

# SUSTAINABLE TIMES



American  
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## HOW2RECYCLE® (H2R) ANNOUNCES ADOPTION OF APR'S DESIGN GUIDELINES

Recycling of *flexible packaging* has been primarily limited to the front of store drop-off program where the consumer must return certain *branded* packaging to the store for recycling. Identification of packages that are suitable for recycling has been facilitated by use of the How2Recycle logo which is designed to educate the consumer as to how to prepare their package for recycling as well as where to recycle it. The issuance of these logos is controlled by the Sustainable Packaging Coalition's (SPC) How2Recycle group (H2R).

When considering what type of logo can be issued to a particular package, the H2R group reviews both the package and packaging materials. It is important to ensure that there is both the proper infrastructure to collect them and verify that the materials are

suitable for the recycle stream. The front of store drop-off program restricts packaging materials to those comprised of polyethylene (PE) only. A single stream of PE may seem simple but there are barrier additives, different types of PE resins, and additives that are traditionally used in packaging that are often needed to provide certain properties. The H2R group must ensure that these additives are suitable for the recycle stream. Up to June 2020, the H2R group had their own set of guidelines used to review submissions.

Within the *rigid packaging* segment there has been a long



Figure 1:  
How2Recycle Logo  
(How2Recycle 2020)

### HOW2RECYCLE®

H2R Announces Adoption of APR's Design Guidelines - pg 1 & pg 2

### RECYCLABLE PACKAGING

Successful in Produce Application - pg 2

### QUANTIFYING SUSTAINABILITY

Undertaking Sustainable Developments - pg 3

### HYGIENE

The New Norm for Packaging Beyond Covid-19 - pg 4

### OUR MISSION

Sustainable Times - pg 4

history of recycling with items like aluminum cans, soda bottles, and cardboard cartons collected through the curbside recycling program. When the curbside recycling is collected, the items are brought to a facility called a MRF (Materials Recovery Facility) for sortation into the different material streams. Once the materials are properly sorted,

## HOW2RECYCLE® (H2R) ANNOUNCES ADOPTION OF APR'S DESIGN GUIDELINES CONT.

the MRF facilities are able to resell them to markets that are able to use these materials as alternatives to virgin feedstock. An industry group called the APR (Association of Plastics Recyclers) represents the MRF's on a national level and is responsible to ensure that there are standards ensuring the materials are consistent from location to location. Based upon its long history, the APR has a number of established Design Guidelines for materials like PET (polyester), PP (polypropylene), HDPE (high-density polyethylene), and PE (polyethylene) ensuring that the composition of these materials is satisfactory to minimize

contamination to the recycle stream. In addition, the APR also has a number of established tests that can be utilized to test materials that are new to the material stream to verify whether they will be suitable.

On June 18, 2020, the How2Recycle group announced that they have formally adopted APR's Design Guidelines. What does this mean to the packaging industry? Fortunately, a great number of recyclable packaging items will continue to be approved for the

Click the Image to Link to APR's Design Guides



Figure 2: The APR Design® Guide for Plastics Recyclability (The Association of Plastic Recyclers 2020)

front of store drop-off recycle stream. However, there are also a great number of items that will require a greater degree of testing to prove that they can be recycled successfully. Rest assured, APC is actively engaged in the pre-approval of its recyclable specifications and will work with you to ensure you that your packaging can be successfully designed for the recycle stream.

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## RECYCLABLE PACKAGING PROVIDING SUCCESSFUL IN PRODUCE APPLICATION

APC recently had another successful trial for a fresh produce application. For this application, we used a laminate comprised of a reverse printed 70ga PE adhesive laminated a 1 mil LLDPE sealant. The VFFS equipment was producing a 16oz bag operating at a speed of 30 bags per minute.

It was noted that the PE laminate was more extensible than the current non-recyclable offering which required some adjustments to the equipment settings. Fortunately, APC had one of our

Field Technical Service (FTS) representatives at the trial who was able to make the proper adjustments and result in a successful trial!

With any recyclable trial, it is highly recommended that we include one of our FTS representatives. This team has the knowledge and experience to minimize the challenges a customer might encounter when they consider transitioning from their current to a more sustainable laminate offering.



# QUANTIFYING SUSTAINABILITY

## UNDERTAKING SUSTAINABLE DEVELOPMENTS

There are numerous approaches that can be utilized when undertaking sustainable developments. The particular approach chosen by each company may differ based upon the company goals and values but in the end each company is doing their best to minimize their environmental footprint. When comparing the alternatives, there are tangible measures that are easily calculated such as differential in production rates, material yield, raw material cost, and transportation savings. However, there are often also less tangible options that may also be considered.

A LCA (life cycle analysis) is an approach that can be taken to generate these less tangible factors. Various LCA approaches are available. A *cradle to grave* analysis considers all aspects of a product's life from raw material extraction through the material's processing, manufacture, distribution, and use. This LCA can be very complicated and typically requires considerable resources and a considerable timeline to collect and complete. Alternatively, a *cradle to gate* LCA analysis compares the raw material extraction to the factory gate which is useful when comparing material alternatives. This option is easier to execute and still provides valuable insights. LCA's can provide data such as water consumption, carbon emissions, and energy consumption.

As you approach your project, APC has tools available to assist you in comparing the alternatives. One of the available resources is a cradle to gate LCA calculator developed in conjunction with RIT (Rochester Institute of Technology). This calculator can provide valuable insight with regards to the carbon emissions and energy consumption associated when transitioning to different materials or the entire laminate.

The values in Figure 4 demonstrate a simplified calculation of transitioning from one material to another. For example, transitioning from 28.5ga Foil to 48ga Metallized Polyester (MetPET) or 70ga Metallized OPP (MetOPP) results in lower carbon emissions (82% and 85% respectively) and lower energy consumption (60% and 55% respectively).


	Reduction in Carbon Emissions	CO2 Emissions Savings Gallons of Gasoline Consumed 	Reduction in Energy Consumption
<b>28.5ga Foil --&gt; 48ga MetPET</b>	82%	1459	60%
<b>28.5ga Foil --&gt; 70ga MetOPP</b>	85%	1520	55%
<b>3mil PE --&gt; 2.5mil PE</b>	17%	205	17%

Figure 4: Cradle to Gate Examples, Gasoline Savings based upon 1MM pouches of dimension 8"H x 5" W x 2" Bottom Gusset

For many, this savings looks good but how do I quantify this in terms I can understand? To further illustrate the benefit, we can perform an additional calculation which will assume 1MM stand-up pouches of size 8"H x 5"W x 2" Bottom Gusset. The reduction in carbon emissions from transitioning to the same 28.5ga Foil to 48ga MetPET or 70ga MetOPP relates to the CO2 emissions savings from 1459 and 1529 gallons of gasoline consumed.

Want to learn more? Reach out to your sales contact for more information.

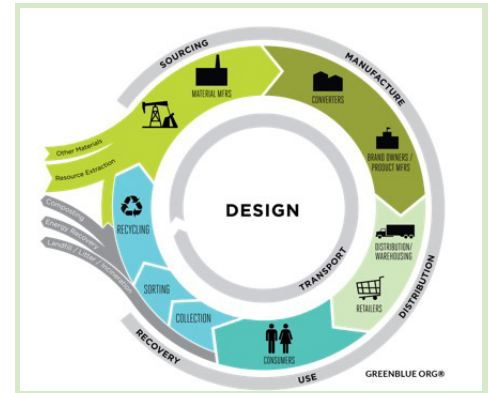


Figure 3: Life Cycle Diagram by the Sustainable Packaging Coalition (GreenBlue 2020)



## HYGIENE THE NEW NORM FOR PACKAGING BEYOND COVID-19

In the period prior

to Covid-19, sustainability was a top consideration for members of the packaging community. The goal was to eliminate single-use plastics and redesign packaging to be recycled, reused, or composted following the guidelines of the New Plastics Circular Economy. This was evidenced by numerous examples including the imposition of plastic bag bans, fees for shopping bags, coffee shops moving toward the use of reusable cups, and significant activity related to development of sustainable packaging alternatives.

At the height of the pandemic, there was a shift in priorities due to the population being forced to isolate and work from home. Single-use plastic and bag bans were temporarily halted due to concerns over transmission from virus contaminated surfaces and the accelerated pace of sustainable package development slowed due to the new norm of working from home with limited access to the factory floors. *Hygiene* entered the scene as a new expectation of packaging.

As the Covid-19 situation continues, activities are slowly returning to pre-Covid-19 status. Bag bans are being reinstated, package developments are slowly moving forward and *hygiene* is here to stay.

Fortunately, flexible packaging is in a good position related to *hygiene*. From a food safety perspective, APC ensures that the raw materials all adhere to strict guidelines established by the FDA and Pharma industries. Our facilities are audited for GMP or Good Manufacturing Practices which ensures we adhere to the industry norms for safe, consistent, and high-quality products. Our employees follow strict procedures such as ensuring the use of PPE such as hair nets, masks, personal hygiene, and social distancing. Our manufacturing operations are highly automated minimizing the interaction between the employees and the packaging materials we produce. We also ensure that our suppliers follow similar practices within their own facilities.

On the finished packaging side, rest-assured that sustainability and *hygiene* can co-exist. The performance characteristics that we associate with traditional multi-material packaging remain true for packaging designed for sustainability. Packages continue to have provide barrier properties that protect the contents from the outside environment, the seals are very strong, and wicking of oils and greases is prevented. We can also continue to add functionality to the packages that allow easy package opening and reclose.

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## OUR MISSION

The Sustainable Times is a quarterly newsletter compiled by American Packaging Corporation designed to educate, provide industry highlights, and keep you informed of sustainable solutions

being developed by APC. If there are any questions, please feel free to contact your sales representative or Jeff Travis at [jtravis@americanpackaging.com](mailto:jtravis@americanpackaging.com).