Problematic and Unnecessary Materials Definitions, Criteria, and Data Examples Document

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Context

The Problematic Materials Workstream utilizes the Ellen MacArthur Foundation ("EMF") Global Commitment criteria for "problematic and unnecessary" plastic packaging components, with a few edits provided below. The term "problematic" means a variety of things to different stakeholders. Similarly, the Workstream views the term "functional" as a more appropriate indicator of what is necessary or "unnecessary," coinciding with a prioritization of functions (e.g., food safety versus marketing). The definitions and criteria below will be used to identify problematic and unnecessary materials.

Definition of "Problematic or unnecessary"

Plastic packaging items, components, or materials where consumption could be avoided through elimination, reuse or replacement and items that, post-consumption, commonly do not enter the recycling and/or composting systems, or where they do, are detrimental to the recycling or composting system due to their format, composition, or size.

Exclusions and Additional Considerations

The Scope of the USPP includes primary, secondary, and tertiary plastic packaging in addition to ancillary plastic materials that are used similarly to primary packaging. Items such as mixed materials (i.e. poly-coated paper), durable products, non-durable goods, and medical plastics (used in a clinical hospital, or laboratory setting) are outside the scope of the USPP. Therefore, materials on the Problematic and Unnecessary Materials List do not apply to categories or formats outside of the Scope of the USPP.

Material substitutions inevitably produce trade-offs for sustainability performance. When considering material substitution, we encourage Activators to switch to more circular (i.e., reusable, recyclable, or compostable) materials with better environmental profiles. Activators are also encouraged to carry out assessments for emissions, water use, and the overall environmental benefits. That analysis should include the recyclability and/or compostability of the alternate material. When considering substitution to a non-plastic material such as paper, glass, or metal, the packaging will be considered out of scope for

the U.S. Plastics Pact. We encourage the Activator to carry out due diligence to ensure that the new material is not causing additional negative human health or environmental impacts

Criteria & Data Sources

While based on the Ellen MacArthur Foundation's Global Commitment Criteria for identifying problematic or unnecessary plastic packaging components, additional U.S.-specific additions or clarifications have been developed for the workstream's review process. The following list of criteria and suggested data sources is provided to clarify to what data and considerations are included in the assessment process:

Per the Decision Tree, if Criterion 1 is "No", then at least one additional criterion must be "Yes".

If Criterion 1 is "Yes", then the material is considered not Problematic or Unnecessary.

Criteria	Clarifications and considerations for assessment (these are NOT additional criteria)	Examples of Possible Data Sources (not an exhaustive list)
Criterion 1* *It is reusable, recyclable, or compostable by 2030.*[1] Reusable (a system for reuse is in place and proven to work in practice - a significant share of the package is actually reused), recyclable (achieves a 30% recycling rate in	For materials not yet achieving the 30% in practice threshold: Is it feasible to recycle or compost at scale? Are there stable, transparent, domestic end markets across waste-sheds in North America? • For consideration of recyclability, does adequate collection access exist and can the material be collected, processed, and sold for use in new applications?	• State-published recycling rates • Industry reports with credible, transparent methodology, preferably verified by a third party • Stina U.S. Post-Consumer Plastic Recycling Data Report • NAPCOR PET Recycling Report • State collection lists in EPR states • Design Guidelines: ○ Association of Plastic Recyclers APR Design®

the U.S.), and compostable (achieves a 30% composting rate in the U.S.) will be assessed in accordance with the [USPP Definitions]	Do stable, verified end markets exist for the material with a likely potential to scale to the in practice threshold? • For consideration of compostability, do composters accept it? Does it render finished compost ineligible for organic certification or use in other end markets? (Certified organic compost is the preferred, but not required, outcome.) Is the plastic package technically designed for recycling (refer to APR for business to consumer packaging) or composting (certified to the ASTM standards, and associated with foods scraps)?	Guide for Plastics Recyclability ○ Biodegradable Products Institute (BPI) ○ Compost Manufacturing Alliance ○ DIN Certo ○ TUV Austria *A subset of applications within a material and format may be evaluated independently from the rest of the material format but requires a clear definition.
Criterion 2 *Does the material contain hazardous chemicals or create hazardous conditions that pose a significant risk to human health or the environment (applying the precautionary principle) during its manufacturing, recycling (whether mechanical or chemical) or composting process?* A significant risk is considered a	The analysis will defer to the most stringent U.S. regulations. International regulations may also be considered but will be reviewed under that geography's context and then applied to the appropriate U.S. context. Industry or scientific reports with credible, transparent methodology (peer-reviewed or third party verified) will also be considered.	• Agency for Toxic Substances and Disease Registry (ATSDR) • Centers for Disease Control and Prevention (CDC) • United States Food and Drug Administration (FDA) • United States Department of Health and Human Services (HHS) • United States EPA: TSCA, RCRA, etc. • International Agency for Research on Cancer (IARC) • State legislation or regulation, including but not limited to:

substantial risk, as defined by the Toxic Substances Control Act.		○ Vermont Department of Health Chemicals of High Concern to Children ○ Washington State Department of Ecology Chemicals of High Concern to Children ○ Maine Department of Environmental Protection Toxics in Food Packaging Program Food Contact Chemicals of High Concern ○ California Proposition 65 • Plastchem project • Toxics and packaging clearinghouse • Environmental Working Group • Safer States

Criterion 3*
Can the material be avoided (or replaced by a reuse model) while maintaining utility? (Is the format or material necessary?)
 	
A format or material might be unnecessary if it can be replaced by a more circular material that provides similar product protection/intended use, similar end product safety, improves overall environmental outcomes including reduced waste to landfills, and is economically feasible and scalable.
	The package or material use can be avoided (e.g., overall source reduction) or replaced by a more circular alternative including a reuse model.
	
	Considerations on the feasibility of avoiding or replacing a material include:
	• Economic feasibility
	• Scalability
	• Achievement of defined necessary performance criteria for the application such as durability, safety, shelf life, etc.
	• Environmental trade off analysis such as overall environmental footprint and end of life scenarios.
		• Industry data and reports with credible, transparent methodology, preferably verified by a third party
		• Product damage rate reports
		• Shelf-life testing
		• LCA's
		• ISTA testing
		• Reports or case studies with evidence of scalability
		• Reuse-specific:
		  • PR3 Reusable Packaging Standards
		  • Environmental break even analysis
		  • Migration testing

*Speaks to "unnecessary" designation.		

Criterion 4
Does the material hinder or disrupt the recyclability or compostability of other items?
 	
A material/format might be considered disruptive to the circularity of another material if it meaningfully hinders or disrupts the recyclability or compostability of other items in the stream it is intended to (or most likely to) enter.
	For business to consumer packaging, does the material contain features that render it non-recyclable or non-compostable?
	
	Is the material or format a lookalike that could confuse consumers and contaminate recycling and/or composting streams?
		• Aggregated MRF data such as The Recycling Partnership's MRF Material Flow study
		• Bale specs by ISRI
		• Third-party sortability testing
		• Reclaimer or composter data on contamination rates and impact
		• Design guidance for determining detrimental features for packaging sent to consumers:
		  • APR
		  • BPI, CMA, TUV

Criterion 5 *Is there a high likelihood of the material being littered or ending up in the natural environment?* Credible data indicates that there is a high likelihood of the material ending up in the environment through any or all of the intended supply chain, product sales, or consumption processes.	This analysis is specific to data on litter in the U.S. or originating the U.S. as infrastructure varies significantly by region, so findings from other geographies are not relevant. Litter should be considered on a number of units basis, not a weight basis. Consideration may be taken of the packaging's most likely consumption setting as well as the packaging's propensity to escape from the handler.	• Keep America Beautiful National Litter Studies • National Oceanic and Atmospheric Administration (NOAA) Marine Debris Program • Ocean Conservancy Trash Information and Data for Education and Solutions (TIDES) • Pew Charitable Trusts Breaking the Plastic Wave • Quantis The Plastic Leak Project • Ocean Conservancy International Coastal Cleanup • 5 Gyres Institute