

# SUSTAINABLE TIMES



Delivering the total package.™

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## ACHIEVING A ZERO PLASTICS WASTE FUTURE IN THE GREAT LAKES REGION

I am sure by now that you all have heard the news, seen imagery, or even watched movies about plastic waste in the Earth's oceans. Figures show that by 2050, the amount of plastics in the oceans will outweigh fish if action is not taken to curb the leakage of plastics in the ocean and clean it up. For the majority of us, we view the plastic waste issue as very disturbing but often ask how we can actively engage in solving the problem. APC has considered joining numerous

organizations but in consideration continue to look for opportunities where we can proactively engage and drive change. It has been a challenge finding the right organization to join as the plastics waste problem is global in scale and efforts are often focused remotely in other regions. Some organizations are focused on tackling the challenges in developing countries where the majority of the leakage into the oceans occur. This

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is certainly important but wouldn't it be nice if we had the opportunity to affect change in the communities in which we all work and live?

Did you know that in the Great Lakes region alone,

# ACHIEVING A ZERO PLASTICS WASTE FUTURE IN THE GREAT LAKES REGION CONT.

81% of waste is still sent to landfills? Even more concerning, estimates show that roughly 22 million pounds of plastics pollution enter the Great Lakes every year. The Great Lakes is the largest freshwater

system in the world and we need to ensure that we don't negatively impact the environment and wildlife!

Geographically, APC has 4 of our 5 facilities located in the Great Lakes

Region with 2 in Wisconsin and 2 in New York.

I am pleased to announce that APC's leadership team has agreed with the recommendation to join the Council of the Great Lakes Region as a corporate activation partner. Together



with Dow, Charter Next Generation, Imperial Oil, and Pregis Corporation we will embark on the journey to understand and demonstrate how to build a zero plastic waste economy in

the Great Lakes region. This group will work together along with additional partners representing government, academia, non-profits including the Alliance to End Plastic



**Circular Great Lakes**  
FORGING A FUTURE WITHOUT WASTE



Waste, to actively combat plastic waste and pollution in the Great Lakes Region. **Keeping valuable plastics out of the waste stream and the environment by building a future without waste!** To learn more about this initiative visit [www.CircularGreatLakes.org](http://www.CircularGreatLakes.org)

## STRETCHING THE LIMITS OF RECYCLABLE PACKAGING THROUGH "INNOVATIONS"

The topic of sustainability continues to grow momentum as the industry sees the 2025 target for all packaging to be recyclable, reusable, or compostable quickly coming into view. On a regular basis, we have new and existing customers inquiring how they can take their current packaging and make it more sustainable. The most popular end of life option being requested is

design for recycling.

Design for recycling of flexible packaging in the US is primarily limited to the front of store-drop off recycling program. Products suitable for this recycling stream are easily identified by the How2Recycle label<sup>1</sup> which is quickly becoming the standard for identifying how to prepare the package for recycling and how to dispose / recycle of the package.



<sup>1</sup>How2recycle. (n.d.). Retrieved March 31, 2021, from <https://how2recycle.info/>

# STRETCHING THE LIMITS OF RECYCLABLE PACKAGING THROUGH “INNOVATIONS” CONT.

**Have you ever looked at the variety of products that have this label?**

It is quite impressive, however, there is one common element for all the labels destined for the Store Drop-Off location. They are all made of polyethylene materials. Products in this category may range from large bags of salt to Amazon shipping packaging to food packaging.

**How can polyethylene work for all these different applications?**

Well, polyethylene is a class of material that is comprised of many different grades with differing properties. Depending upon the final needs of the package, we may need to select grades based upon toughness, clarity, strength of seal, barrier properties, stiffness, etc. In addition to the grade of polyethylene(s), certain additives are also employed within the lamination to ensure that the laminate can process smoothly through the entire manufacturing, filling, and distribution process. However, keep in mind that there are some limitations regarding what additives can be employed in the final laminate.

So who establishes what is and is not acceptable and how does APC ensure their laminates designed or recycling will be accepted in this recycle stream? The Association of

Plastic Recyclers (APR) who represents the majority of the material recovery facilities (MRFs) in the US has developed a set of guidelines for this purpose. These guidelines are called Design Guidelines and are available for plastic materials that can be recycled. If you are curious about the Design Guidelines, click on this [\[link\]](#) to learn more.

**How do we use this guide?**

Let's take the example of a confectionary bar that contains fruit and nuts. Because of the product



formulation, in this example, the wrapper must contain both moisture and oxygen barrier properties. One of the most common constructions for confectionary wrappers is a laminate that includes oriented polypropylene (OPP) reverse printed and laminated to a metallized OPP. This construction is very common in the industry and offers product protection and barrier properties that ensure the product will be protected through distribution and the shelf life will be sufficient. The disadvantage is that this

package is not recyclable. **So how do we change this into a recyclable package?** Of course, the reference is to use the APR Design Guidelines for polyethylene.

Fortunately, the Design Guide indicates that pure polyethylene is compatible with the store drop-off collection stream so we can choose from various grades of polyethylene to suit the performance requirements. **But what about barrier needed to ensure the long shelf life?**

Although unclear in the guidance document, the use of Ethylene Vinyl Alcohol (EVOH) which is a great oxygen barrier additive can be used in the polyethylene packaging up to a level of 5% by weight. Unfortunately, EVOH is not as effective as providing a barrier than the metallized coating on the OPP film. To get the same barrier as the metallized film, you will need a much thicker layer of the EVOH film. However, thicker layers cause the packaging to be very stiff and are very expensive in comparison. In this example, we would prefer to utilize a metallized film but in the Disign Guideline section called Metalized layers, you will see that Benchmark Testing is required.

## STRETCHING THE LIMITS OF RECYCLABLE PACKAGING THROUGH “INNOVATIONS” CONT.

**Why is additional testing required?** Well, remember that the package is to be recycled and we need to ensure that the packaging doesn't create any challenges to the recycle stream. Because the metallized coating is new to the recycle stream it is called an innovation. Any new innovation, must be tested to ensure it doesn't pose any harm to future products that use this material or cause contamination in the process. Metallized layers may cause discoloration and need to be tested to ensure that the optical sorters and metal detectors in the recycling facilities can operate properly with this

new material. Benchmark testing can be quite expensive (>\$10,000 per test) and have long lead times as currently only 3 facilities are approved for this test. Additionally, there is no guarantee that the innovation will be successful when tested through the protocol.

In the interest of exploring these innovations, APC is working with the Rochester Institute of Technology (RIT) and the APC Center for

Sustainable Packaging to develop a screening protocol. This protocol will be used to screen various recyclable innovations in the goal to understand what options are most likely to be accepted through this Benchmark Test protocol. In this manner, APC can accelerate innovation with greater knowledge to which options are prudent to move forward.

**RIT**

College of  
**Engineering  
Technology**

## SUSTAINABLE ACTION! CIRCULAR ECONOMY FOR PLASTICS

To complement our sustainable packaging development in 2021, APC will be putting efforts into compostable packaging development. John Muehlbauer will be leading the research, development, and roll out of information for the technical organization to use to communicate and develop with our customer base.

The commitment stems from a couple of our key accounts committing to a sustainable roadmap to compostable packaging. In one case with a heat sealable flow wrap, it has been that account's commitment to land on a compostable package for several years, and with the maturation of compostable

materials, they are making a concerted effort to commercialize. Trials have been conducted and the structure we are working on for a heat sealable flow wrap has been in development since 2017. The plan is to launch a promo in a compostable flow wrap by year's end.

We've seen on other accounts

# SUSTAINABLE ACTION!

## CIRCULAR ECONOMY FOR PLASTICS CONT.

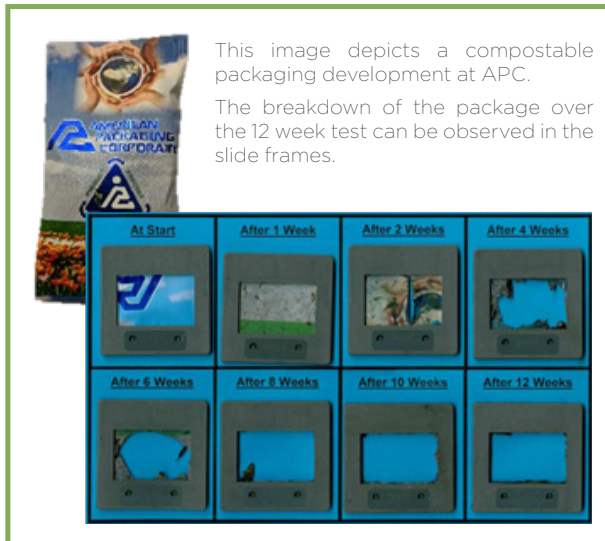
where roadmaps to 2025 sustainable goals lay out plans to be in compostable packaging for certain packaging sizes and formats. This is exciting news, and recently we have been given direction to move to trials on a couple of big name products in their portfolio.

With that being said, there are certain attributes to compostable packaging that should be considered when helping guide a customer to a compost packaging structure. Size is an important consideration. It is thought that

for recyclable packaging, that small packages would be filtered out of the waste stream and end up in a landfill during the sortation process. To solve that issue, compost packaging could work where the smaller compost package format would be diverted to a dedicated compost waste stream be it home or industrial composting and mix in with other compost media where it will decompose. A second consideration is whether the package, once consumed and is ready for disposal, is it soiled with food content? If you

food content is difficult to wash off or the package is difficult to open, clean, and thoroughly dry. Or worse yet, it goes into the recycle stream to only be diverted to the landfill from it being soiled and have a cost impact to the recycling center for sorting it out. These two considerations are big ones when you are thinking of whether an opportunity to gain business or convert an existing piece of business to a compost structure.

A lot more to come on this topic. John will be reaching out to both sales and technical to help aide in the compostable packaging conversation and build plans in pushing APC to the forefront of this sustainable packaging effort. More content will be shared in this space, too, to keep the team up to speed in this developing area of sustainable packaging.



recall in recycle ready packaging, it is asked that the package be clean and dry. With a lot of packaging, that may be more inconvenience than a consumer is willing to partake in to properly dispose of recycle ready packaging. Some

## OUR MISSION

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 [jtravis@americanpackaging.com](mailto:jtravis@americanpackaging.com).