

Can Consumers Recycle Your Product?

The Importance of Recycling Availability Reporting



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Executive Summary

The rise of measures directed at Extended Producer Responsibility (EPR), a central tenet of product stewardship, has led to more products being collected for recycling, more drop-off locations, and additional recycling programs. There are currently more than 65 EPR laws in 32 states, many passed in the last five years.¹ As manufacturers and retailers become more conscious of the end-of-life disposal of consumer products, a common question emerges: “Is this product recyclable?” Because access to recycling is not mandated or monitored on a national level in the U.S., answering that question presents unique challenges.

The Federal Trade Commission speaks to the issue of recyclability in its Green Guides, holding manufacturers responsible for on-product messaging directed at consumers regarding recycling.

“It is deceptive to misrepresent, directly or by implication, that a product or package is recyclable. . . Claims of recyclability should be qualified to the extent necessary to avoid consumer deception about any limited availability of recycling programs and collection sites.”²

Any company looking to promote the recyclability of a product should be able to back up this claim. However, in order to determine if a majority of the public in the U.S. is able to recycle a given product, available recycling opportunities and resources in each individual community must be known. This requires factual data that complies with these parameters:

1. Identifies the collection options available
2. Considers audience/geographic restrictions
3. Provides restrictions on the type and quality of material accepted
4. Assigns a reasonable distance that consumers should be expected to travel to recycle a product

This paper will address the complications of recycling access reporting that arise from each of the above four reporting parameters, the tactics used by traditional reporting, and the solution provided to each by Earth911 Recycling Availability Reporting.



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Obtaining Accurate Data on Recycling Availability

For years, consumer product labels have included phrases like “Please recycle” and “Contact your local solid waste agency” as the default messaging for recycling options. With vague messages as their only guidance, consumers assume that the product is recyclable in their local program.

When consumers are not provided with any information about where or how to recycle, recycling rates decline or stagnate, or the waste stream becomes polluted with mishandled products.

A common example of this issue is the material “aerosol cans.” These are made with the same material as other metal cans, but given that the cans are pressurized and difficult to empty completely of contents, aerosol cans are restricted by many curbside recycling programs for the safety of recycling center employees. Some programs will accept empty aerosol cans for recycling, but cans that still contain product are classified and collected as household hazardous waste (HHW). Without labeling directing consumers to a convenient disposal option, aerosol cans frequently don't have a proper disposal option.

Earth911 Recycling Availability Reports identify, by material, the range of available recycling options within a given radius. For a manufacturer concerned with the end-of-life disposal of a product with a material that may be classified as HHW, like aerosol cans, knowing the scope of recycling availability can be critical in determining recycling rates.

The U.S. recycling rate was 33.8 percent in 2009³ (an increase of only .5 percent since 2007), but specific products are recycled at either higher or lower rates. Office paper and aluminum cans are recycled at a rate of 74.9 and 66 percent, respectively, while polyethylene terephthalate (PET) containers have a recycling rate of 28 percent. These differences are partially explained by the availability of recycling resources for each material.

When accurate information of recycling availability fails to reach consumers, recycling rates suffer as a result. Hypothetically, 100 percent of people living in a given community could have easy access to recycle Product X, but if half of the population is unaware of how or where to recycle the product, the actual recycling rate would drop to 50 percent or less.

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Different Sources of Recycling Availability Information

One of the common methods of collecting recycling availability information is to conduct surveys with municipal solid waste offices, then extrapolate information across the entire country. This method poses three significant problems:

- 1. Surveys typically include only large metro areas.** According to the 2000 U.S. Census, there are over **18,000 cities, townships and villages** in the U.S.⁴ While these communities have varying levels of population, even an aggressive outreach of 500 cities would still represent **less than 3 percent** of the potential municipal recycling programs in America.
- 2. Surveys may treat all waste management operators the same.** The department handling solid waste differs based on the state in question. Take two of the four biggest states based on population, Texas and Florida: In Texas, curbside recycling is handled entirely at the city level and, in Florida, it is handled at the county level. This makes it impossible to standardize how the information is collected across all states.
- 3. Surveys often don't recognize a substantial portion of recycling operators.** Focusing only on municipally-operated programs ignores a significant portion of recycling availability provided by other sources. For example, the material "aluminum cans" is accepted in a majority of curbside programs in the U.S., but this is by no means the only source of aluminum can recycling. In the Earth911 database, municipal collection locations and curbside programs make up **less than 60 percent** of the total numbers of recyclers accepting aluminum cans.



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Different Sources of Recycling Availability Information - *continued*

The Earth911 database, which provides the data for Recycling Availability Reporting, is populated with over one million recycling resources, including programs that surveys exclude. One of the biggest determinants for whether a material is collected for recycling is the **local market**. Not every community chooses or is financially able to offer recycling to its residents, leaving an opportunity for independent haulers. Additional collection sources that are indexed by the Earth911 database include:

- **Retailer-run, public-facing recycling programs.** In addition to recycling their own waste, many retailers (including eight of the top ten based on revenue⁵) collect material from the public.
- **Commercial haulers.** For communities where municipal curbside recycling is discontinued (e.g., Ocean City, Md.⁶), commercial recycling offers a way for consumers to divert waste from landfills without searching for drop-off locations. In cities like Carson City, Nev.,⁷ the city refers all residents to commercial recycling services, available for a monthly fee. Commercial haulers are also common for business recycling programs, and because these are opt-in services, it's difficult to use them to determine recycling availability.
- **Local/regional recycling businesses.** Materials with a higher value (such as metals and newspaper) are often collected by local or regional recycling businesses who offer the public financial incentives to increase participation. This helps to offset the inconvenience of having to take material farther than the curbside bin.
- **State operated/certified recyclers.** Many states have enacted legislation designed to increase recycling participation or certification for recyclers to ensure proper disposal. A common example is the bottle deposit law currently in effect in 11 states⁸, where consumers pay a deposit for beverage containers that is refunded when the product is recycled. While these locations are affiliated with the state government, they are often commercially operated and entirely independent of community-run recycling programs.
- **Mail-in programs.** This is a growing source of recycling collection, and it provides recycling opportunities for even the most rural communities to recycle. Conceivably, mail-in recycling access to a material should indicate 100 percent recycling availability, although Earth911 would not factor this into a report on recycling availability.

By presenting all of the above collection sources in one directory, Earth911 captures the entire picture for collection methods.



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How to Maintain Current Information and Complete Coverage

Earth911 has developed a proprietary method for maintaining an accurate, all-encompassing database that accounts for the nuances of the U.S. recycling system. The research specialists on the Earth911 Recycling Program Services Team maintain regular communication with local recycling officials to determine what collection methods are available for the five materials that commonly make up the waste stream (packaging, organics, construction, universal, and hazardous waste). The team also performs special audits to determine collection options for single materials that do not fall under one of these streams.

During these audits, outreach efforts are made to target communities to add listings for any new recycling programs and update all existing listings in Earth911's database for those communities. Contact with administrative persons and program facilitators comes in the form of meaningful phone conversations and also includes exchanges via e-mail, which all lead to developing relationships and a constant flow of information between Earth911 and communities throughout the country. Because of this positive initiation, Earth911 is able to confirm pertinent details that help to create reliable program listings that are updated on a regular basis, thus providing the public with a useful tool for participation in recycling.

By extending this discussion to lower population communities, Earth911 is able to determine recycling access for **100 percent of the U.S.** In many cases, areas with smaller populations do not have the resources to distribute recycling information to residents (e.g. recycling websites, hotlines), which makes this information difficult to acquire without direct communication.

For non-municipal recycling opportunities, such as retail recycling locations, Earth911 confirms the information directly from the source prior to making any additions or updates. Earth911 staff are in regular contact with the corporate offices of retailers providing recycling programs, and commercial recyclers use Earth911's data management system to keep their information up-to-date at no charge. All of these efforts result in a level of detail and accuracy that cannot be replicated by the traditional survey process.



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Communicating Restrictions to Recycling Availability

Restrictions by Location/Residency

Although communities can generate revenue by selling collected materials from a recycling program, there are major costs involved in providing the pick-up service, staffing a recycling center, and filtering out contaminants from the material stream that are byproducts of improper recycling. These costs are usually covered by the city/county budgets, funded by taxes. As a result, many recycling programs have placed restricted access in favor of residents whose taxes pay for the facilities. This is another complication in determining recycling availability, since not all consumers live near, or have access to, their city or county's recycling resources.

Furthermore, many curbside recycling programs only service single-family homes with garbage collection. If a city has a curbside program, it will also need a drop-off location to provide access to residents who live in multi-family homes or apartment complexes.

When Earth911 contacted local communities in 2011 to learn more about their curbside recycling programs, one of the questions asked was, "What percentage of residents have access to the program?" On average, **only 70 percent** were eligible to participate. As a result, Earth911 also explores and documents drop-off options to fully relay all of the local recycling opportunities available to residents.

Because the Earth911 database incorporates both pick-up and drop-off opportunities, and also captures the geographic location of all drop-offs, it is the most complete data to answer questions of availability. For example, the city of Dallas, Texas has a curbside recycling program and over 100 drop-off bins⁹ located throughout the city for residents and businesses. Because Earth911 collects and publicizes all resources, residents are likely to find a recycling location within five miles of their residence.

A traditional survey would be looking to answer the question of whether a given city or county offered a recycling program for a given material, meaning if the material was included in a curbside recycling program the answer would be "yes" for the entire population. Even if follow-up questions were asked to determine if there was a drop-off option for multi-family homes, without documenting the location(s) of these drop-off centers, it would be impossible to determine if the entire population of an area was reasonably served by the city or county recycling program.

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Communicating Restrictions to Recycling Availability - *continued*

Restrictions by Material

Every time a material is accepted for recycling, it must be processed back into raw material in order to become a new product. From a business perspective, the more preparation and resources required to transport and process a material, the more difficult it is to justify the costs of recycling.

For products made of multiple materials (something complex like a computer or something simple like a juice carton), all materials need to be separated before any one material can be recycled. There are very few consumer products made up of only one material (e.g., for a plastic water bottle case, the bottles, caps, labels, cardboard base and plastic wrap are all different materials).

Recycling programs are typically quite specific when it comes to identifying what is accepted in their bins. One reason for this is that improperly recycled materials are known in the industry as “contamination,” and can cost nearly a million dollars in annual staff labor to filter out at a materials recovery facility (MRF)¹⁰.

Some recycling programs do leave interpretation up to those that participate in the program. In image 1 (page 9), the city of Jackson, Miss. identifies what is accepted as “paper” and “plastic” without specific examples. In Denton, Texas, image 2 (page 9) indicate the types of materials accepted without specific details on the materials (such as resin codes for accepted plastics).

Using vague information like this could lead a surveyor to make false assumptions as to which materials are accepted for recycling, because “paper” could mean anything made from wood pulp. However, manufacturers and retailers who want to determine complete recycling availability of consumer products need to go beyond the definition of “paper” or “plastic.” Even identifying a plastic resin code is not enough information, because a recycler can accept the resin in bottle form, rigid form, wrap form or all/none of the above.

The market for specific recyclable materials is often influenced by other factors, such as the color of a material. Clear glass holds more value when resold than brown, green or blue glass, therefore some recycling programs will only accept certain colors. The same situation occurs with white vs. colored paper, as all ink must be removed during the recycling process.

The Earth911 Recycling Directory contains over 30 materials related to paper or wood pulp, and over 50 related to plastics. This allows manufacturers and retailers to drill down to specific types for one material for recycling availability access, and also helps educate the public about exactly which materials are recycled locally to limit contamination.

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Image 1

City of Jackson, Mississippi Public Works Solid Waste Division website
<http://www.city.jackson.ms.us/government/publicworks/solidwaste>

Curbside Recycling



The curbside recycling programs gives all homeowners the opportunity to recycle plastics, papers, and aluminum. Recyclables can be placed at your curb for collection.

Recyclables include:

- Plastic
- Paper
- Aluminum Cans

Image 2

City of Denton, Texas Solid Waste & Recycling website
<http://www.cityofdenton.com/index.aspx?page=301>

Examples of Recyclable Items:



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How the Convenience Factor Affects Recycling

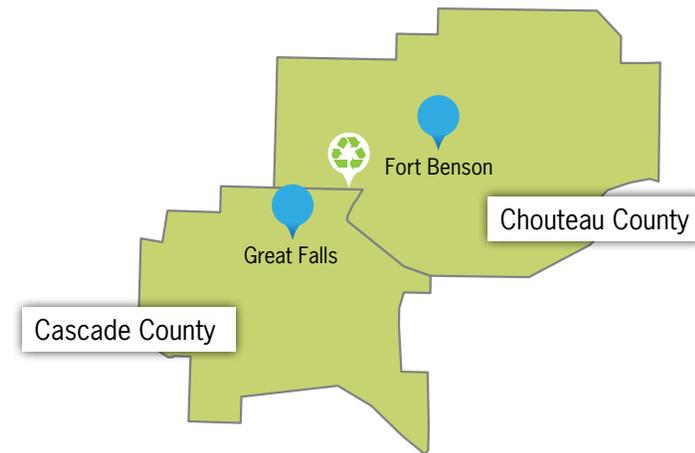
Even though a resident has access to recycling or proper disposal opportunities, there is a convenience factor that affects the rate at which people recycle, or can be expected to participate.

According to Earth911's Recycling Directory, all but 15 U.S. cities with a population over 100,000 currently offer some type of curbside recycling. However, most of these services are catered to single-family homes. Where curbside programs are complemented by city-run drop-off sites, not all cities' supplementary sites are necessarily convenient to excluded populations.

Landfills and transfer stations are commonly used as a public collection point for recyclable materials, and they don't tend to be conveniently located to residential communities. These sites can be located miles away from the center of town, typically in more rural areas and farther from consumers.

Distance-based Reporting Improves Relevance

Earth911 uses distance-based reporting to address issues of convenient travel. The recycling directory is able to report on curbside recycling access for a given material, as well as access at predetermined distances from the center of a zip code. Because the land area of each city and county in the U.S. is not equal, one drop off site may not be accessible to all residents of a large area.



For example, in Montana, residents of Chouteau County are most likely to live in the city of Fort Benton, the county seat. The High Plains Landfill, which services Chouteau County, is located 34 miles away from Fort Benton in Floweree. Making this situation even more unique is that the closest significant population center to the landfill is Great Falls, located 11 miles away. Great Falls residents don't have access to use the High Plains Landfill because they reside in Cascade County, which has its own recycling resources. This is not an unusual scenario in which a landfill is too far away for the residents it is intended to serve, yet within reasonable distance from residents who cannot use it.

Another complication for access is scheduling. Most curbside programs are operated once a week or twice per month, providing regular collection of material. But for other materials, such as household hazardous waste, many communities collect at a handful of events per year due to the cost of collection. Recycling is available in these communities, but it requires consumers to wait — and know about — the next available event.

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The Survey Method to Determine Recycling Availability

When surveyors set out to obtain information from municipal solid waste offices, the surveyor usually asks a series of questions related to a particular material, collects information from enough cities to make a statistical extrapolation, and then presents an availability number for the entire country.

In standard practice, this method does not capture non-municipal collection options for the material, and it also defines availability as “yes” or “no” for an entire area regardless of what percentage of the population has convenient access to the recycling opportunity.

Surveys are unlikely to provide information on the areas that are missing access to recycling for a given material because they do not drill down to the entire population. If a survey determines that 88 percent of Americans have access to recycling for a given material, a logical follow-up question would be, “Where are the remaining 12 percent located?”

Asking similar questions in an Earth911 Recycling Availability Report would highlight which areas are not covered for proper disposal of a material, which empowers a company to take further action to increase access to recycling. Examples of this could include:

- A local marketing campaign to those residents that addresses recycling
- A financial commitment to improve recycling conditions in those areas
- An investigation of the market for recycling in affected areas, which is especially relevant as companies continue using recycled content in their packaging and have increased demand for this recycled material

Survey reporting is typically unable to provide this local information because the information presented is an extrapolation based on the number of communities contacted.



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Earth911 Recycling Availability Reports

In a focus group study conducted by the Product Stewardship Institute in 2011, it was noted that because of the power of its recycling directory, Earth911 is recognized as an authority in communicating Extended Producer Responsibility (EPR) messaging and helping companies address EPR.

“Throughout this time of transition, where the patchwork of state EPR laws and voluntary recycling programs continues to grow, participants in each focus group expressed the value in establishing a centralized resource that provides recycling program information, education, and outreach. Earth911 was referenced by participants multiple times during discussions related to the potential role for a centralized source of information. In fact, it is clear that Earth911 is already recognized as the centralized resource as no other names were raised. Therefore, Earth911 is extremely well positioned to meet the growing demand to provide, and update, recycling and safe disposal information on a national scale. As mentioned above, Earth911’s product-specific search system is particularly valuable in the context of growing number and diversity of recycling messages and opportunities.”¹

One of the biggest challenges in reporting on the availability of recycling is how to address access to curbside recycling. After all, it would be inaccurate to claim that 100 percent of City X can recycle a material through City X’s curbside program if only 70 percent of the population has a curbside recycling bin.

Earth911’s system compiles data from municipalities, curbside recycling haulers and the most currently available U.S. Census data on population related to single and multi-family homes and attributes the population served by its curbside recycling listings accordingly.



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Earth911 Recycling Availability Reports - *continued*

In addition to curbside data, Earth911 collects drop-off location recycling information in order to determine how far those without curbside access have to travel to recycle a material. All of this information is compiled into the following five-step method to determine recycling availability:

1. If a municipal curbside program serves a ZIP code and accepts a material, this is a pass.
2. If there is a location within 5 miles of the center of the ZIP code which accepts the material, this is also a pass.
3. If both #1 and #2 pass, we count the entire population of the ZIP code as having access.
4. If only #1 passes, then we only attribute the population with access to the curbside program as having access.
5. The population with access is then divided by the total population of these ZIP codes and Earth911 is able to provide an accurate number of the percentage of population with access to recycling a given material at the ZIP code, city, county, state, and U.S. levels.

The process can be repeated to determine access at other distances from the center of a ZIP code.

Using this process, Earth911 is able to report on every recycling outlet available to a consumer at a traveling distance where it is reasonable to expect recycling participation. State level numbers are also presented to give a picture of the country as a whole, allowing identification of areas where recycling availability is lacking for a given material.

Earth911 employs its waste stream expertise to complement the recycling access percentage with further analysis of the selected material. This addresses the market value for the material in question, likely preparation instructions and potential factors that restrict recyclability of the material.

The report is valid for six months, since materials accepted in recycling programs change based on the market value for these materials.



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Conclusion

The list of those who have a stake in recycling availability is growing and includes the supply chain and consumers. The electronics manufacturing industry is an example of product stewardship increasing in response to consumer demands for a recycling solution, as well as demands from the supply chain, ultimately inspiring state legislation to mandate disposal solutions. As these demands grow across consumer packaged goods categories, and manufacturers feel more pressure to provide data to back up product stewardship claims, the integrity of that data becomes more critical.

The accuracy and thoroughness of recycling availability data is valuable because companies who are serious about their claims of sustainability need a bullet-proof validation of their solutions. Thorough data also allows the stakeholder to understand where there may be anticipated issues and take action to remedy for the benefit of all.

About Earth911

Earth911 is the leading source for information on recycling, reuse and product end-of-life practices for consumers and businesses. Over 1 million recycling resources are indexed in the Earth911 Recycling Directory, reaching consumers through Earth911.com, iRecycle® mobile apps for iOS and Android, and the 1-800-CLEANUP® recycling hotline. Earth911 helps companies build competitive advantage through strategies that address extended producer responsibility, promote product stewardship and enhance brand image.

¹ "Communicating the Recycling Message in a Transition to Product Stewardship," White Paper, 19 May 2011, Product Stewardship Institute.

² Guides for the Use of Environmental Marketing Claims, Federal Trade Commission.

³ "Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2009." U.S. Environmental Protection Agency. 1 Dec. 2010 <<http://www.epa.gov/osw/nonhaz/municipal/pubs/msw2009-fs.pdf>>

⁴ "Number of Cities, Towns and Villages in the United States." Google Answers. 14 April 2005. <<http://answers.google.com/answers/threadview?id=509183>>

⁵ "Top 100 Retailers." Stores.org. 1 July 2011. <<http://www.stores.org/2011/Top-100-Retailers>>

⁶ Guzman, Daniel. "Ocean City, Md. Trashes Its Recycling Program." WUSA9 News. 31 May 2010. <<http://www.wusa9.com/news/local/story.aspx?storyid=101946&catid=189>>

⁷ "Carson City Public Works: Recycling, Landfill & Hazardous Waste." Carson City, Nevada. 30 July 2010. <<http://www.carson.org/Index.aspx?page=1977>>

⁸ Hall, Teresa. "Explaining the Bottle Bill." Earth911.com. 21 Sep. 2007. <<http://earth911.com/recycling/plastic/explaining-the-bottle-bill/>>

⁹ "Sanitation Services - Big Blue Recycling Drop-Off Sites." City of Dallas, Texas. <http://www.dallascityhall.com/sanitation/dropoff_locations.html>

¹⁰ "What is Contamination?" Keep Phoenix Beautiful. <<http://www.recyclecleanphoenix.org/whats-contamination>>

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