# Corporate Sustainability Practices: Waste & Recycling

When it comes to waste, everyone knows the 3-R mantra: Reduce, Reuse, and Recycle. But it's tough to follow the 3 Rs when products, packaging and materials aren't designed with end-of-life in mind.

As part of their sustainability initiatives, an increasing number of environmentally aware corporations are working to convert their trash to cash as they drive operations to send less waste to landfill. More important, they are looking further up the supply chain at material sourcing and product design to create more environmentally friendly products and packaging that make waste reduction and landfill diversion goals more achievable for them and their customers.

A successful recycling program can help improve operational efficiencies, leading to cost savings. When it comes to establishing a recycling program, it is important for corporations to perform assessments to evaluate and benchmark their current operations. Findings from the assessment help to identify areas for improvement, establish a better understanding of performance, and improve efficiencies. With clearer visibility into their current operations as they relate to recycling processes and product purchasing, corporations can now form an effective policy, outlining guiding principles and an overall vision to internal and external stakeholders. The key factor in achieving high recycling rates is robust support for sustainability initiatives at all levels of an organization, amongst employees and within manufacturing.

Though the infrastructure for recycling is growing, a key driver for greater growth of the industry is a commitment by manufacturers to incorporate recycled materials in their products and packaging. This means ensuring that manufactured products and packaging are fabricated using sustainable design methodologies in an effort to increase recyclability and mitigate the amount of raw material needed to produce. Seventy-two percent of manufactures noted their packaging was recyclable through standard curbside recycling while 56 percent indicated their packaging was reusable.

We can begin the process of designing products and packaging with materials for multiple phases of use. We need to begin re-thinking product and packaging life-cycles to ensure that solutions are designed from the very start. Starting early in the design phase is a key to success.

## Introduction

One of the most intractable problems organizations face in implementing sustainability programs is the inherent tension between the desire to scale sustainable solutions and the significant infrastructure and education investments that are required for success. Corporations are optimizing their diversion through comprehensive reuse or recycling programs to demonstrate environmental stewardship, avoid disposal costs, minimize waste and circumvent unnecessary purchases of raw materials.

Corporations are working to provide the necessary demand signals that will trigger infrastructure development. These signals are often communicated as a part of their corporate citizenship or sustainability reports. A majority of the Fortune 500 companies now publish their results as they seek to reduce greenhouse gas (GHG) emissions, increase use of renewable energy, conserve water, and limit the environmental impact of their operations. This is also true for corporate commitments to reduce the amount of waste sent to landfill and increase recycling efforts.

This supply and demand balancing act is playing out in numerous industries that are evolving to meet new sustainability goals. Before solutions are brought to scale, infrastructure must be put into place; and yet committing to expensive infrastructure development requires that governments and corporations have evidence that the new technologies will scale and provide the promised benefits.
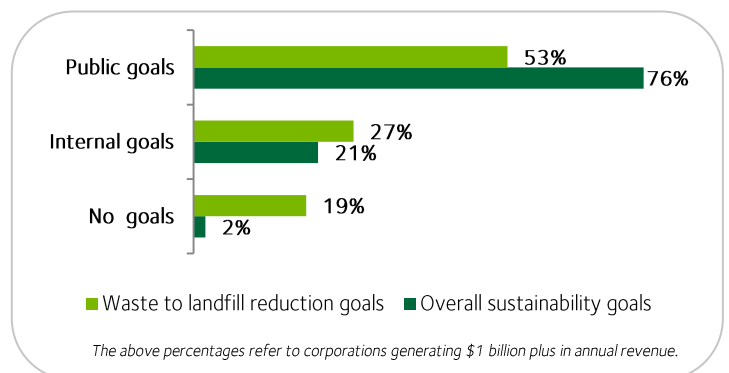
GreenBiz Group and Waste Management recently conducted a joint research effort to identify current trends in waste reduction and recycling. The research was undertaken to identify insights into how waste and recycling decisions are made by sustainability executives, the metrics they are employing in their drive toward waste reduction, and the actions they plan to undertake in the future.

## Corporate commitments

Today, more corporations are seeing the value in setting tangible sustainability goals focused on improving their environmental performance, increasing employee satisfaction and boosting the company's bottom line.

When conducting the research, sustainability leaders were first asked to identify whether they set goals or targets for their overall sustainability efforts and to identify those goals associated with waste reduction and recycling. As shown in Chart 1, more than three-fourths (76 percent) of companies with annual revenue greater than $1 billion (referenced as "large companies" going forward) publicly communicate their overall sustainability goals, while just over half (53 percent) have set publicly stated goals for waste-to-landfill reduction.

**Chart 1: Has your company set sustainability performance goals?**



Public goals: 53% (Waste to landfill reduction goals), 76% (Overall sustainability goals)
Internal goals: 27% (Waste to landfill reduction goals), 21% (Overall sustainability goals)
No goals: 19% (Waste to landfill reduction goals), 2% (Overall sustainability goals)

■ Waste to landfill reduction goals  ■ Overall sustainability goals

*The above percentages refer to corporations generating $1 billion plus in annual revenue.*

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It's a positive sign that only two percent of large corporations have not established any sustainability-related goals. More puzzling is that 19 percent of those same corporations have not established goals for reducing non-hazardous waste that goes to landfill. This is a missed opportunity for cost savings that could fall directly to the bottom line.

## Measuring what you manage

It's often said that what gets measured, gets managed. By applying a wide-reaching, analytics-based approach, corporations can identify areas for improvement, better understand performance, improve efficiencies and be in position to tackle cost overruns. The idea of measurement is particularly relevant when analyzing waste and recycling programs. Here, improved insight into pricing, efficiency and generation trends can lead to cost savings and operational improvements.

In order for corporations to gain an understanding of their current waste management practices and set tangible diversion goals, it's important to establish an initial reference point or baseline. We asked survey respondents whether they track the amount of non-hazardous waste their organizations generate. Slightly more than half of large companies (52 percent) track waste in all of their facilities and 38 percent track waste at least at some of their facilities. Only two percent of large companies and 16 percent of small to mid-size companies do not track their waste at all.

One of the more effective approaches to establishing a baseline for future measurement is to conduct a waste audit. A waste audit is a formal, structured process used to quantify the amount and types of waste being generated by an organization. It can identify what types of recyclable materials and waste a location generates and how much of each type is recovered for recycling or discarded. Using the data collected during a waste audit, an organization can identify ways to reduce waste, enhance its recycling efforts, and determine the potential for cost savings.

In our survey, 48 percent of large corporations reported having conducted a waste audit within the past year while another 24 percent had conducted an audit within the past five years. For small and mid-sized companies, 63 percent had conducted a waste audit in the past year.

Some corporations have used the waste audit experience as a means of engaging employees and educating them about the waste-reduction opportunities at their facility. It is important to remember, however, that the audit represents only a snapshot in time. This makes the timing and selection of the sampled area crucial to the ultimate usefulness of the assessment.

## Establishing recycling policies

In setting corporate sustainability policy, an effective program sets the stage for all that follows. It outlines guiding principles and an overall vision to internal and external stakeholders. In that way, it represents the vital core of a sustainability initiative and the commitments, values and objectives driving it forward.

We asked respondents if their corporations had instituted formal recycling policies. In large companies, there were policies in place for offices (59 percent), manufacturing operations (37 percent), and fulfillment and distribution operations (31 percent). Only four percent reported no recycling policy.

As to what is being recycled, paper, cardboard, metal, and plastic are all common materials included in more than 90 percent of large corporations' recycling programs. Though collected in recycling programs and sent to facilities for proper handling, often times not all

the materials are deemed recyclable. There are several factors that play a role in determining materials' recyclability at the recycling facility. These factors include food contamination, product/package design that combines materials that cannot be recycled as a single unit, and materials that cannot be handled with the equipment commonly used at recycling facilities. A key factor in achieving high recycling rates is robust support for sustainability initiatives at all levels of an organization, throughout the manufacturing process and within all groups of employees. That can make all the difference between the success and failure of a recycling program.
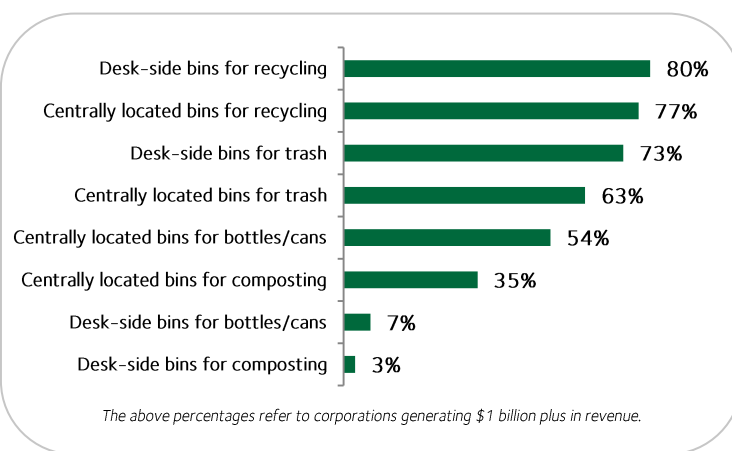
The most popular program (used by 75 percent of large companies) is shredded paper recycling where confidential documents to be destroyed are shred and then recycled. Closely following is cardboard (71 percent) and universal waste such as batteries, fluorescent bulbs, etc. (67 percent).

Fifty-three percent of those in large companies use dual-stream recycling, where paper is collected in one bin and other recyclables such as beverage containers are collected in a separate bin. Single-stream recycling, where paper, glass, plastic and metals are collected in one bin, is used by 64 percent of our respondents in at least some of their facilities. Studies show it is not uncommon for single stream recycling to increase capture rates by as much as 40 percent due to the ease of use by employees and the reduced need for recycling education by their employers.

Thirty-eight percent of respondents from large companies report organics recycling (i.e., composting), but only three percent have desk-side bins for composting, indicating that organics recycling is most likely originating in foodservice operations, as 35 percent identify centrally located bins for composting.

When it comes to collection, respondents reported a healthy mix of desk-side bins as well as centrally located collection areas. For centrally located collection points, it is critical to provide clear labeling and instructions as to what can be collected into which bin.
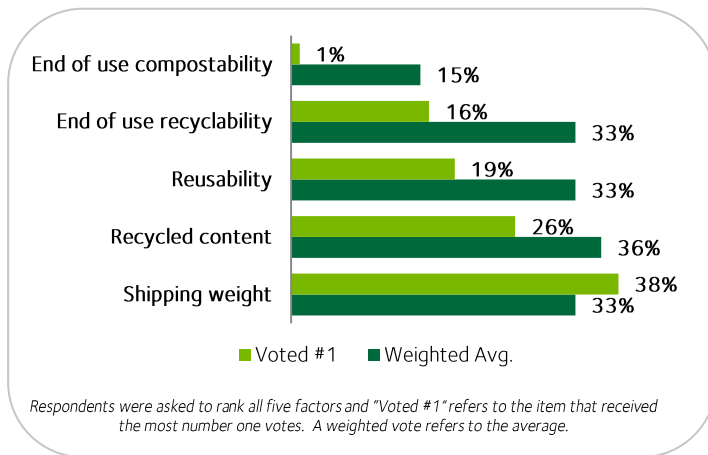
### Chart 2: Trash & Recyclables Collection



| | |
|---|---|
| Desk-side bins for recycling | 80% |
| Centrally located bins for recycling | 77% |
| Desk-side bins for trash | 73% |
| Centrally located bins for trash | 63% |
| Centrally located bins for bottles/cans | 54% |
| Centrally located bins for composting | 35% |
| Desk-side bins for bottles/cans | 7% |
| Desk-side bins for composting | 3% |

*The above percentages refer to corporations generating $1 billion plus in revenue.*

## In recycling, it's what's outside that counts – sustainable packaging

While the necessary infrastructure for recycling is slowly growing, a key driver for greater growth of the industry is a commitment by manufacturers to incorporate recycled materials in their products and packaging as well as to make those items more recyclable in their own right. We asked respondents what factors they currently consider in packaging design.

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## Chart 3: Factors Currently Considered in Packaging Design



| Factor | Voted #1 | Weighted Avg. |
|---|---|---|
| End of use compostability | 1% | 15% |
| End of use recyclability | 16% | 33% |
| Reusability | 19% | 33% |
| Recycled content | 26% | 36% |
| Shipping weight | 38% | 33% |

*Respondents were asked to rank all five factors and "Voted #1" refers to the item that received the most number one votes. A weighted vote refers to the average.*

Research has shown that the number one consideration by large corporations is shipping weight, which is understandable as it directly reduces the cost of product transport. However, when viewed on a weighted average basis, recycled content was at the top of the results. Manufacturing companies need to consider the reusability or recyclability possibilities of the recycled material after end-of-use, and be cognizant of its potential adverse factors. For example, in some cases using recycled material in sustainable packaging design might jeopardize the ability to recycle the product itself at end-of-life, or might impact the durability and quality of the product itself. Life cycle impact from product design to recycling after use must be considered.

In heavy-manufacturing industries such as automotive and industrial goods, reusability is at the top of the list of factors considered in packaging design. For consumer-facing industries, shipping weight and recycled content are more important. We asked if packaging for a company's products contained one or more of a number of features, and 87 percent of respondents from large companies indicated they used packaging that contained recycled content while 64 percent noted that it contained post-consumer recycled content. Seventy-two percent noted their packaging was recyclable through standard curbside recycling while 56 percent indicated their packaging was reusable.

Overall, only 18 percent responded that their packaging is recyclable through a dedicated program such as those provided by TerraCycle or Gimme 5 collection campaigns. Consumer goods manufacturers (32 percent) and retailers (19 percent) were most likely to design packaging that aligned with those types of recycling campaigns.

When we asked what will change in packaging in the future, 38 percent of respondents from large companies identified there would be more recycled content in their packaging. The only other significant attribute of packaging that will see greater growth numbers was an increased use of paper, cardboard, and paperboard (17 percent).

## Sustainable product design

A new area for many corporations is incorporating sustainability features into the products they produce. Recyclability and sustainability in human activities are not likely to be realized in the absence of informed design. To get there requires solutions taking the entire supply chain and use cycle of a product or packaging into account.

As part of our study, we asked how important it was for designers to consider waste reduction as part of the product design process. Two-thirds (66 percent) indicated that this was either important or very important. Companies like Ecologic Brands, understand and are addressing the increased demand for sustainable products and services by designing packaging products composed of mostly recyclable and compostable materials. Waste Management worked with Ecologic Brands to conduct an analysis of the recyclability and recoverability of its packaging product and gather consumer response. More details of their recyclability analysis are highlighted in the Ecologic Brands case study.

As to what is driving these efforts, the answer is clear. Large corporations view consumers (64 percent) and business-to-business customers (57 percent) as driving corporate initiatives to reduce waste and promote product recyclability. Only 39 percent cite government regulations as a driver and even fewer (31 percent) view retailers as driving product design initiatives.
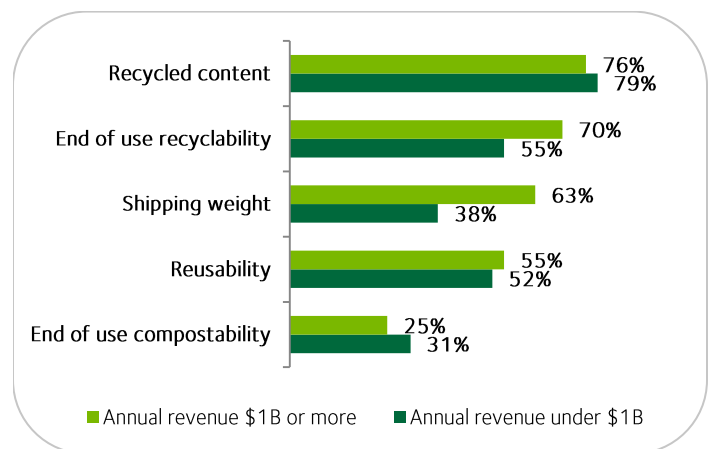
## Designing up from the dumpster

Recycling is an admirable practice. Yet every day, countless tons of valuable materials are sent to a landfill instead of being returned to the value chain.

When we look at innovative products and packaging we purchase on a day-to-day basis, it is amazing how much intricate detail goes into the design work. The same innovation can be applied to the materials' next use, in lieu of disposal. Rather than end-of-life being designed for landfill, we can begin the process of designing products and packaging with materials for multiple phases of use.

Designing up from the dumpster takes a systems-thinking approach to product design and considers the true recyclability of products early in the design phase. Doing so helps to ensure that resources return to the value chain after a product's initial use by being mindful of four factors – material selection, commodity marketability, ease of disassembly and recycling infrastructure capabilities.

The research conducted by GreenBiz Group and Waste Management provides a snapshot of corporate attitudes and practices when it comes to reducing waste and increasing recycling rates. Our survey helped to shed light on sustainable design measures corporations are implementing in creating new products and packaging.

## Chart 4: Which of the following factors does your company consider in product design?



| Factor | Annual revenue $1B or more | Annual revenue under $1B |
|---|---|---|
| Recycled content | 76% | 79% |
| End of use recyclability | 70% | 55% |
| Shipping weight | 63% | 38% |
| Reusability | 55% | 52% |
| End of use compostability | 25% | 31% |

What is needed is re-thinking product and packaging life cycles to ensure that solutions are designed from the very start. Starting early in the design phase is a key to success and is often the missing link in attaining effective resource management. The conscious selection of

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upcycle-capable materials ensures that recovered materials will be available for multiple use phases down the road. The holistic approach to an efficient infrastructure for designing a sustainable product is an integrated process, where experts are working side-by-side.



Recently Waste Management partnered with LBP Manufacturing, Inc. to assist with the research and design of their new single-serve filter compatible with single-serve brewers, in an effort to introduce a more sustainable product made from recyclable materials. Waste Management also advised LBP Manufacturing, Inc. on possible recycling options based on the current commercial recycling

infrastructure. Read more about the Waste Management and LBP Manufacturing, Inc. case study HERE. Watch the video HERE.

Going forward, corporations and municipalities alike should consider re-evaluating their strategies and focus on opportunities that allow them to recover more value from the waste stream.

## About the research in this report

This report utilizes results based on a survey of the GreenBiz Group Intelligence Panel, consisting of executives and thought leaders in the area of corporate environmental strategy and performance. Panel members participated in brief monthly surveys to provide their expertise and perspective on corporate initiatives, laws and regulations, and scientific advances that are shaping the green agenda.

Data was collected during November 2013. The survey was conducted online, and an email link was sent to the panel's 3,630 members inviting them to participate anonymously in the survey. For the purposes of this report, we analyzed the results from 352 respondents who represented 13 sectors. Approximately 85 percent of these respondents are based in the United States and 64 percent represent organizations with annual revenues greater than $1 billion.

It is important to note that the quantitative data included in the report would be different if the panel included executives and managers not necessarily focused on their company's environmental corporate sustainability efforts. However, the responding companies represent a broad diversity of corporate sustainability experience: those just beginning to engage in corporate sustainability as well as those that have been engaged for years.