



PRINCIPLES, STRATEGIES & KPIs FOR PACKAGING SUSTAINABILITY

Framework 1.0 July 2010

Collaborative development of SPA, RMIT University, Helen Lewis Research, Birubi Innovation and Victoria University

KPIs marked with * are from the Global Packaging Project – more detail available from Packaging sustainability indicators and metrics framework 1.0



Effective: fit for purpose		The packaging system achieves its functional requirements with minimal environmental and social impact.	
Packaging design, manufacture, logistics and marketing strategies		Key Performance Indicators	
Eliminate any packaging which is not necessary.		Functionality of each component of the packaging system (list)	
Ensure that the packaging fulfils all functional requirements, e.g. product containment and protection, convenience, accessibility, communication and marketing.		Social and economic benefits of the packaging system as a whole (list)	
Design for accessibility: <ul style="list-style-type: none"> • Ensure that the package can be opened by consumers without injury, particularly by consumers with limited strength or movement (e.g. arthritis sufferers). • Ensure that essential information on the label is easy to read. 		Whether the package can be opened by consumers with limited strength or movement, e.g. arthritis sufferers (yes/no)	



Efficient: minimal use of materials and energy	
The packaging system is designed to use materials and energy efficiently throughout the product life cycle.	
Packaging design, manufacture, logistics and marketing strategies	KPIs
Reduce packaging volume and weight to the minimum required to achieve functional requirements, e.g.: <ul style="list-style-type: none"> eliminate unnecessary layers down gauge materials 	Packaging weight* Packaging weight reduction* Packaging-to-product weight ratio*
Increase the efficiency of the product-packaging system by changing the product, e.g. use of concentrates	Selling unit cube utilisation*
Minimise product waste, e.g.: <ul style="list-style-type: none"> Ensure that packaging is sufficient to protect the product Allow for complete dispensing of the product 	Percentage of product that becomes waste before it reaches the consumer (e.g. is damaged in transit) Percentage of product remaining in retail unit packaging (once consumer has dispensed product)
Minimise material waste during production and distribution, e.g.: <ul style="list-style-type: none"> Reuse materials and packaging wherever possible Implement recycling programs for waste generated in manufacturing, distribution and offices. 	Material waste generated in production and distribution*
Maximise energy efficiency during production, transport and consumption, e.g.: <ul style="list-style-type: none"> Choose materials with lower embodied energy Maximise recycled content Purchase materials and packaging from manufacturers with an energy efficiency program Design primary and secondary packaging to increase pallet utilisation Switch to bulk distribution of raw materials Reduce packaging weight. 	Cumulative energy demand* Transport packaging cube utilisation* Number of truck movements before and after a packaging redesign



Cyclic: renewable and recyclable materials		Packaging is designed to reduce reliance on non-renewable resources and to recover them for reuse or recycling.	
Strategies for packaging design, manufacture, logistics and marketing		KPIs	
Specify renewable materials where it is demonstrated they provide the lowest environmental impact.		Percentage of packaging materials that are from a renewable source*	
Promote the use of renewable stationary energy, e.g. by: <ul style="list-style-type: none"> generating renewable power on site purchasing renewable energy credits to offset energy use purchasing carbon credits to offset greenhouse gas emissions. 		Percentage of stationary energy use from a renewable source	
Promote the use of renewable energy for transport (e.g. biofuels) where this is found to have the lowest environmental impact.		Percentage of transport energy use from a renewable source	
Design for reuse where this is feasible and environmentally preferable, e.g.: <ul style="list-style-type: none"> design to minimise lifecycle impacts, e.g. by maximising return rates design for 'closed loop' reuse in preference to an alternative use. 		Packaging reuse rate*	
Design for recycling where this is feasible and environmentally preferable, e.g.: <ul style="list-style-type: none"> specify a material with an existing and widespread system for recovery if possible use only one material, if not use materials which are easy for the consumer to separate or do not contaminate recycling systems design for 'closed loop' recycling rather than 'downcycling' Use the maximum amount of recycled content which is physically possible (preferably post-consumer). 		Whether the packaging is recyclable (yes/no)*	
		Material recycling rate*	
		Percentage of recycled material (post-consumer) in the packaging component or system*	
		Percentage of recycled material (pre-consumer) in the packaging component or system*	
Design for composting where this is feasible and environmentally preferable, e.g.: <ul style="list-style-type: none"> specify compostable rather than oxo-degradable materials ensure that a system is available for collection and processing. 		Compostability (yes/no)*	
		Material composting rate*	
Provide advice to the consumer on correct disposal of the packaging, e.g.: <ul style="list-style-type: none"> 'please recycle' and a recycling symbol (Mobius loop) 'please compost' and advice on how to do so instructions NOT to recycle on containers used for hazardous products an anti-litter message and/or logo for products consumed away from home, e.g. confectionary, fast food. 		Recycling information and advice on recyclable and compostable packaging (yes/no)	
		An anti-litter message and/or logo for products consumed away from home (yes/no)	



Safe: non-polluting and non-toxic Packaging materials and components used in the system, including materials, finishes, inks, pigments and other additives do not pose any risks to humans or ecosystems. When in doubt the precautionary principle applies.	
Strategies for packaging design, manufacture, logistics and marketing	KPIs
Avoid or minimise the use of heavy metal-based additives (<100 ppm per packaging unit).	Use of heavy metal-based additives (list) and concentration (ppm) Compliance with heavy metal limits (yes/no)
Avoid manufacturing processes that generate volatile organic compounds (VOCs), e.g. solvent-based inks and adhesives.	VOCs generated in manufacturing processes
Avoid or minimise the use of materials or additives that may migrate into food and be harmful to human health, e.g. Bisphenol A, certain plasticisers.	Actions taken to minimise migration into food (list)
Use paper fibre bleached using elemental chlorine free (ECF) or totally chlorine free (TCF) processes.	Percentage of paper fibre from ECF or TCF processes
Minimise greenhouse gas emissions by improving energy efficiency (discussed above)	Greenhouse gas emissions over the packaging life cycle (global warming potential)*
Implement cleaner production technologies and environmental management systems	An EMS is in place (yes/no)* Percentage of suppliers with a documented EMS*
Promote responsible stewardship of renewable resources used in packaging, e.g.: <ul style="list-style-type: none"> • Purchase paper fibre and timber certified by the Forest Stewardship Council • Buy packaging and packaging components from companies with a commitment to corporate social responsibility (CSR) and with policies and procedures in place to manage social and environmental impacts. 	Percentage of fibre and timber that is FSC-certified Policies are in place to promote ecological stewardship (yes/no) Number of suppliers with policies and procedures in place to promote ecological stewardship