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TRIM & PACKAGING SUSTAINABILITY GUIDE

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IN THIS GUIDE

BASELINE: DEVELOP A PACKAGING INVENTORY

Creating a successful sustainable packaging program starts with **understanding packaging use at your company and in your supply chain.**

Start the process by **assessing the people, systems and processes** for selecting, developing, and sourcing packaging at your company.

- ✓ Who is involved in packaging decisions – both internally (development, buying, design, sourcing, etc.) and externally (agents, suppliers, etc.)?
- ✓ What systems are used by your company to manage product data (Data Management Systems, Excel Spreadsheets, etc.)?
- ✓ What processes, steps, check-ins, or screenings are in place to screen new and existing packaging materials to ensure they meet your brand's requirements (quality, performance, price, delivery, environmental requirements, etc.)?

Determine your highest volume consumer packaging (e.g., top 10) and transport packaging (e.g., top 10) used by your company and in your supply chain.

Create an inventory for the highest volume consumer packaging and transport packaging. This information can be obtained through your current data management systems (if available). If you do not currently collect this information you may need to work with your colleagues who manage your packaging and/or reach out to your suppliers for information.

YOUR INVENTORY MIGHT INCLUDE SOME OR ALL OF THE FOLLOWING:

- ✓ Trim or Packaging Name
- ✓ Material Content
- ✓ Supplier Name(s) and Specific Location(s) of production (Site Address)
- ✓ Content/Composition
- ✓ Country of Origin, if known
- ✓ Attributes and Specifications
- ✓ Weight
- ✓ Volume
- ✓ Ratio of packaging to product (e.g. weight of packaging to product or volume of packaging to product)
- ✓ Performance and Quality Requirements
- ✓ Material's environmental attributes (e.g. % recycled content), certifications, etc.
- ✓ Supplier's environmental programs, certifications, etc.

ACT: EXPLORE SOLUTIONS FOR PACKAGING

Explore solutions for your top packaging items. Solutions include the following.

SUSTAINABLE PACKAGING PRIORITIES (IN ORDER OF PRIORITY / MOST BENEFIT):

A. Reduce Amount of Packaging and Reduce Size and Weight of Packaging
- ✓ Example: eliminate or reduce individual polybags for pre-packs, bulk packs, and cross-docks
- ✓ Example: reduce size of trim or packaging
- ✓ Example: lightweight materials, reduce thickness, decrease size

B. Improve Packaging Materials
- ✓ Example: increase post-consumer recycled content (minimum of 20% recycled content goal)
- ✓ Example: increase use of content for all paper and cardboard based packaging

C. Manage Chemical Inputs

D. Design for Recyclability

A. REDUCE AMOUNT OF PACKAGING AND REDUCE SIZE AND WEIGHT OF PACKAGING

- ✓ Assess if the trim or packaging or the packaging material is needed or if it can be eliminated
- ✓ Minimize material usage and weight
- ✓ Use single materials and avoid laminates or multiple materials
- ✓ Minimize the size of packaging
- ✓ Eliminate all empty space in the packaging
- ✓ Examine and reduce the package-to-product ratio

B. IMPROVE PACKAGING MATERIALS

Paper, Paperboard and Corrugated Specific

- ✓ Maximize use of post-consumer recycled content
- ✓ Avoid virgin materials sourced from wood or pulp originating from native old growth, frontier forests or clear cuts (suppliers must provide chain-of-custody documents).
- ✓ Use unbleached, totally chlorine free or process chlorine free paper (the bleaching process is very resource intensive and results in water and air pollution)
- ✓ Use acid free paper (uses fewer chemicals)

Benefits of Post-Consumer Recycled fibers:
Recycled content paper, paperboard and cardboard reduce the strain on virgin forests and prevent deforestation. Packaging from recycled content fibers also use less water and energy to produce compared to virgin fibers.

Plastic Specific

- ✓ Maximize use of post-consumer recycled content
- ✓ Avoid use of Polyvinyl Chloride (PVC) (PVC creates environmental issues in manufacturing and disposal)
- ✓ Avoid use of Expanded Polystyrene (EPS or Styrofoam) (EPS creates environmental issues in manufacturing and disposal)

Benefits of Post-Consumer Recycled Content Plastic:
A Lifecycle Assessment (LCA) conducted by Franklin and Associates found that post-consumer recycled content LDPE uses up to 85% less energy to produce compared to virgin PET and post-consumer HDPE pellets uses up to 88% less energy to produce compared to virgin HDPE resin.

Using 100 kg of 100% post-consumer recycled content plastic:
- Is equivalent to using over 3700 20-ounce soda bottles
- Saves 1765 MJ of energy compared to virgin plastic
- Reduces Greenhouse Gas (GHG) emissions by 41 kg of CO2 eq compared to virgin plastic

Fabric Label Specific

- ✓ Maximize use of recycled materials, warp and weft
- ✓ Request or require Certified materials (bluesign®, certified recycled content, OEKO-TEX®, etc.)

C. MANAGE CHEMICAL INPUTS

Restricted Substances

- ✓ Eliminate use of commonly restricted substances such as heavy metals and formaldehyde
- ✓ Seek certification and supporting documentation from suppliers that packaging is compliant with all laws and regulations (necessary to ensure restricted substances do not exceed applicable regulated limits)

Inks, Adhesives Coatings and Treatments

- ✓ Avoid use of petroleum based inks

- ✓ Avoid inks that emit Volatile Organic Compounds (VOCs) (VOCs are toxic to humans)
- ✓ Avoid Metallic inks (frequently contains restricted substances)
- ✓ Inks (Hierarchy – beginning with most preferable):
  - No inks used (Preferred due to the absence of resources and processes
  - Water based (No VOCs; enables flexographic printing process that utilize less energy than traditional lithographic printing and less waste in printing process)
- ✓ Avoid adhesives, unless they have been tested and proven to meet RSL requirements and certified to be effective in repulping processes (they can contain restricted substances and can contaminate recycling)
- ✓ Adhesives (Hierarchy – beginning with most preferable):
  - None
  - Certified Non-VOCs
- ✓ Avoid coatings (coatings require additional resources, can contain restricted substances and prevent recycling)
- ✓ Coatings (Hierarchy – beginning with most preferable):
  - None
  - UV Coating
  - Water/Aqueous based coating
- ✓ Avoid overprint varnishes (can emit VOCs and pose health hazards to workers)
- ✓ Avoid plastic or foil laminations (laminates require additional resources, may require adhesives, can contain restricted substances and prevent recycling)
- ✓ Avoid chlorine bleaching processes (the bleaching process is very resource intensive and causes air and water pollution)
- ✓ Bleach processes (Hierarchy – beginning with most preferable):
  - Unbleached paper/board
  - Processed Chlorine Free (PCF) or Totally Chlorine Free (TCF) bleached
  - "Enhanced" Elemental Chlorine Free (ECF)

D. DESIGN FOR RECYCLABILITY

Packaging is only “recyclable” if it is both technically recyclable with available technology AND if the infrastructure is readily available for the customer. The U.S. FTC has determined that in order to label an item ‘recyclable” the recycling infrastructure must be readily available and easily assessable for at least 60% of the end users. There also must be a demand for the recycled material otherwise it will end up in the landfill. Most curbside recycling will not take plastic films or bags so these items cannot be labeled “recyclable”. Most packaging is NOT recyclable due to the lack of collection systems, processors and lack of demand for recyclable materials. The best thing a company can do to promote recycling is to specify post-consumer recycled content in the packaging they purchase as this will create the demand for these materials and encourage the development of infrastructure to collect and recycle the materials.

- ✓ Create packaging compatible with recycling systems (can a person in the average city recycle the packaging)
- ✓ Maximize use of packaging with single materials/substrates (multiple materials reduces recyclability of packaging)
- ✓ Multiple materials/substrates (if used) should be separable without the use of tools
- ✓ Avoid laminates, films, wax, wet strength additives, and coatings (they can contaminate the recycling system)
- ✓ Avoid pressure sensitive adhesives (Except for those that have been proven to effectively be removed in the recycling process), closures, foil stamps, aluminum tags, etc. (they can contaminate the recycling process)
- ✓ Avoid inks that may contaminate the recycle process (e.g. metallic inks)
- ✓ Do not mix resins (mixing resins prevent the material from being recycled)
- ✓ When creating recyclable packaging:
- ✓ Provide consumer education via graphics and labeling
- ✓ Actively support recycling as the preferred disposal option for packaging
- ✓ Provide and support infrastructure for collection of packaging material for reuse or recycling
- ✓ Impact of Biodegradable & Compostable Materials

BIODEGRADABLE AND COMPOSTABLE MATERIALS HAVE SIGNIFICANT NEGATIVE ENVIRONMENTAL IMPACTS[1].

- ✓ Most packaging materials that claim to be biodegradable typically do not break down effectively in rivers, in oceans, or on land[2]. If they do break down they typically only break down into smaller pieces that cause as much or more harm to wildlife and

ecosystem[3].

✓ When these materials breakdown in landfills they produce greenhouse gases, including methane (methane is 26 times more of a greenhouse gas than CO2), they increase landfill leachate, which is a liquid slurry that contaminates groundwater and the acidic leachate pulls out the toxic constituents from other materials[4].

✓ Degradability is detrimental to recycling by contaminating the recycling stream.

✓ The Association of Composters have requested that companies do not sell or market compostable packaging as these materials contaminate the composting system and making the compost unusable[5].

✓ The U.S. FTC has fined companies for making misleading and unsubstantiated biodegradability claims[6].

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[1] The Myth of Biodegradability:
http://www.sustainablebrands.com/news_and_views/packaging/tom_szaky/myth_biodegradability_plastic_consumer_products_packaging

[2] Biodegradable 'false solution' for ocean waste problem:
https://www.theguardian.com/environment/2016/may/23/biodegradable-plastic-false-solution-for-ocean-waste-problem

[3] 'Biodegradable' plastic bags may not be as eco-friendly as thought:
http://www.telegraph.co.uk/news/earth/earthnews/7422006/Biodegradable-plastic-bags-may-not-be-as-eco-friendly-as-thought.html

[4] Is Biodegradability a Desirable Attribute for Discarded Solid Waste? Perspectives from a National Landfill Greenhouse Gas Inventory Model:
https://news.ncsu.edu/2011/05/wms-barlaz-biodegradable/

[5] Association of Composters' 9 reasons why they do not want "compostable" packaging:
https://static1.squarespace.com/static/5a7a30710abd046ac76433a4/t/5c786b9b6e9a7f493fd62185/1551395742210/compostable_packaging_and_serviceware.pdf

[6] FTC Cracks Down on Misleading and Unsubstantiated Environmental Marketing Claims:
https://www.ftc.gov/news-events/press-releases/2013/10/ftc-cracks-down-misleading-unsubstantiated-environmental

TRACK: ESTABLISH A STRATEGY, ACCOUNTABILITY AND METHODS TO TRACK PROGRESS

Once you have generated momentum through some internal wins by improving a few packaging items (as described above), it is critical to set an overall strategy, set goals, and track improvements.

DEVELOP A STRATEGY. CREATING AN OVERALL STRATEGY ENSURES THERE IS A ROADMAP TO GUIDE YOUR PACKAGING SUSTAINABILITY PROGRAM. WHEN DEVELOPING A STRATEGY:

✓ Determine your "North Star" objective
- Consider how the objective protects and enhances your brand reputation and reduces the impacts of packaging

✓ Determine the areas for focus and commitments
- This can include the environmental impact areas (energy, waste, water, greenhouse gas, forestry issues, etc.), and/or the packaging types for focus

✓ Set priorities based on risk, impact, and influence

INTEGRATE RESPONSIBILITIES THROUGHOUT THE BUSINESS:

✓ Who needs to be involved?
- Roles and responsibilities should extend to the packaging buyers, developers, designers, managers, and key decision makers.

✓ Determine how they need to be involved
- Day-to-day responsibilities, overall approval, sign-offs, etc.
- Define the role for each persons and team/department

✓ Make people and teams/department accountable
- Build accountability into job requirements, annual reviews, department goals, etc.

CONSIDER HOW TO INTEGRATE SUSTAINABILITY INTO BUSINESS SYSTEMS, PROCESSES AND DECISION-MAKING, INCLUDING INTEGRATION INTO:

- ✓ Packaging data management systems
  - Integrate additional fields into your companies existing packaging tracking systems and databases to track environmental attributes
    - Post-Consumer Recycled Content (% and link or attachment to certification)
    - Processing Standard/Certification (link or attachment to standard/certification)
    - Other Certifications, Standards or Environmental Attributes, bluesign®, OEKO-TEX®, Higg Index, etc.
- ✓ Sourcing decisions, purchasing and tracking
  - Integrate sustainability into new packaging supplier requirements and reviews of current suppliers
  - Integrate into key dates and gates for packaging selection and development

SET INTERNAL GOALS:

- ✓ When developing goals ensure they are Specific, Time Bound, and Measurable
  - Consider setting ambitious goals (e.g., 100% post-consumer recycled content). Setting ambitious, but realistic goals creates focus and a sense of urgency, which in turn impacts organizational priorities
  - Example goals:
    - X% of packaging will have 100% post-consumer recycled content by [DATE]

Track and Report on progress. Tracking progress over time enables you to assess your programs, product teams, and suppliers and make adjustments based on successes and challenges. Integrating sustainability metrics into existing internal reports (known as balanced scorecards) ensures these topics stay top of mind.

Create Policies and Document Procedures. Formalize policies and procedures in written documents. Policies and procedures ensure consistency through the business and that programs continue to thrive after personal changes.

✓ Procedures should document the steps to manage, improve, and track packaging – expanding on the steps outlined in this guide
✓ Policies may include requirement or specifications for materials (e.g., post-consumer recycled content.)
✓ Consider having leadership sign the policies to give them more weight