Task Force to Study Methods for
Reducing Consumer Packaging
that Generates Solid Waste

Time: 12 noon to 2 pm
Location: LOB, Hartford, CT

June 21, 2017 Task Force Meeting

The Task Force Task Force to Study Methods for Reducing Consumer Packaging that Generates Solid Waste (the Task Force) will meet on June 21, 2017 from 12 noon to 2 pm at the Legislative Office Building in Hartford Connecticut. At the June 21st meeting, the Task Force will hear from organizations who are producers of products that use packaging and/or who produce packaging materials. We will discuss the following items:

Brief company overview – Dell is a global technology company with a broad scope of products serving B2C and B2B markets. Packaging is a common denominator between the electronics and others industries, i.e. food & beverage, but each has specific considerations.

Dell's Legacy of Good goals including 100% of our packaging material coming from sustainable sources by 2020. Sustainable sources are defined as renewable materials, not fossil-fuel based or recycled materials. By 2020, 100% of our packaging materials will be recyclable or compostable.

1. Provide an overview of the packaging material that the organization produces.
    a. What is the composition and common use of the packaging material that you or your affiliate members produce?

Almost 95% of our consumer packaging material is sourced or made from sustainable material and is readily recyclable at end of life through various municipal recycling schemes.
The primary packaging contains two key components:
i) Outer ship box and
ii) Inside product cushioning packaging.

These components serve the critical purpose of protecting product during transportation from the manufacturing location to the consumer's home.

URLs for Dell Sustainability Reports:

http://www.dell.com/learn/us/en/uscorp1/corp-comm/legacy-of-good-update?c=us&l=en&s=corp

Latest report 2020 Legacy of Good Update

b. What are the raw materials used to make the packaging material?

The key raw material (by weight) in consumer packaging for IT products is - Wood Fiber: It is used in the manufacture of corrugate board material which is used on both outer shipping boxes as well as internal packaging components to pack accessories, spacer etc.
- OCC (Old Corrugate Cartons which contain wood fibers) is used to make molded paper pulp cushioning which is placed around the product.
- Other sustainable materials: We also use bamboo fiber and wheat straw based fiber molded pulp for product cushioning. There materials are either rapid renewable or agricultural waste based. **As of today, 95% of packaging material by weight is sustainably sourced and recyclable. Goal is to close the remaining 5% gap by 2020.**
We use a small percentage by weight of Petroleum Based Material: These are primarily plastics packaging cushioning made from fossil fuels such as Polyethylene (Expanded Polyethylene, Low and high density polyethylene) etc. Dell's HDPE packaging is make out of 100% Post-consumer recycled content material from milk jugs.

Is the packaging material made from recycled materials? If so, how much recycled content is used?

The following is recycled content in the various packaging components:
- Corrugate board: minimum 50% recycled material content.
- Molded paper pulp: 100% recycled material content
- Wheatstraw pulp: 100% recycled content
- Bamboo pulp cushioning uses raw material sourced in close proximity to processing facility.
- LDPE/ Low Density Expanded polyethylene foam cushioning: min.25% recycled content
- HDPE packaging is make out of 100% Post-consumer recycled content material from milk jugs.
- Ocean plastics: 100% (Blend of 25% ocean bound plastics and 75% post-consumer Polyethylene)
- Expanded polystyrene does not contain recycled content. We use very little of this and look to phase this material out. Used for limited number of flat panel monitors. We will phase out when those products reach EOL. Business decision not to invest in finding new solutions for a product that will reach EOL soon. (No requirements to phase out, Dell phasing this material out voluntarily)
- Dell innovation projects represent only a tiny fraction of volume of our packing materials today, but underscore our commitment to new solutions.

2. How is the packaging material used and why is it needed?

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Packaging plays an essential role in protecting and containing the products our customer buy until they reach their homes. It also provides them with important product information used to make product purchase including any product certification labels which are also required legally to be put on packaging. In general packaging helps to protect product from damage during transportation and storage.

a. Why is this particular material the best and/or most cost effective way to package a particular product?

The packaging materials are selected with several attributes in mind. Primary factor being ability to withstand the demand of logistics and transportation. Other factors that drive selection of packaging material are: Availability, cost, company's sustainability goals. We also try to source packaging based on proximity to each manufacturing location. Packaging engineering study and design packaging to ensure it results in smallest footprint. The material selected enables smallest box size which maximizes utilization from a transportation perspective. Almost 95% of the packaging material is from sustainable sources.

b. What benefits does the packaging present (e.g. Does it allow the product to have a longer shelf-life thereby reducing overall solid waste as the packaging prevents spoilage or damage?)

The packaging protects the product from hardship and damage encountered during handling in the parcel distribution environment, it ensures the product is fit for purpose when received by the end customer.

3. Can the packaging material be reduced?
   a. What can the manufacture do to reduce the amount of packaging material?

As products have gotten smaller and lighter, less packaging is required. Other impact, when notebooks shipped from ODM in China to customers around the world, i.e. the U.S., we can get more units on pallets, more pallets in sea containers, and consequently fewer sea containers needed. Fewer materials, lower shipping and receiving costs, lower fulfillment center cost lower Carbon impact.

We use the minimum amount of packaging required to protect our products. The packaging engineering team work closely with our packaging manufacturers using the latest technology that identifies key areas where addition material support is required to protect product and areas where minimum amount of material is required.

Here is an example for a laptop – shipped from factory to end user.

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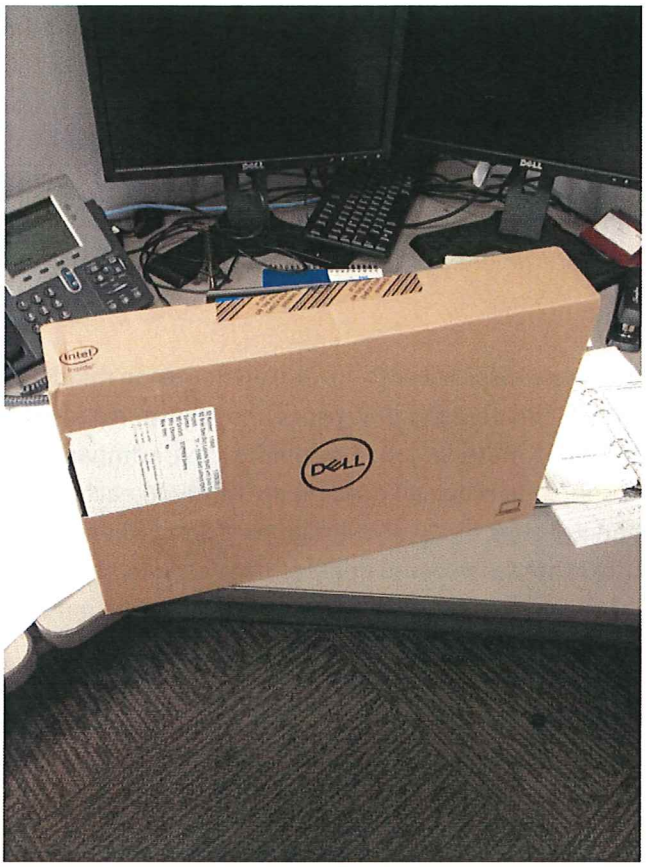

Next picture shows the pulp cushion inserts

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4. Can the packaging material be reused?

   Our consumer business model is designed for single use. We have a closed loop spare parts process where packaging material is re-used.

5. Can the packaging material be recycled?

   Our consumer packaging materials can be recycled in most of the municipal recycling program or where the infrastructure exists.

   a. If so, how much is currently being recycled?

      We are dependent on the consumer to recycle the packaging materials, currently, approximately 95% of our consumer material by weight can be recycled - we categorize material as being recyclable if it accepted by a majority of municipalities.

   b. How can you recycle more?

      Dell has set a Goal by 2020 that 100% of its packaging will be from sustainable sources and can be recycled or composted at end of life. This will ensure that all of packaging can easily be recycled.

   c. Does contamination of the packaging material occur during the recycling process?

      Only on a very minor scale, manufacturing processes are capable of dealing with current level of contamination. We design the packaging and ensure they are separable and avoid using adhesives, bleaching etc.

   d. How can contamination be reduced or eliminated?

      Use of degradable materials on labels applied to the packaging and tape for sealing the shipping cartons.
      Often times the packaging gets cross contamination when it is mixed or comes in contact with other packaging waste such as food, liquids, etc.

   e. Explain the existing markets for recycling the packaging material.

      Majority of our consumer packaging materials are corrugate board and molded paper pulp cushioning. A large market exists as currently there is significant demand for these materials.

6. What recommendations should this Task Force make in its final report for reducing consumer packaging that generates solid waste?

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- Dell does not wish to see a patchwork of packaging take-back legislation imposed at the state level the way it's been done with electronics.

- Legislation imposing EPR packaging take back in Connecticut would add unnecessary cost and complexity while limiting innovative packaging solutions.

- Voluntary programs offer flexibility to be more efficient and more cost effective, and in our case, they have allowed Dell to close the loop on plastics and advance the circular economy with the ability to control the collection and processing of equipment collected in our own programs.

- We would like the taskforce to consider proposing that state government incentivize the electronics industry in their procurement process by incorporating sustainable packaging criteria in state government bids. Comparable to EPEAT where some customers eliminate your products from a purchasing decision if they don't meet minimum EPEAT criteria.

- Consumers have a responsibility to utilize existing resources that provide info on how/where to recycle packaging. DEEP has a robust website with information how/where to recycle dozens of materials. Consumers could also check the manufacturer's website, which often provides a list of local resources for recycling. Some of you may remember WasteCap of Massachusetts, where industry and trade associations worked proactively to address industry/commercial recycling.

- There are tradeoffs and additional costs come back to the consumer.

- Align your policies with a holistic approach to the circular economy

- Anticipate that laws and regulations are usually 5 to 10 years behind the technology

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