SUSTAINABLE TIMES



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The pace and variety of sustainability activities continue to accelerate. Newer activity including legislation in the form of extended producer responsibility (EPR) is being adopted by a growing number of states seeking to improve collection and recycling. In this quarter's article, I will review activities including upgrades to labels to ensure compliance with the new legislation, increasing momentum toward improving film recycling, and highlight a new innovative packaging solution.

CA SB343 TRUTH IN LABELING

In 2021, California passed legislation prohibiting the use of chasing arrows or any indicator of recyclability on packages or products unless certain criteria are met. The primary goal of the legislation is to remedy consumer confusion over what is recyclable within the state. One of the phases of the study included a material characterization study requiring a CA SB343 TRUTH IN LABELING | PG 1-2

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statewide analysis of materials commonly collected, sorted, and transferred for recycling in the state. The first phase results were published in April 2025 with updates in 2027 and every 5 years thereafter.

CA SB343 TRUTH IN LABELING CONT.

This legislation is impactful as it provides the basis for materials covered under SB 54 Plastic Pollution Prevention and Packaging Producer Responsibility Act, aka the Extended Producer Responsibility Act.



Figure 1: SB343 Process - Image Courtesy calrecycle.ca.gov/wcs/recyclinglabels

CHANGES COMING TO THE HOW2RECYCLE LABEL

The How2Recycle label for recycling through the front of store drop-off program for flexible PE films will be changing soon. As a result of the SB343 Truth in Labeling Law, the elimination of the chasing arrows in the current logo is required to comply with the new law. According to the How2Recycle group, the new logo scheme will enhance consumer clarity and ensure compliance with the new regulations. The timeline for the release of the new logo is scheduled for August of this year. This should provide ample time for brands to make the switch as the implementation date for SB 343 is scheduled for October 2026. [Click Here to View Article]

Figure 2: Proposed Update to How2Recycle Label for Flexible Films Collected at Store Drop-Off



MOMENTUM BUILDS FOR RECYCLING OF Flexible films

Investment in mechanical recycling continues. Nova Chemicals and Novolex have opened a 450,000-square foot recycling facility in Connersville, IN is expected to process up to 145,000 bales of post-consumer plastic film for use in LLDPE food-grade applications. The targeted yield from this facility is over 100MM pounds of recycled materials annually. The feedstock is targeted to be sourced from the "back-of-store" polyethylene film collected from major retailers and distribution centers across the U.S. This operation is targeted to be in full operation by early 2026. In a similar venture, WM (formerly Waste Management) is investing \$150 million and opening a film recycling plant in Texas with a monthly capacity of 7.5million pounds of recycled resin.



Figure 3: Waste Management's Film Recycling Plant in Texas

SPC CONDUCTS SURVEY RELATED TO ACCESS TO STORE DROP-OFF RECYCLING PROGRAMS

There are often questions related to the effectiveness of the front of store drop-off program for collecting flexible materials. In response, the Sustainable Packaging Coalition (SPC) has been conducting work to develop data related to consumer access to recycling and actual rates. In a survey of California, they discovered that 87.6% of the population has access to a collection site within 3 miles, 78.1% had access within 3-mile drive distance, and

SPC CONDUCTS SURVEY RELATED TO ACCESS TO STORE DROP-OFF RECYCLING PROGRAMS CONT.

64.1% within 5 minutes' drive time. Overall, the estimate volume of PE films and bags in this study was estimated at 17.45MM pounds per year. RRS, the group conducting the study, estimated that 14.8 to 15.7MM pounds of these films are reclaimed.

In a broader National study, an April 2025 study found that 70.7% of US consumers are within 3-mile driving distance of SDO (Store Drop Off) collection, 92.1 are within a 10-mile driving radius, and 97.8% are within a 20-mile driving radius.

PRODUCT SPOTLIGHT - CURBSIDE RECYCLABLE PAPER PACKAGING

The desire for curbside recyclable flexible packaging options continues to grow, but existing infrastructure limits what can be collected in the residential stream. One technology making headway is paper packaging. Not all paper packaging can be considered recyclable and standardized testing protocols must be met to claim recyclability. Another limitation when considering paper constructions is that

packaging equipment has been optimized for high-speed conversion of film-based laminates. Converting paper materials on this equipment can result in tears and line breaks unless modifications are made.

When targeting curbside recyclability, paper constructions must undergo two primary test protocols. The protocols include repulpability which targets a minimum percentage of good fibers can be recaptured and recyclability which ensures that the recovered fibers can be added to virgin paper without negative impact to color and physical properties.

The repulpability process consists of placing material into a hydropulper. This equipment

mixes hot water with the paper packaging seeking to separate the valuable paper fibers. This equipment is like a large blender with paddles that breaks up the packaging and creates a slurry. After a certain time, the slurry is emptied onto a series of screens designed to separate the targeted paper fibers from the rejects. In the case of bleached papers, the accepts must be >80% by weight of the original packaging.



Figure 4: Various Stages of Repulpability Testing for Paper Materials

In the recyclability test, the recovered fiber is added to the virgin paper at a level of 15%

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by weight. This test is designed to mimic the processes of a paper mill ensuring that recycled paper can be added without impact to the paper manufacturing process. The test criteria include tensile and burst strength, brightness of the final formulation and stickies. Stickies are those foreign compounds that may contaminate the surface of the paper and are undesired. If both tests prove positive within the targeted limits, a brand can apply for the How2Recycle label.

Why is this testing necessary? In most cases, paper needs to complement with additional coatings to add the desired functionality and validation that these components do not impact the quality and performance of the paper is critical. At a minimum, incorporating a sealable component is essential to provide a means of package formation, barrier components provide shelf life, and decoration or graphics allow for branding, ingredient panels, and conveying other pertinent information.



In this example, the customer's current packaging was optimized for high-speed conversion, shelflife, and met the targeted graphic appearance. Unfortunately, the package did not meet the sustainability ambitions and the target for the project was to offer a curbside recyclable alternative meeting the same line efficiencies, shelf-life targets, and graphics.

In the course of investigating options for the paper substrate, a paper with an integrated barrier was found that provided the targeted shelf life. To achieve the targeted line speeds, the use of a cold seal cohesive was chosen and this was pattern applied to the inside surface of the package. The outside of the package required graphics and a cold seal release lacquer both applied with rotogravure printing technology.

Following the conversion step, a trial was conducted at the supplier's OEM equipment supplier. Achieving the targeted line speed was challenging on the traditional high-speed flowwrap equipment as the paper material tended to tear and break frequently as it progressed through the machine.



Figure 5: Packages Converted on OEM Equipment with Modified Forming Equipment at 600 ppm

PRODUCT SPOTLIGHT - CURBSIDE RECYCLABLE PAPER PACKAGING CONT.

Fortunately, the use of a modified former tuned for high-speed manufacturing of paper laminates was added and the targeted line speeds of 600 packages per minute was achieved. Following the results of the successful trial, APC pursued testing at Western Michigan University (WMU). WMU is a laboratory certified for bleached paper constructions. This material passed repulpability with accepts >80 weight % and recyclability!

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Sustainable Times is a quarterly newsletter compiled by American Packaging Corporation that is designed to educate, provide industry highlights and keep you informed of sustainable solutions being developed by APC. If you have any questions, please feel free to contact your sales representative or Jeff Travis at <u>jtravis@americanpackaging.com</u>.

