principles of the Sustainable Packaging Guidelines (SPG)

For **Initiative A** (Evaluating packaging using SPG – Sustainable Packaging Guidelines) for our US retail product lines. Under **Initiative A**, D&D has managed to:

- Reduce the consumption of cardboard packaging by 7,548.41kg in 2018. To put this figure into perspective, if we were to continue with the previous 2\*6 packaging configurations for 2018, we estimated a further greater potential saving of 15,645.81kg in the use of cardboard packaging.
- Reduce the shipping cost of our US Retail Product Lines by \$48,619.32 in 2018, which equates to a reduction of 54%. To put this figure into perspective, if we were to continue with the previous 2\*6 packaging configurations for 2018, we estimated a further greater potential saving of \$64,961.35 in shipping costs for calculated 2018 calendar year.

For **Initiative B** (Consolidating and harmonising packaging material specifications) for our retail pouches, D&D worked closely with various suppliers and testing laboratories to achieve a common material specification for our retail pouches that allows a more robust packaging material that is more suited D&D's requirements. All D&D packaging artwork now includes a specification table with the material specification

