

CORPORATE SOCIAL RESPONSIBILITY

Is it Time to Consider a National Recycling Standard?

by Christian Blanco, Calvin Spanbauer, and Sara Stienecker



Image Credit | Pawel Czerwinski

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This is the second article in a two-part series on American recycling. The first article described the current shortcomings of the American recycling system and explains how those shortcomings cause recyclable material to be landfilled (called ‘leaks’). In this article, we discuss how a national recycling standard could improve financial and environmental outcomes. We also explore the limitations of such a standard and identify places where more research and discussion are needed.

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We believe that a solution to a broken recycling industry in the U.S. is developing recycling standards, which include a common, minimum set of recycled products across all major cities, and standardizing data collection and reporting. There are many other industries where standards have paved the way for a more vital, robust industry, including healthcare, electricity markets, airlines, information technology, and telecommunications.

We hope our two-part issue will spark critical conversation and action in the U.S. recycling sector. We may not have all the nuts and bolts on what the perfect standard should look like, but we attempt to set a framework for future research and articulate open questions in the recycling market. We hope that this article challenges the status quo and spurs discussions on whether it’s time to consider a national recycling standard.

Fixing the Broken System: The Need for a National Recycling Standard

We believe that the U.S. recycling system needs updating and that the best first step is the creation of a national recycling standard for curbside recycling programs. Such a standard may have the power to:

- Reduce market volatility and create new demand for non-virgin materials.
- Reduce consumer confusion.
- Lower contamination rates and related financial costs.
- Improve access to international markets.
- Encourage the dissemination of best practices, thus improving the performance and profitability of the entire American recycling sector.

Below, we describe what such a standard could look like and provide the rationale for our suggestions. The goal of this paper, however, is not to provide ready-to-implement policy recommendations. Instead, the goal of this paper is to summarize the crucial ingredients to create a strong recycling market, spur discussion amongst researchers, recycling businesses, and policymakers, and identify gaps in the industry that require more research or market development.

Recommendation 1: Uniform Recycling Requirement

Description

We recommend that major cities standardize a minimum set of recycled products in their curbside pickup programs. This minimum list of products should be shaped by:

- Which common materials that have high demand from manufacturers.
- Which products are most financially valuable to the circular economy.
- Which products are most commonly disposed of by U.S. residents, including paper, cardboard, glass, and plastic bottles.

Rationale

We describe at least four potential benefits of minimum recycling standards:

1. It would send a strong market signal to recyclers and manufacturers. Having a steady supply of recycled materials will build confidence among manufacturers to commit to sourcing a significant portion of their raw materials from recyclables. Manufacturers could better predict and negotiate price and volume. Having a minimum set of recycled products makes the volume for these products more predictable, creating a more stable recycling market. This, in turn, may increase demand.
2. A minimum recycling requirement would create economies of scale through volume and pooling of resources. The reason why some municipalities do not collect certain types of material is that they may not have the resources or do not have the volume. In contrast, if municipalities have minimum recycling standards, several neighboring municipalities can pool their collections to better justify volume. Pooling collections of recyclable materials can also create economies of scale when transporting them.
3. Recycling standards can encourage larger investments in better technology brought by (1) and (2).
4. Recycling standards can lower consumer confusion. The results we discussed in the first article reveal that items that are recycled across all cities we surveyed had a very low error rate of 8%. Additionally, our study shows a correlation between disposal accuracy and the number of cities that recycle an item is 0.63. This suggests that the more cities recycle a particular item, the lower the error rate.

Introducing a minimum recycling standard is not likely to impose substantial costs because most (if not all) large municipalities are already collecting most of these products. Instead, the primary value of a standard would be to encourage a predictable supply of materials to recovery facilities so that manufacturers can commit to sourcing more low-cost recycled content.

The U.S. has already used minimum recycling requirements outside of curbside recycling programs with positive results. For example, we have seen this with cardboard and newspaper waste streams. The United States EPA's Code of Federal Regulations **40 CFR Part 246**¹ recommends the following requirements, which denote the minimum required actions: (1) High-grade paper must be recycled at office facilities over 100 office workers; (2) Newspapers must be recycled at all facilities in which more than 500 families reside; and (3) Corrugated cardboard must be recycled at any commercial establishment generating 10 or more tons of waste corrugated containers per month.

These requirements have created stability in the supply and demand of these products. One could posit that the requirements for consumers to separate specific, profitable, recyclable items has the potential to reduce the volatility in supply and demand. Furthermore, because the supply of these three streams has been stable over time, the processes to segregate from even single-stream waste streams have been developed and fine-tuned, further diminishing lost value.

Recommendation 2: A Common Communications Campaign

Description

A common communications campaign would teach consumers across the U.S. which products are universally accepted or rejected, and encourage them to throw products in the garbage if they find themselves uncertain about regional disposal practices.

Rationale

Currently, local collection companies or municipalities shoulder the burden of educating local consumers about which products are accepted for recycling in their area. This reflects the geographically fragmented market that creates recycling collection variation. Once a recycling standard is established, there would be significant efficiencies in having a common communications campaign to educate all U.S. consumers.

Part of the campaign could also be the creation of a new symbol to denote “universally accepted” products. Currently, the recycling logo alone doesn’t provide useful sorting information, as the consumer still has to understand whether their region actually has the capability to recycle that item. But a ‘universally accepted’ logo would clarify that confusion easily for items included in the minimum recycling requirement.

Recommendation 3: Standardized Data Collection and Reporting

Description

We recommend that municipalities collect the same data regarding their recycling processes and share their data publicly at consistent time intervals. Here is a short list of data that we believe would be valuable to collect for each municipality:

- Amount of incoming raw recyclable material
- Average contamination rate of raw inputs and processed outputs
- Average landfill rate and load rejection
- Post-recovery volume and yield of each product stream
- Facility-level technology inventory

The process used to collect and calculate these figures should also be standardized to ensure that data are comparable across municipalities.

Rationale

There are at least three benefits of creating a standardized approach to what gets measured and how frequently this data is collected. First, measurement will allow municipalities and facilities to measure progress against targets and ensure performance metrics are comparable across facilities and regions. Having a common metric will allow different locations to benchmark against each other to identify leaders and laggards. Identifying industry leaders can help facilitate the diffusion of best practices. Identifying industry laggards can direct support or resources to areas that need improvement.

Second, manufacturers that buy recycled material as inputs can better compare quality and cost across different municipalities and recycling facilities, creating a more competitive, healthy recycling economy.

Third, having a national standard on data reporting can enable better assessments of policies that may benefit or harm recycling markets. For example, without having standard measures of contamination, it may be difficult to compare the effect of a policy implemented in one geographic area and its impact on contamination in other areas if data is not available or comparable.

We have already seen standardized reporting work well in other commercial and industrial sectors of the U.S. One example is the Toxic Release Inventory (TRI) Program managed by the Environmental Protection Agency (EPA). Each year, industrial facilities of a certain size submit data to the EPA. Only certain facilities that meet the threshold report to the EPA to avoid imposing undue burden on smaller facilities.² The TRI was a success because it made it easy for companies to identify compounds that should be avoided. In turn, this made it possible for buyers to align with their suppliers on what types of compounds are not good for the environment. The industry uses TRI data to set reduction targets and track progress in reducing harmful chemicals.

Recycling Standard Limitations and How to Address Them

We acknowledge there are limitations, but with proper transition planning and implementation, the benefits can substantially outweigh the costs.

Limitation 1: Cost to Material Recovery Facilities

A national standard may impose a cost on facilities that don't recycle a required material. This can be burdensome for that municipality, which is why we recommend that a national standard only be applicable to large municipalities, similar to how toxic reporting is only limited to facilities of a certain size. The population threshold would help avoid the burden of requiring small municipalities to collect items that they currently cannot cost-effectively recycle. An alternative is to develop market mechanisms to help smaller recovery facilities transition into the standard. Smaller municipalities can financially and environmentally benefit from widening their recyclable collections, but they may need private and public support to get there.

Although it is beyond the scope of this work to identify which items should and should not be nationally recycled, we have started to lay the groundwork on what type of data is necessary to identify candidates for items that should be recycled regardless of the location in the U.S.. Many of these items are already recycled on large scales (e.g., paper, cardboard, glass, aluminum, PET, and HDPE to name a few). Standard can encourage manufacturers to increase their commitment in purchasing these recycled materials because its supply can be more consistent and predictable.

Limitation 2: Lack of Incentives or Penalties

Standards can make it more convenient to recycle. Making recycling easy to follow can increase the scale and cost-effectiveness of recycled products. Standards can reduce or eliminate the confusion around what is and is not recyclable, even when residents move to

a different location. However, most of the existing literature on reducing recycling contamination has focused more on behavioral interventions.³ Behavioral interventions may be cost-effective, but they have limits.⁴ It may be better to focus on how to make recycling easier for the entire population. Future studies can compare whether non-pecuniary measures for recycling (e.g., standards) are more or less effective than pecuniary interventions.

Limitation 3: Lack of Data to Inform Standard Creation.

Our study collected data on which products are recycled across nine major U.S. cities, but more data is needed. Future studies can collect more comprehensive data on what is and is not recycled across the U.S. to get a fuller picture of how close or far the U.S. is on implementing a national recycling standard. Based on our preliminary data, there are many promising directions for a national standard because there are already a lot of items currently recycled in all nine cities we examined. We speculate that this pattern may hold for most if not all of the major cities in the U.S.

Our exercise in gathering recycling data shows how fragmented the U.S. recycling industry is but it also shows the potential value that data can unlock for the U.S. recycling market.

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Christian Blanco

Christian Blanco is an Assistant Professor of Operations and Business Analytics at the Ohio State University. His research focuses on sustainable operations management, including supply chain carbon footprinting, carbon disclosure, carbon abatement opportunities, and carbon targets. He is also interested in recycling markets, recycling disposal errors, and recycling targets.



Calvin Spanbauer [Follow](#)

Calvin Spanbauer is a Ph.D. student at Princeton University's School of Public and International Affairs. His research interests lie at the intersection of energy policy, sustainable consumption, and behavioral science. Calvin holds a Master's degree from Peking University and a Bachelor's degree in Business Administration from the Ohio State University.



Sara Stienecker [Follow](#)

Sara Stienecker is a consultant in Environmental, Social, & Governance (ESG) principles at Bloom Sustainability Consulting, LLC. Sara's interests are ESG policy, business strategy, healthcare, and Artificial Intelligence / Machine Learning (AI/ML). Sara's education includes an M.S. Biology from Bowling Green State University and MBA from The Ohio State University.