

# Lessons

FROM THE WORLD'S TRASH

Global Study Reveals Trends & Solutions

BY MAG SIM



What are buildings worldwide discarding in their trash? The answer, it turns out, is not much trash at all. As much as 62 percent of materials found in the trash stream of buildings from the U.S., India, China, Brazil and beyond do not belong in the trash. This was one of the findings of the largest global waste characterization study conducted to date focused on commercial buildings. This revelation is a wake-up call for facility managers.

Global waste is expected to increase by 70 percent over the next 30 years, reaching 3.4 billion tons by 2050, according to the World Bank. With rising waste costs due to inflation and other economic and environmental factors, that waste headache is getting bigger and more expensive every day. As big generators of waste, businesses need to take note if the world's commercial buildings are throwing out more trash than they should.

With waste reduction identified as central to a circular economy and an important part of the global climate solution, businesses will increasingly be expected to respond with ESG (environmental, social and governance) frameworks. Understanding the waste they are generating, discarding and diverting is the first step.

Yearly waste audits allow every FM to do just that, giving them the data to benchmark their own year-over-year performance. But until recently, there has been no global baseline data for facilities when it comes to waste; so, there was no way to gauge a facility's waste performance against an industry standard. To fill this gap, Great Forest compiled data collected from the hundreds of waste audits they conduct yearly around the world and crunched the numbers to produce the first study focused on commercial buildings.

The Great Forest study analyzed more than 170,000 pounds of waste from waste

audits conducted at over 100 commercial buildings in Australia, Brazil, Canada, China, India, Indonesia, Israel, Japan, Mexico, Singapore, South Korea and the U.S.



While prior waste characterization studies covered mostly residential or a combination of residential and commercial buildings for municipalities using random sampling, this study included a review of 100 percent of the daily waste stream from the individual commercial buildings audited, providing an illustration of waste characteristics at the building level that was not available before. Now, for the first time, facility managers worldwide have baseline building waste data against which they can measure the performance of their facility to see where they stand.

## Lessons From the Study

The Great Forest study offers insight into global waste trends, showing what most buildings are doing right and wrong when it comes to waste. The findings reveal some surprising similarities across buildings and identify missed opportunities that can make a real impact in waste reduction and zero waste goals. FMs can use lessons from the study to build a clearer picture not just of where they are, but where they should be heading.

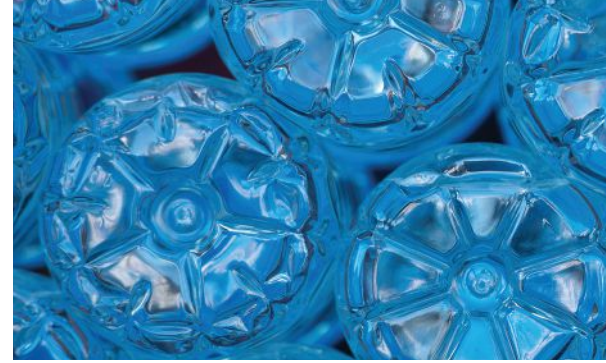
### 1 LESSON Facilities Are Paying Too Much for Waste

The global waste characterization study reveals that most buildings worldwide are paying to send more materials to the landfill than they need to. Waste data analyzed shows that a staggering 62 percent of material found in a building's trash stream is not trash at all, but is made up of divertible materials that include:

- **36% Organic material**
- **14% Glass/Metal/Plastic**
- **10% Paper**
- **1% Cardboard**
- **< 1% Electronic waste**

Most an average building's waste generation ends up in the trash stream even if the materials were recyclable or compostable, and the building has a recycling and composting program in place.

**THE TAKEAWAY:** FM teams should check their waste audit data or order an audit if one has not been done. A facility's waste audit data will confirm if it is outperforming the global baseline, or if it is falling in line with this global trend (and thus paying too much for waste). Action can then be taken to reduce the number of materials being sent to the landfill incorrectly, by diverting those materials to the correct waste stream.



## LESSON 2

### Organics Is the Biggest Opportunity Identified Globally

Organics consistently make up approximately one-third of the material that most commercial buildings discard in the trash stream. While not all sites in the study had an organics program in place, even those that did still had, on average, a good portion of organic materials going into the trash stream. At 36 percent, organic material like food waste was found in the trash stream more often than paper, cardboard, and other recyclables like glass, metal and plastic.

**THE TAKEAWAY:** Facilities cannot afford to ignore organics. Addressing organics will make a substantial impact, even if a facility maintains the same level of waste generation. Organics is the biggest opportunity the study has identified globally. While incremental improvements in recycling other materials are important, those changes are not going to make as much of an impact on increasing diversion within a building as an organics program. Properly diverting organics through an organics program can significantly reduce trash generation. It can also have a significant impact on greenhouse gas (GHG) emissions and other climate change factors.

## LESSON 3

### Cardboard Is Consistently Diverted

Cardboard is the most consistently diverted material across all sites. Its diversion was high across every program and every region. Only 2 to 9 percent of all cardboard found in the global waste audits was lost to the trash stream.

**THE TAKEAWAY:** The study confirms that most facilities should be able to successfully divert cardboard. If a facility is not diverting most of its cardboard, it means that its waste program is not working as it should. If that is the case, plans should be made to reassess the waste program, identify the root cause of the issue and correct it.

## LESSON 4

### Pesky Plastics

Plastic continues to be a global problem. According to the U.N., approximately 85 percent of plastics used in packaging, including single-use food and beverage containers, ends up in landfills. The waste characterization study data supports this figure. More plastic was found in the trash streams of buildings worldwide than glass or metal. And even when diverted properly into the glass/metal/plastic recycling stream, soiled plastics were responsible for the most contamination. When contaminated, a recycling stream will likely be sent to the landfill or be incinerated.

**THE TAKEAWAY:** The top priority will be to reduce plastic use wherever possible. Facilities should aim to purchase items in bulk to reduce packaging. Efforts like installing a water cooler and encouraging the use of reusable mugs will also help reduce plastic waste. Consider switching to compostable serveware in cafeterias if those materials can be handled properly in the facility's location. If both single-use and durable serveware options are available, facilities should make the durable option more visible or phase out single-use plastics completely.

After tackling plastic use, FMs must make sure staff and building tenants understand how to dispose of plastic waste properly, because





many will continue to bring in plastic packaged products from home or restaurants. This means holding regular recycling education sessions and ensuring that appropriate and effective signage and instructions are posted clearly around the facility, especially in pantry areas.

## 5 LESSON Trash's Dirty Secret

The Great Forest waste study showed that while the cardboard and organics recycling streams in buildings worldwide were the cleanest with least contamination, all other streams were plagued with high levels of contamination, especially by liquids, which show up consistently regardless of region. Being heavy, liquids make waste loads more costly, while causing incrementally more fuel combustion for waste transport.

**THE TAKEAWAY:** Reducing contamination must be a key part of every facility's waste program. Contamination negates all the effort put in by staff and building tenants and renders a facility's waste program ineffective. Even if materials are properly separated and handled, recyclable materials contaminated by liquids and other substances cannot be processed and will likely be sent to the landfill instead. How to reduce contamination?

### Here are three main steps:

- **Education.** This includes instruction on proper recycling (emptying and rinsing out food containers, making sure everything is kept dry, etc.), and proper separation (using the designated bins for each type of recyclables). Facility staff and tenants must understand how to recycle correctly.
- **Janitorial crew training:** Once workers leave for the night, janitorial crews in many commercial buildings and facilities come in to move waste and recycling to central collection points. Their work can make or break a facility's waste program. As such, they should be trained in proper handling of waste and recycling, and how to prevent contamination, and they must be given the support they need to make the collection process work. Their feedback can provide crucial insight into what is not working with a facility's diversion programs.
- **Signage and Standardized Labels:** Ensuring effective placement of signage and using standardized recycling bin labels are part of the solution. They reduce confusion and therefore contamination. Moreover, proper signage may be required by law depending on your facility's location. **FMJ**



**Magdalene Sim** is the Director of Communications at Great Forest, Inc, the pioneering sustainable waste management consultancy responsible for establishing the comprehensive waste audit process that has become industry standard. She writes the "3 to Zero (Waste)" newsletter that offers three tips a month to facility managers and other professionals focused on waste, and oversees other editorial outputs that include a food waste toolkit produced with food donation company, Replate; and a regulatory compliance guide for businesses.

