

Packaging Green

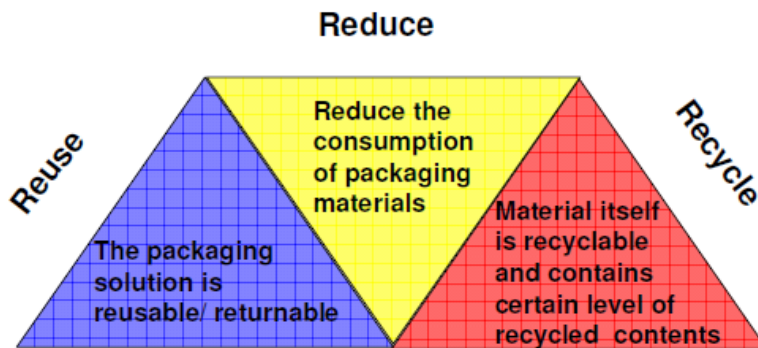
With the development of the global economy, human beings are facing the energy crisis and the cyclic economy becomes the main stream of world economics. Unlike the traditional economy, the cyclic economy advocates a model of development on the basis of constant and circulatory use of resources.

More and more people are focusing on the environmentally friendly (Green) aspects. Lenovo is an advocate in the industry and green ideas are included everywhere in the product design. "Green" Packaging is one of our key focus items. Lenovo is an industry leader in the use of green, environmentally friendly product packaging. Lenovo utilizes recycled content packaging materials and cartons in most of our products. Green packaging is a source of pride among Lenovo employees.



Lenovo contribution

When we talk about "Green", the 3 "R"s (Reduce, Reuse, Recycle) are widely recognized, especially in packaging. Lenovo uses a comprehensive waste management system to reduce the impact of our waste materials in the solid waste stream. This integrated system emphasizes all three areas as shown below.



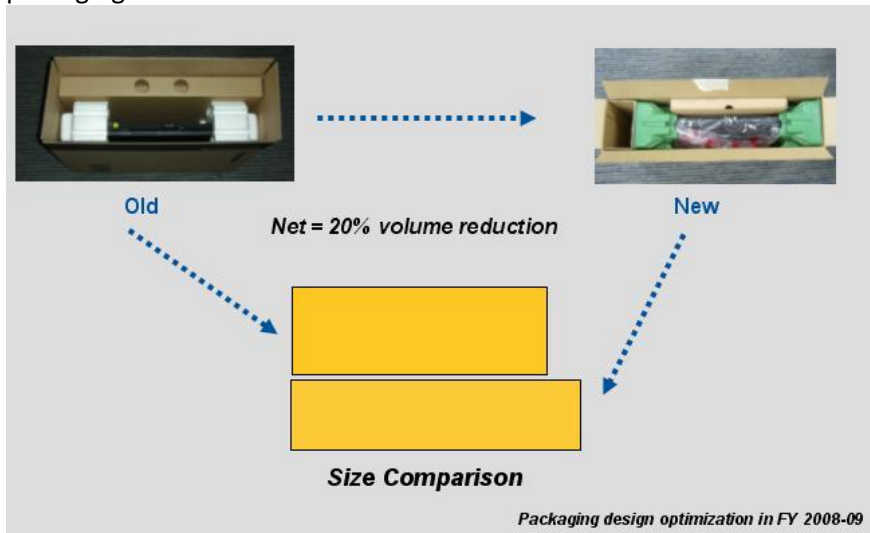
Material recycling strategies mainly focus upon the use of:

1. Reduce: Continuously reduce the size and weight of packaging materials consumption
2. Reuse: Deliver a packaging solution to the customer that may be re-used, returned or recycled.

3. Recycle: constantly seek alternative recycled materials for use in packaging, and strive to make the packaging material widely recyclable in local recycling centers

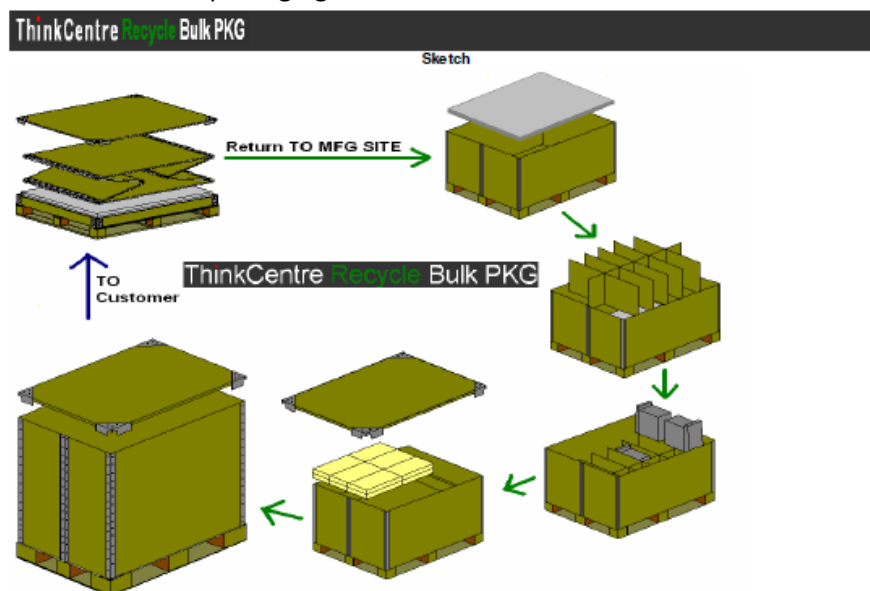
Reduce

Lenovo continues to drive size reductions in our packaging to minimize the amount of materials used while maintaining adequate protection for our products. In 2009, Lenovo's aggressive packaging reduction eliminated 750 tons of packaging materials through design optimization. In 2010, Lenovo achieved an additional 125 ton reduction in packaging used in our products. Smaller packages also contribute to increase palletization density; in most of 14" models Lenovo has been able to fit twenty-one more boxes on a pallet going from 42 laptops to 63 units. Lenovo also provided bulk pack solutions for all brand product offerings. Compared to the traditional individual pack, the bulk packaging service saves the customer time and labor by reducing unpacking time and reduces the amount of discarded packaging and also saves transit cost for the customer.



Reuse

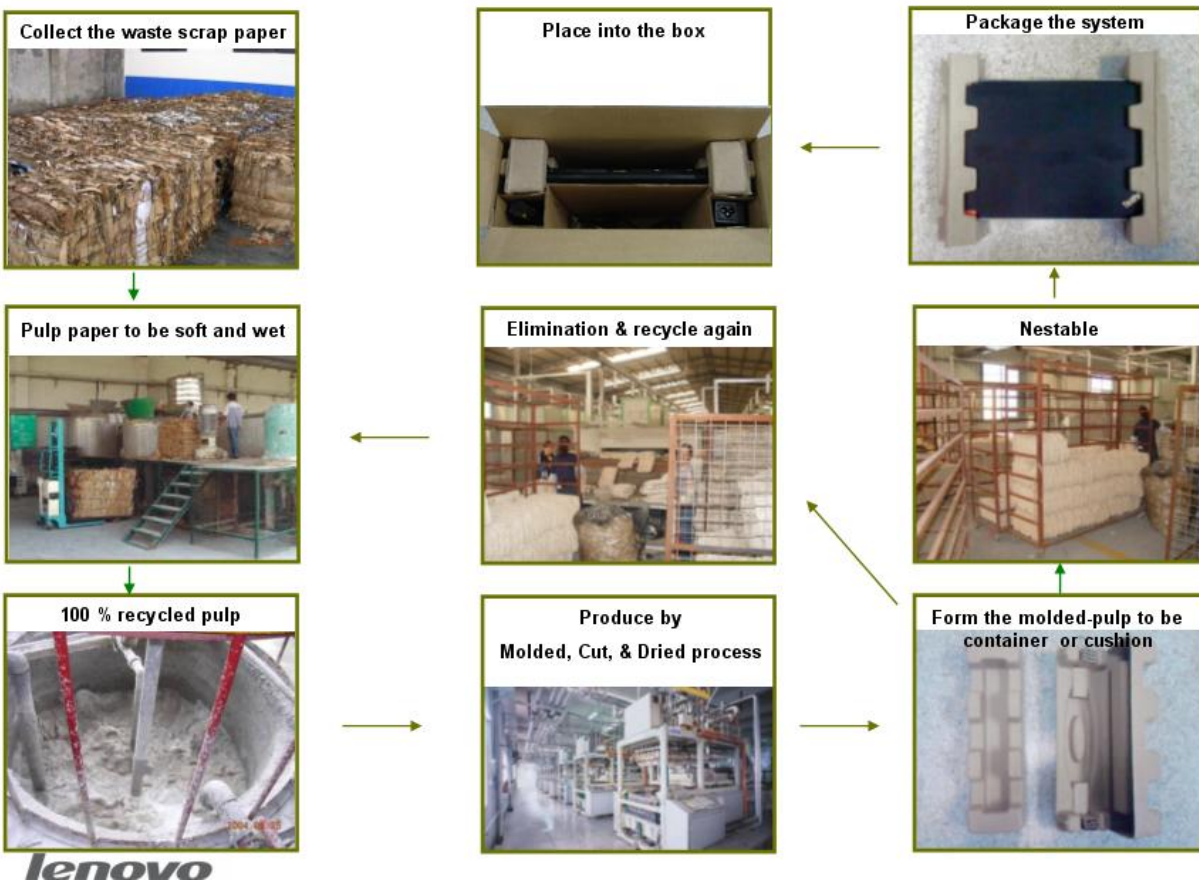
Lenovo provides the end customer an optional returnable packaging service where the packaging materials can be sent back to Lenovo after receiving the products and reused for the new shipment by Lenovo. Lenovo is also devoted into the reuse of incoming component packaging, especially in the return of chassis packaging.



Recycle

All the packaging materials used by Lenovo are recyclable and since 2006, Lenovo implemented the use of 100% recycled content packaging materials in China. As a part of Lenovo's green packaging strategy, the 100% post-consumer content materials are chosen for packaging design as a first priority and continue to offer the most environmental friendly packaging in the field. For example, the thermoform cushion with the 100% recycled RLDPE (Recycled Low-Density Polystyrene) and molded fiber (i.e. paper fiber), which can typically be readily recycled in municipal waste streams. Lenovo encourages the use of recycled packaging materials wherever possible.

How to Recycle and Produce Molded Pulp



Outlook

Packaging materials are different from the other commodities as they are sourced locally instead of from one global supplier. Some countries may not have locally available recycled materials for our use.. Where recycled material is not available, Lenovo will continue to seek sustainable material solutions (recycled or bio-based) and minimize the use of packaging material consumption. Our goal is to drive to 100% environmentally sustainable materials, and expand use of 100% post consumer packaging material globally.

Lenovo is investigating new sustainable materials. These are agriculture-based ones (compostable plastic) .This is close to biodegradable plastic but "greener." According to the American Society for Testing & Materials (ASTM D-6400), for plastic to be considered as compostable, it must be able to

break down into carbon dioxide, water and biomass at the same rate as paper. It also needs to look like compost, should not produce any toxic material and should be able to support plant life. Compostable items are made from plant materials such as corn, potato, cellulose, soy and sugar.

Closing

Lenovo is dedicated to the environment, and our packaging engineering efforts are a proof point of that dedication. We are quite proud of our results, and are always on the lookout for additional ways to improve what we are doing.

Biography

Royal Bai

Royal Bai has been working in Lenovo (with the experience of former IBM PCD) since 2003. He obtained a BS in Mechanical design and automation. He has worked in Lenovo as a packaging development engineer, procurement engineer and currently acts as the corporate packaging engineer on the WW Packaging Engineering team. Royal Bai is also a member of the Lenovo Green team.



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