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Packaging sustainability: green is the new black

No longer just a buzzword, sustainability occupies a front-row seat in label and packaging materials development. Akanksha Meena reports

Tim Bohlke, director of sustainability at Resource Label Group, says brands without a sustainable packaging strategy need to start converting their portfolio now.

'If you're a brand owner, you want to have this on your radar. Consumers are educating themselves and getting smarter at the shelf. They are paying attention and asking, "Does this brand care about the environment?"'

Consumers first became ecologically conscious in the late 1960s and early 1970s, as worrying environmental signs such as land degradation, species extinction and atmospheric pollution became apparent.

In the 1990s new environmental problems including global warming, the 'ozone hole' and the Exxon Valdez oil spill led consumers to seek environmentally friendly alternatives in their purchases. In the 2000s, the ecological sensitivity of consumers skyrocketed.

A growing body of research shows consumers make purchasing decisions on environment-related grounds, preferring products that are biodegradable, CFC-free and organically grown.

The same research shows they are willing to pay higher prices for environmentally friendly goods. Further, many are shopping at nontraditional distribution outlets, such as organic food outlets, to purchase 'green' products.

These growing pressures from consumers, increasingly reflected in state and national legislation, have led brands to write sustainability into their corporate vision

"As we know, the label is typically not removed prior to consumers putting their recyclables in the bin, so it is important for brands to consider recycling in every element of the package. When compatible materials are chosen, the label can enhance the recyclability of the package"

and goals.

How2Recycle is a North America-based lobby group that brings together 225 brand and retailer members with the aim of reducing consumers' confusion about what can and cannot be recycled.

The group supports the development of a clear, well-understood and nationally harmonized label that enables companies to convey to consumers how to recycle a package, as well as improve the reliability, completeness and transparency of recyclability claims.

The Sustainable Packaging Coalition now reports that 56 percent of its member companies have publicly stated goals to make their packaging more recyclable, compostable and reusable.

Some 44 percent of the packaging that How2Recycle member companies have submitted for the program's review is currently recyclable.

Ashley Drew, sustainability manager, UPM Raflatac says that the company is approaching its sustainability objectives from different angles, including increasing the percentage of post-consumer recycled

content in its labels, both films and paper, and in the face stock and liner. This is particularly important for brands working towards recycled content goals and supporting the circular economy.

Drew says recyclability must be considered from a holistic perspective when designing a recycling-ready package.

'As we know, the label is typically not removed prior to consumers putting their recyclables in the bin, so it is important for brands to consider recycling in every element of the package (packaging type, closures, labels, inks, decoration). When compatible materials are chosen, the label can enhance the recyclability of the package to ensure we are enabling the highest possible recycling outcomes. On the liner side, paper and PET liner is considered recyclable, however, this will vary among different geographic regions, and is dependent on local recycling infrastructure and capabilities, so we recommend checking with your local recycler.'

UPM Raflatac is focusing heavily on providing recycle-compatible materials for a variety of substrates and educating



Amit Shah, joint president and CMO, Flexible Packaging, UFlex



Coveris has developed fully recyclable packaging, MonoFlexE, for Aldi's store brand rice



Jindal has introduced new high-barrier Ethy-Lyte films, which can be adopted in the flexible packaging market as PE printing films for recyclable mono-PE structures

Material recycling in India

Amit Shah, joint president and CMO at flexible packaging specialist UFlex, explains that the Indian government has introduced important directives for plastic and flexible packaging.

In the past, plastic waste was ultimately incinerated instead of being recycled. Under EPR regulations the partners in the packaging chain would provide certification to brand owners based on the quantity of material disposed of.

'But now the regulation is different. It clearly emphasizes the element pertaining to recyclability. It has been clearly laid out that you have to recycle 70 percent of the plastic quantity that you're buying.' Uflex has set up a pilot recycling plant in Noida, and all its plants are equipped with plastic reprocessing facilities.

The new version of the plastic waste management rules states that brand owners using biodegradable materials will be absolved from their Extended Producer Responsibility (EPR) obligations.

Shah notes that in India 80 percent of the flexible packaging manufactured is for low-volume, low-cost packs, meaning that plastic material becomes difficult to collect for reprocessing.



Eco Flexibles has developed recyclable flexible packaging for Lantmännen Unibake

“The government has introduced clear directives for plastic and flexible packaging [in India]. The latest draft of the plastic waste management rules enforces the expectation from the brand owners, producers and manufacturers”

customers and brands on how to design for recyclability.

In general, within the Americas market recycling infrastructure does have limitations, says Drew.

'So this is a consideration when working towards increasing recycling rates. Recycling capabilities and availability vary from region to region. UPM is working towards creating a better, more circular economy for plastics and paper packaging materials. Recycled content is generally calculated on a mass balance basis within the PCR market, so what we can do is ensure we have third-party validation of the percentage PCR content that we are using in our products.'

She continues: 'One other way to influence this system is to ensure this high-value material stays within our value chain. As part of our strategy, we collaborate and want to continue to grow in our partnerships with recyclers so that we can work together to create a more circular economy.'

Masaaki Yoshitake, executive general manager, printing and variable information products operations at Lintec, says the company is committed to reducing the consumption of plastic materials along with

reducing carbon dioxide emissions.

The company has developed products made from post-consumer waste, increased its range of biodegradable materials, and developed paper-based alternatives to plastic using its specialty production technology.

Lintec has also developed new approaches to encourage the recycling and reuse of plastic containers, including a new generation of hotmelt adhesives that do not contain any organic solvents and will release from the container surface in recycling systems. Lintec is also working to establish a paper and film release liner recycling system.

Flexible packaging goes green

Label converters diversifying into flexible packaging are often faced with using nonrecyclable multi-layer constructions. However, this situation is changing fast as suppliers of flexible packaging develop more sustainable materials with similar mechanical characteristics.

UK-based Eco Flexibles, for example, has developed a recyclable surface-printed mono-polymer film for Lantmännen Unibake, one of Europe's largest bakery groups.

Sun Chemical has collaborated with HP to launch more sustainable flexible packaging produced with HP's Indigo 25K digital press and Sun Chemical's new SunLam solventless lamination process.

As part of the partnership, Sun Chemical and HP developed stand-up pouches printed on mono-material polyethylene (PE) and polypropylene (PP) substrates and laminated with Sun Chemical's SunLam technology. The pouch was certified by Germany's Institute Cyclos-HTP for a recyclability rate of 96 percent.

Packaging manufacturer Coveris has teamed up with one of the UK's largest rice suppliers, Veetee, to launch fully recyclable packaging called MonoFlexE, for Aldi's store-brand rice. With the new packaging, Coveris supports the retailer's target to have all its own-label packaging certified as reusable, recyclable or compostable by the end of the year.

Previously packed in a nonrecyclable, OPP/PE mixed laminate, Aldi has switched to Coveris' fully recyclable MonoFlexE monomaterial PE/PE laminate packaging for its own-brand Worldwide Foods 1kg basmati rice and 1kg brown rice SKUs. The move to MonoFlexE will enable about 30 tons of film to enter the plastic recycling



Mondi recognized by the Swiss Packaging Institute (SVI) for its RetortPouch Recyclable pouch



Mondi has developed a recyclable high-barrier packaging for Norwegian pet food manufacturer Felleskjøpet

“India is a low unit pack market which means that 80 percent flexible packaging manufactured in the country is low volume packs priced low to enable a larger part of the population to consume a product. The challenge that emanates is that plastic material becomes difficult to collect and reprocess”

stream annually.

Flexible packaging manufacturer Emsur has launched its Ecoem-Sleeves range of sustainable shrink sleeves,

The range includes the Ecoem-Full PET sleeve, which is based on a combination of films and washable inks that can be mixed and recycled with PET bottles without any clumping of residues or interruption in the drying and decontamination process.

The Ecoem-Full PET sleeve has APR certification for washable inks – preventing discoloration of the flakes from the recycled PET bottles – and can include post-consumer recycled content.

Another sleeve in the range is Emfull, manufactured from polyolefin-based material which can also include post-consumer waste.

The film's floatability properties allow the sleeve to be separated directly from the bottle during the washing phase of the recycling process. The product range features other materials such as PETG.

Mondi has been recognized by the Swiss Packaging Institute (SVI) for its RetortPouch Recyclable pouch. The packaging won the Swiss Packaging Award in the Sustainability category and was developed for Coop's private label range of healthy pulses and grains sold in Switzerland. RetortPouch Recyclable is made of a polypropylene (PP)-based mono-material and is claimed capable of replacing complex multilayer packaging

that uses aluminum or metalized layers to provide high-barrier food protection.

Mondi has also developed FlexiBag Recyclable, a recyclable high-barrier packaging material now being used by Norwegian pet food manufacturer Felleskjøpet for the relaunch of its Appetitt range of dry cat and dog foods. FlexiBag Recyclable is a mono-material polyethylene (PE) and again replaces multi-layer packaging, delivering packaging constructions. It is designed for recycling according to CEFlex D4ACE guidelines and is recyclable in existing Norwegian plastic recycling streams.

Jindal has introduced PE-based high-barrier Ethy-Lyte films, which can be used as substitutes for conventional polyester or nylon printing films in lamination with PE films, thus creating fully recyclable mono-PE packaging.

The new generation of films includes 25HD800, a 25µm transparent, high-barrier BOPE printing film, one side coated with EVOH.

The film provides gas and aroma protection and is designed to be used as an outer printing web to be laminated with PE sealing films for creating recyclable, two-ply mono-PE laminates.

25HDM285 is a 25µm metalized, high-barrier BOPE lamination film, one side metalized and treated on the other. The film provides gas and aroma protection and is designed to be used as a mid-layer

in three-ply mono-PE laminates. This film is a substitute for conventional metalized PET or aluminum films resulting in fully recyclable mono-PE laminates.

Sustainable paper

Fedrigoni is now producing a range of multi-use paper products for industries ranging from fashion and food to personal care. Materia Viva Metamorphosis products are treated to maintain some characteristics of plastic without the need for lamination while remaining fully recyclable.

Mondi has collaborated with converter Fiorini International to create new paper-based packaging for Antico Pastificio Umbro, an Italian manufacturer of premium pasta products. The new packaging is fully recyclable and will eliminate up to 20 tons of plastic annually. The new paper bag design with a large window made of transparent, recyclable and biodegradable cellulose allows the end user to see the contents.

The bag is entirely recyclable while offering the same protective properties as the previous plastic packaging.

UPM Specialty Papers has expanded its selection of sustainable packaging papers with UPM Confidio and UPM Confidio Pro combining moisture, and grease resistance with heat-sealing properties.

Made from renewable fibers, UPM Confidio and UPM Confidio Pro are repulpable and designed to be recycled in regular fiber recycling streams.

Sustainable flexible packaging specialist Parkside has collaborated with UK-based supermarket chain Iceland to deliver what is claimed a world first paper-based recyclable pack for frozen food.

The packaging has been designed for the supermarket's Northcoast range of frozen seafood, previously packed in an LDPE bag.



To read more about a sustainable initiative for plastic waste, read an article on gasification on page 63