

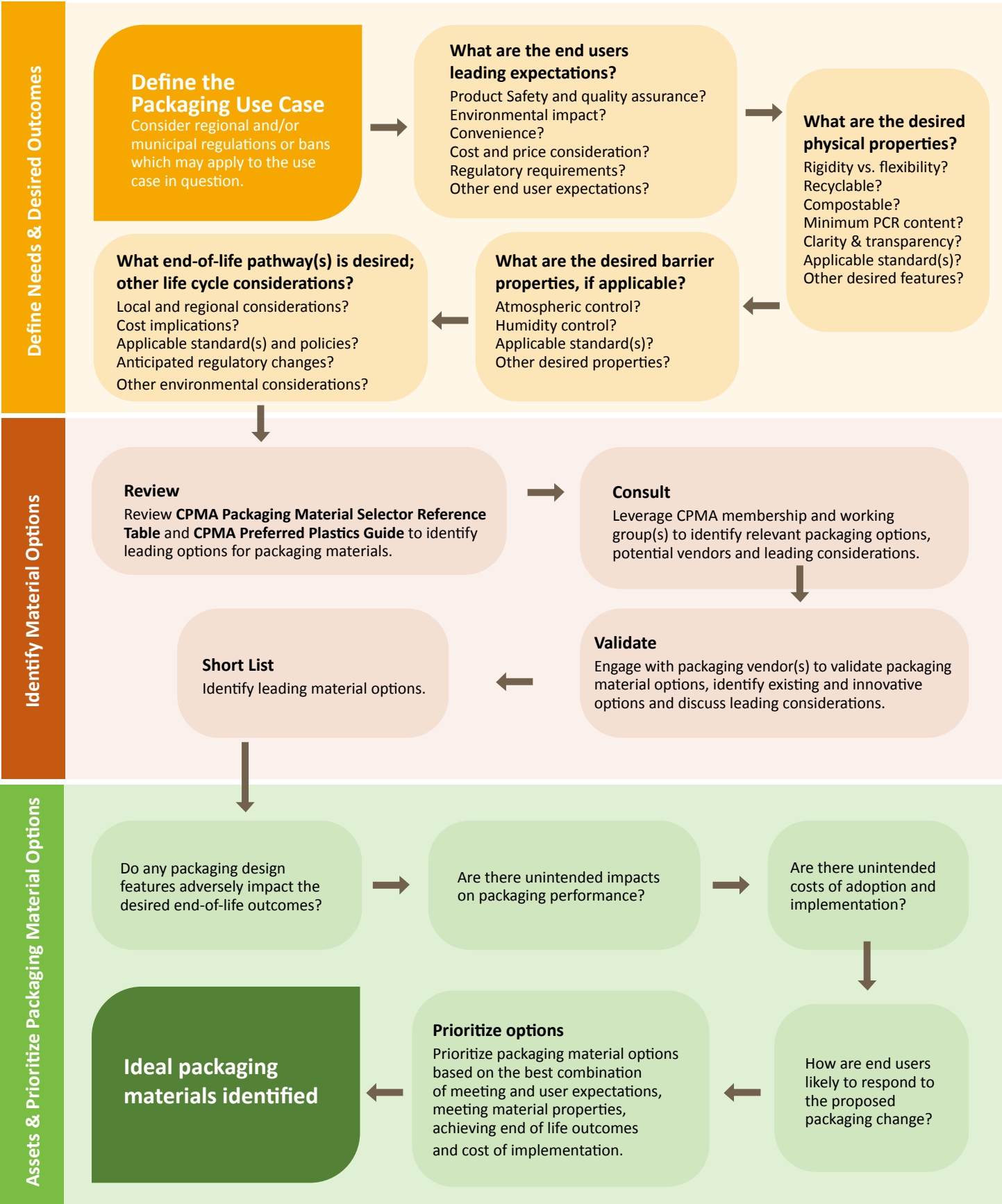
Executive Summary

As a complement to the CPMA Preferred Plastics Guide published in early 2020, the CPMA is pleased to provide the Packaging Materials Selection Guide to assist CPMA members in the identification, assessment and selection of packaging material options which address end user requirements related to product safety, minimizing environmental impact, end user convenience and affordability.

The Packaging Materials Selection Guide is composed of two parts: 1) a Material Decision Making Process which helps develop and define the packaging use case and related requirements, identifies key questions to guide decision makers, as well as recommend the process leading to an optimal packaging material choice, and 2) a Packaging Materials Reference Table which outlines the uses and applications, material characteristics and life cycle considerations for a wide range of currently materials – including both plastics and alternative materials.

The CPMA Packaging Materials Selection Guide strives to provide best direction to the produce industry stakeholders at the time of publication. The reader is advised that due to constant developments in packaging technology and materials, and ever-evolving plastics-related policies and regulations at the federal, provincial and municipal level in Canada, the guide will be updated as new information is identified and validated; please consult the CPMA to access the most recent version of the guide.

Packaging Material Decision Making Process



Contact Information

If you have any questions, recommendations for future iterations, or other general inquiries, please contact CPMA, at info@cpma.ca, quoting “Fall 2020” version of the Packaging Materials Selection Guide in your correspondence.

Packaging Material Decision Making Process

Packaging Material Options and Alternatives ^A			Uses & Applications						Material Characteristics				Life Cycle Considerations					
			Beverage	Food Trays & Containers	Sheets, films & wraps	Mesh Bags & other bags	Shipping & Transportation	Other Misc. applications	Good Barrier Properties	High Clarity	Rigidity	Flexibility	 Recycle Number	Compostable - Home	Compostable - Industrial	Reusable	Other Considerations	Circular Economy
CPMA Preferred Plastics Guide (Summer 2019)	Preferred	PET (Polyethylene Terephthalate)	●	●	●		●	● ^G	● ^B	●	●		1					●
		HDPE (High Density polyethylene)	●	●	●	●	● ^C		●		●	●	2			● ^C		
		LDPE (Low-density polyethylene)			●	●			● ^D	● ^E		●	4					
		rPET (and other PCR-containing plastics)	●	●	●		●	●	●	●	●		● ^H					
	Minimize ^F	OPP (oriented polypropylene) ^Y			●	●			●	●		●	5					
		PP (Polypropylene)	●	●	●	●		● ^K	● ^D	●	●	●	5^F					
		PVdC (Polyvinylidene dichloride)			●				●	●								
	Unfavourable	PVC ^J		●			● ^I		●	●	●	●	3					
		PS (Polystyrene)	● ^L	●					● ^M	●			6					
		Complex laminates & multi-layer films			●	●			●			●	7^Z					
		oxy-degradable plastics	●			●					●	●			● ^O			
		Rigid water-soluble plastics		●							●				● ^O		● ^P	
		Polycarbonate	●						●	●	●					● ^Q	● ^S	
		Acrylic						● ^R	●	●	●		7				● ^S	
		Black/coloured plastics		●					●		●		● ^N					
Alternate Materials ^{DD}	Paper, Cardboard and Corrugate		● ^U	●	●	●	●		● ^V		●	●	● ^U	● ^T	●			●
	Renewable (e.g., plant-based) polymers ^W			●	●				● ^X	●	●	●	7	● ^T	●			
	Compostable polymers ^{AA}		●	●	●	●	●		● ^{BB}	● ^{BB}	● ^{BB}	● ^{BB}		● ^T	●			
	Bioplastics ^{CC}		●	●	●	●	●		● ^{BB}	● ^{BB}	● ^{BB}	● ^{BB}						
	PLA (Polylactic Acid)				●				●	●		●		● ^T	●			

References & Notes

- A. Material uses, characteristics and life cycle considerations relate to base materials; variants or modified materials referenced in footnotes.

B. Low to medium barrier to moisture and oxygen unless treated.

C. Reusable shipping containers frequently produced with HDPE, e.g., milk crates.

D. Provides low moisture absorption; poor oxygen barrier.

E. Medium to high clarity, depending on production methods.

F. Recycling of PP and other "minimize" plastics can vary significantly across the country. Consult local recycling officials to confirm.

G. Suitable for heat resistant applications.

H. Although PET is the leading plastic available with recycled content, other materials are increasing in availability; consult material vendors to confirm availability for your use case.

I. Applications include commercial stretch wrap.

J. PVC uses, properties and life cycle considerations can vary considerably between unplasticized and plasticized variants; consult material vendors to confirm.

K. Includes micro-wave ware.

L. Includes vending cups.

M. Medium oxygen and moisture barrier; risk of stress cracking when exposed to oils.
- N. Most recycling services unable to process due to lack of sorting capabilities which can handle black/coloured plastics.

O. Where industry composting capabilities are available; consult local waste management officials for further details.

P. A broad range of rigid water-soluble plastics are available for various applications, with post-use disposal and environmental impacts varying considerably; consult your material vendor for further details.

Q. Reusable water cooler bottles are the most common food and beverage-related application.

R. Food-related applications largely in the processing or handling of foods during preparation. Limited packaging applications.

S. Recycling possible in very limited circumstances; consult local waste management officials to confirm.

T. Home composting is of limited effectiveness in most regions of Canada due to climate; consult local waste management officials for home composting options.

U. Coated paper provides options for beverage and other applications. Coating choices may adversely impact recyclability; consult local waste management officials to confirm.

V. Very poor moisture and oxygen barrier properties in uncoated forms.
- W. Polymers produced via chemical/physical modification of renewable sources such as starch, cellulose or sea-based resources (e.g., chitin, seaweed). Consult material providers for feasibility of options.

X. Barrier properties highly material and structure dependent. May require multi-lamination or metallization to improve.

Y. Biaxially oriented PP is emerging as a promising alternative to traditional PP materials. Consult material vendors for benefits of OPP vs. traditional PP.

Z. In some jurisdictions, complex laminate/multi-laminate films are alternatively labelled "5". Consult local waste management officials to confirm.

AA. Polymers produced from wide ranging materials which are certified compostable under federal or provincial standards; consult local waste management officials for applicable standards.

BB. Properties can vary diversely based on source material or coatings; consult material vendors for specific details.

CC. Polymers produced from chemical compounds derived from or synthesized by microbes or genetically modified sources.

DD. Insufficient information or lack of consensus is available at the time of publication to provide a recommendation for the alternate materials identified. Additional materials and/or recommendations may be provided in future versions as new information becomes available. Consult the CPMA for the most up to date packaging materials selection guide.