

Case Study:

Thinking inside the box

A global IT brand makes large savings through simple packaging changes based on recommendations from WRAP's technical experts.

Summary

Designers often focus on the core product and pay less attention to the packaging. This case study shows how one Global IT brand amended packaging specifications to save over \$500,000 per annum through simpler and more compact design.

WRAP has provided support, by conducting a design review on a laptop, to a Global IT brand that develops and manufactures a range of personal computers and technology products.

Key Facts

- Total savings due to changes of US \$500k per annum;
- Simple packaging changes reduced the unit size by 40%;
- The reduced packaging gave better protection to the product;
- Typical savings include 100 tonnes of card and 36 tonnes of CO₂e per 1 million units and net ~36 tonnes; and
- Savings represent US \$2.50 per box.

How we did it

The original packaging was objectively reviewed. Working together with the client, WRAP then identified some simple changes which could be made to the packaging which resulted in significant cost and environmental benefits.

The original laptop packaging consisted of a cardboard box with a lid which fitted snugly over the two-part base; essentially an inner sleeve glued into the base to provide a double wall thickness and to neatly locate the lid. The cardboard outer was coated in black polyethylene (PE) plastic film. The inside of the lid was lined with black foam secured by adhesive.

In the base, the laptop sat on an inner tray made of bio based material with recesses to hold the CD (in a card sleeve) and Information Booklet (also in a card sleeve).

Some good practice found in the original packaging design included:

- The length and width of the box was a close fit with the laptop with minimal room for movement during transport.
- The use of Forest Stewardship Council (FSC) certified bio based inner packaging to cushion the laptop. The packaging has also been certified as compostable as per ASTM standards.
- Use of the information booklet sleeve to protect the laptop from the charging adaptor which was stored beneath it (see Figure 1).



Figure 1 CD/booklet sleeves and adapter in recessed bio based material tray.

The original primary pack was heavy at ~824g of card, bio based material and plastic film. Whilst the packaging was compact in terms of length and width, the depth of the box was almost 5 times that of the laptop due to the need to accommodate the adapter under the instructions booklet.

The recommended improvements were:

- A flatter mains adapter to reduce the box depth from ~75mm deep to ~65mm, better fitting with the depth of the laptop, and also improving transport efficiencies.

- Eliminating the CD and user guide card sleeves which, although stylish, are unnecessary and concealed under the laptop.
- Eliminating the PE card coating (which prevents recycling), switching to a different box print type that does not require a laminated layer.
- Using double-sided tape, rather than adhesives on the foam padding, improving the recyclability of the card.
- Use of the relevant recycling logos, indicating material type, on all packaging components.

the gift boxes has been reduced by more than 40%.

This tighter box fit gave the product better protection and reduced the amount of material required in the packaging. The over-pack box size was also reduced, allowing the number of units shipped per pallet to be increased. Additional savings were achieved by minimizing on-packaging printing.

Typical savings are a 100g reduction in cardboard box weight (around 12%), saving 100 tonnes of card over 1,000,000 units and a net ~36 tonnes of CO₂e, assuming that the cardboard is made recyclable and is normally recycled. This is total savings of more than US \$2.50 per box (~£1.60 at current exchange rates).

Summary of actual changes and savings

Since the WRAP work was undertaken, the exact model of laptop has been discontinued, however the suggestions for packaging changes (as detailed above) prompted various changes to other electronic products belonging to the brand.

Simple changes helped to reduce both the size and cost of the packaging for its products. By moving the power cord and adapter out of the gift box, into the over-pack (outer shipping box) space, the size of

Through these changes, the company has saved approximately \$500,000 per annum on one laptop model alone and several million dollars per annum across the brands wider products.

WRAP has provided businesses with expertise from design and resource specialists in targeting resource hotspots. The support has involved identifying solutions with the businesses, and then, depending on complexity, either developing an implementation plan or facilitating the required changes.

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