

Reduce. Reuse. Confuse.

How Best Intentions Have Led
to Confusion, Contamination and a
Broken Recycling System in America



Powering every day.

REDUCE. REUSE. CONFUSE.

Last year, plastic straws became the environment's chief villain. Largely unrecyclable because of their size, plastic straws have been found washed up on beaches, floating down rivers and even lodged in sea life. The outcry over plastic straws led to cities implementing bans and companies phasing them out. Most importantly, the plastic straw issue was the tipping point that brought America's badly broken recycling system into focus.

The consumer packaged goods (CPG) industry is playing a leading role in creating more sustainable products by reducing packaging, increasing recyclability and manufacturing with recycled content. Every one of the 25 largest CPG companies has made commitments to increasing recyclable content, minimizing packaging or reusing material. Eighty percent of those companies are working toward fully recyclable packaging for all their products. The deadlines differ from company to company, but their actions speak volumes: the industry will change because it is the right thing to do.

But there are barriers to progress that no industry can solve alone.

Americans recycle only a fraction of their waste. According to the EPA, America recycles only 34 percent of its overall waste, and while that is up from 29 percent in 2000, there is a long way to go to be a more efficient and sustainable nation.

America's recycling systems are increasingly complicated. The network of symbols on

products do more to confound than explain. To add to the complexity, we are forced to navigate a labyrinth of local rules unique to each of the thousands of communities across the United States.

Then there is the question of what recyclables are getting processed. There is growing evidence that much of our recycling may be going into landfills anyway. Shifts in the global economy, notably in China, are forcing cities across America to reduce or suspend recycling programs that are no longer economically viable.

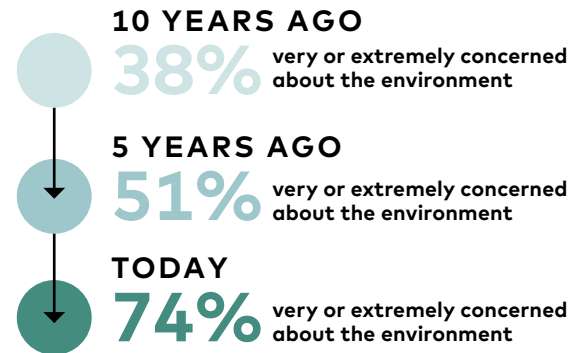
The findings in this report confirm that the problems with America's recycling system — chiefly confusion, contamination and cost — are real and, if left unaddressed, threaten to undermine our nation's environmental progress.

It is time to confront a critical question: will every stakeholder — governments, citizens, private industries — come together to fix what's broken or miss the opportunity to chart a more sustainable future?

Committed to America's Recycling Future

The CPG industry is leading on recycling at a time when concern about the environment is on the rise. A decade ago, just 38 percent of Americans considered themselves extremely or very concerned about the environment. Today, the figure is 74 percent.

Environmental concern among American consumers is translating to behavioral change. The vast majority (75 percent) say they have changed their behavior in recent years to be more environmentally conscious, taking steps to recycle more, buying sustainable products or reducing waste, for example.



Few industries adapt as quickly to consumer wants and needs as CPG. Consumer preference coupled with the industry's desire to do the right thing has led to innovation in the way CPG companies offer products.

CPG industry has made significant commitments to recycling

Americans need toothpaste, laundry detergent, cereal and their morning coffee, so the CPG industry is reimagining how to package those items. An analysis of the 25 largest CPG companies revealed that **100 percent have made commitments to increasing recyclable content, minimizing packaging or reusing material.**

A deeper look at the largest CPG companies shows that 80 percent have committed to producing 100 percent recyclable, reusable or compostable packaging by 2030 at the latest. The majority — including the five largest, Nestle, Procter & Gamble, PepsiCo, Unilever and Anheuser Busch — have set 2025 as their target date.

The list of 250 organizations that have signed on to the Ellen MacArthur Foundation's New Plastics Economy Global



Commitment is filled with CPG companies: Coca-Cola, Colgate-Palmolive, Henkel, Kellogg, McCormick, PepsiCo and Reckitt Benckiser, to name a few. Every signatory has committed that 100 percent of its plastic packaging will be reusable, recyclable or compostable by 2025. In addition, the business signatories have set a target of 25 percent recycled content in plastic packaging by 2025, roughly tenfold the estimated current global average.

Using Less and Reusing it Often

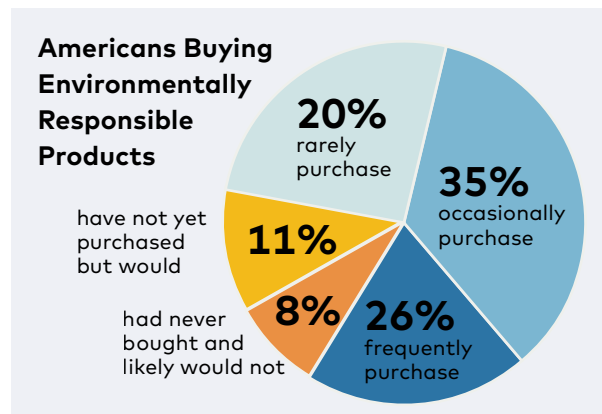
Beyond these rigorous commitments, the CPG industry is redesigning and optimizing packaging to reduce the amount required. Kellogg has reduced the weight of cereal box liners by 17 percent, eliminating 192,000 pounds of packaging material. Clorox Company's Glad brand reduced the amount of plastic in its trash bags by 6.5 percent, the equivalent of 140 million fewer bags per year. Ferrero redesigned its Nutella brand food service pack, saving more than 26 tons of excess packaging material. In 2017, PepsiCo began packaging its Tostitos brand in plant-based, compostable bags for food service accounts in the United States.

Everything old is new again in the packaging world, as more CPG companies commit to using recycled content. Coca-Cola has been a key industry leader, making a global commitment to include 50 percent recycled content across its packaging by 2030. More than 99 percent of General Mills' fiber packaging is sourced from recycled material or from virgin wood fiber that does not contribute to deforestation; the company's goal is 100 percent by 2020. P&G has created a line of shampoo and conditioner bottles made up of 25 percent beach plastic for its Head & Shoulders and Herbal Essences brands.

Products are evolving to meet consumer wants and needs

Behavioral change is extending to purchasing patterns too. More than a quarter (26 percent) of Americans purchase products because of their environmental qualities — reusable packaging, made from recycled material, compostable, etc. — frequently, and more than a third (35 percent) do so

occasionally. Twenty percent say they have but do so rarely, and another 11 percent said they have not yet but would. Only eight percent said they had never bought an environmentally conscious product and likely would not.



In a pilot program called Loop, launching in May 2019, Clorox, P&G, PepsiCo and Unilever are among the 25 companies that are partnering with recycling company TerraCycle to sell products in reusable, refillable containers. PepsiCo has plans to sell its Tropicana orange juice in refillable glass bottles and lines of its Quaker cereal in steel containers. P&G will offer Pantene shampoo products in aluminum bottles and Tide detergent in stainless steel. When the product runs out, TerraCycle steps in to clean and refill the container.

A broader call to action is required

Unfortunately, all the commitments and innovation spearheaded by the CPG industry is not enough. Neither is the rising environmental consciousness of American consumers or their increasing demand for sustainable products and packaging.

If America is to meet its environmental goals — an absolute must — it is time for a comprehensive review and overhaul of the broken recycling system that weakens efforts to create a more sustainable planet. All stakeholders — public entities, private businesses and individual consumers — must become part of the new solution.



Recycling is in a State of Confusion

Recycling today is a story of best intentions and misunderstood consequences. Americans' awareness and behavior are changing for the better, but there is clear confusion about how and what to recycle, evidence of a broken system where change is imperative.

Recycling rates on the rise, but still just a fraction of overall waste.

Nearly three-quarters (74 percent) of Americans say their community offers a recycling program. Of those, more than half

(55 percent) claim to strictly participate — rinsing out jars and cans and separating items as required. Another 33 percent say they try to participate, and eight percent say they participate occasionally. Just four percent say they do not participate at all.

Overall recycling rates have been on the rise in the United States since programs were first introduced in the 1960s. In 1960, only six percent of waste was recycled, growing to 10 percent in 1980, 16 percent in 1990, 29 percent in 2000 and now 34 percent, according to the EPA's latest numbers. Recycling has increased in part because complexity decreased through the move to single-stream recycling.

Single-stream gives rise to the aspirational recycler — and higher contamination rates

Single-stream recycling is undoubtedly convenient — one bin and no sorting. It is also cost effective for community recycling programs because it requires only one truck. Its popularity surged after being introduced in California in the 1990s and is now the most common system in the country.

The simplicity of single-stream recycling also gave rise to aspirational recycling. Unsure if something is recyclable? Throw it in the bin and hope for the best. Forty percent of Americans follow this philosophy.

The more environmentally concerned the respondent, the greater likelihood they will be aspirational recyclers.

For those that are slightly concerned or unconcerned about the environment, just 26 percent are putting their “maybes” in the recycling bin. That number soars to 44 percent for those who say they are very concerned about the environment.

Ironically, these good intentions have resulted in rising contamination rates. Contamination results from issues like food residue, stray plastic from caps or straws, plastic bags or glass shards, or frequently non-recyclable items like Styrofoam, the latter of which less than half (44 percent) of Americans say they knew was not recyclable.

The National Waste and Recycling Association estimates 25 percent of recycling is contaminated, far greater than seven percent, just a decade ago. Takeout containers or to-go coffee cups that seem like they should be recyclable — after all, they are typically made of plastic, cardboard or paper — often are not and have the potential to spoil the entire lot.



Complex recycling symbols do more to confuse than clarify

Confusion is understandable. There are seven plastic resin codes, representing different types of plastic. In most cases, codes one and two are consistently accepted from curbside recycling programs. But a total of 92 percent of Americans did not understand the labels: 68 percent said they assume that any product with symbols for all seven codes would be recyclable; the other 24 percent said they did not know. Only eight percent said no. Upon learning that only two of the seven codes were typically recyclable curbside, 73 percent were surprised. Even more confusing, those codes are intended for the recycling processing centers, but consumers are interpreting them — and incorrectly at that.

When asked to identify a set of four recycling symbols, fewer than half got even one correct. The most common response across all four was, "I don't know," even for the universal recycling symbol, also known as the Mobius Loop.



UNIVERSAL RECYCLING SYMBOL

44% Correctly identified



PRODUCT CONTAINS RECYCLED PAPER

9% Correctly identified



PRODUCT CONTAINS PARTIALLY RECYCLED PAPER

11% Correctly identified



GLASS RECYCLING SYMBOLS

6% Correctly identified









Americans are more confident than knowledgeable

Confounding the symbol issue further is the diversity of recycling systems. Thousands of counties and municipalities across the country set their own recycling rules. For example, a pizza box in Arlington County, Va. can be recycled. But in bordering Fairfax County, Va., pizza boxes are on the list of unaccepted items. So, the 69 percent of Americans who said pizza boxes can be recycled are right — but so are the 24 percent who said they cannot be recycled.

Despite these variances, Americans are curiously confident in their knowledge of local recycling rules. More than nine-in-ten (92 percent) of respondents say they feel they know their local rules. But fewer than six-in-ten (58 percent) reported researching their local rules before.

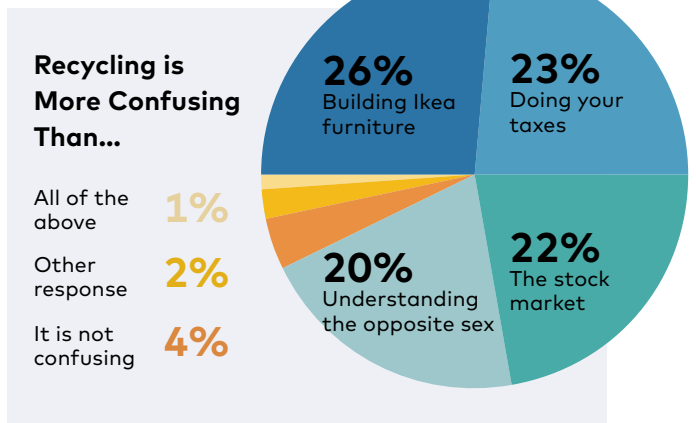
When presented with a list of frequently unrecyclable items, respondents illustrated the problem of aspirational recycling.

	YES	NO	I'M NOT SURE
 PIZZA BOXES	69%	24%	7%
 PLASTIC BAGS	60%	33%	8%
 SOLO CUPS	59%	25%	17%
 TO-GO COFFEE CUPS	55%	28%	17%
 PLASTIC STRAWS	53%	30%	16%
 STYROFOAM	41%	44%	15%

Recycling more confusing than furniture assembly, taxes

For many Americans, recycling ranks ahead of some of the most confusing things in life — more confusing than building Ikea furniture, doing their taxes, playing the stock market or understanding the opposite sex.

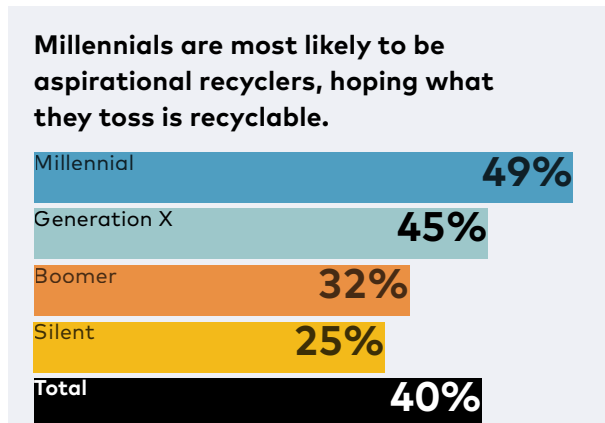
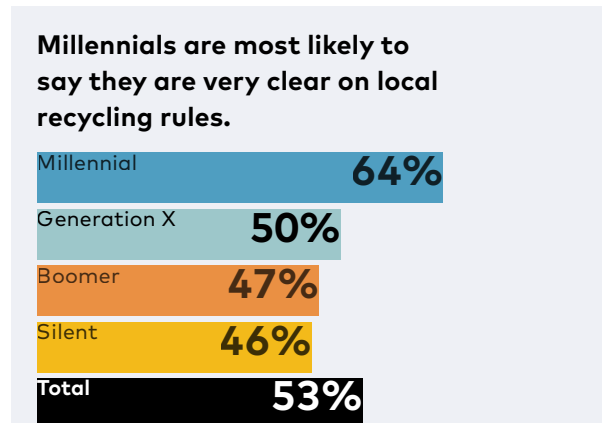
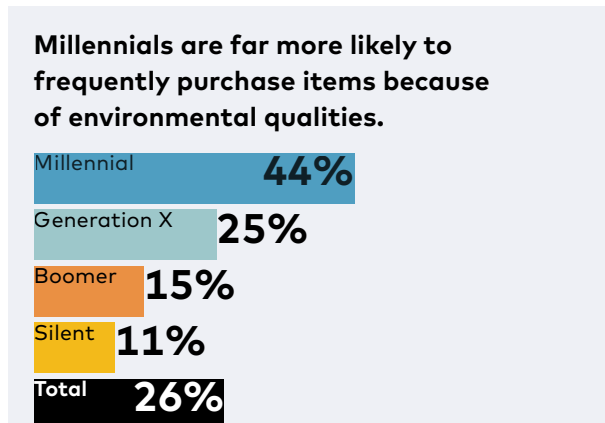
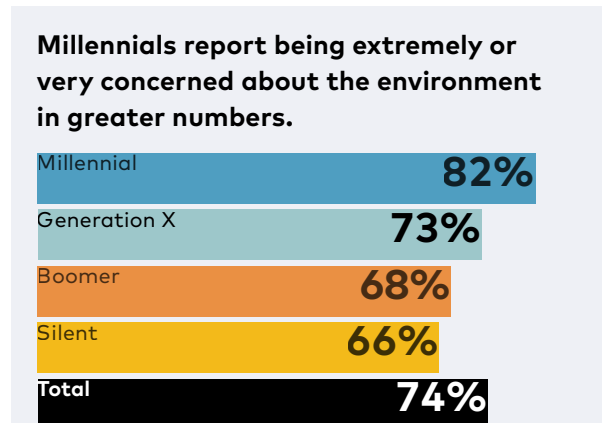
Only four percent shared that recycling was not confusing.







GENERATIONAL ASPIRATION:

Millennials Have High Hopes, Low Understanding

Recycling behavior is generational, with stark differences between Millennials and other age groups.



On the list of frequently unrecyclable items, Millennials are most likely to believe they are recyclable

	MILLENNIAL	GENERATION X	BOOMER	SILENT	TOTAL
 PLASTIC BAGS	69%	61%	51%	48%	60%
 TO-GO COFFEE CUPS	67%	53%	46%	43%	55%
 PLASTIC STRAWS	67%	50%	45%	40%	53%
 STYROFOAM	66%	38%	32%	33%	41%

Reinventing a Broken Recycling System

Decades of allowing Americans to defer to their interpretations and assumptions is not the only problem undermining recycling efforts. The shifting dynamics of the global economy are changing the viability of recycling systems from coast to coast, **leading many communities to send recycled material to landfills — or to scrap recycling programs altogether.**

China's National Sword policy rocks American recycling

A few years ago, a used plastic bottle was typically sent to China. Since 1992, China has imported nearly half (45 percent) of the world's plastic waste. The country imported more than just plastic. According to the Institute for Scrap Recycling Industries, the United States shipped more than \$5.6 billion in scrap materials to China in 2016 alone.

But China's economy has changed, as has its appetite for foreign waste. At the start of 2018, the country's "National Sword" policy went into effect, banning or severely limiting foreign waste. China's interest in reducing rampant pollution was part of the rationale.

So was the level of contamination. Too many of the materials China processed contained unrecyclable components. As a result, the country raised its standards, limiting contaminants to no more than 0.5 percent — a target too strict to reasonably achieve.

The impossibility of meeting the new contamination standards was evidenced by mixed paper and plastic exports to China plunging more than 90 percent between January 2017 and January 2018, according to U.S. Census Bureau and U.S. International Trade Commission data.



Recycled material goes from asset to liability

China's new policy sent America's recycling system into a tailspin. It changed the economics of recycling dramatically, as the value of recycled material plummeted.

The National League of Cities found that 64 percent of recyclables offered a reasonable return in 2017; by 2018, that number dropped to 35 percent. Waste Management, the largest waste company in the United States, reported its average price for recyclables sunk 43 percent from the year before.

In many cases, recycling that could once be sold now carries a cost to unload.

Richard Coupland, vice president for municipal sales at solid waste services company Republic, said, "A year ago, a bale of mixed paper was worth about \$100 per ton; today we have to pay about \$15 to get rid of it."

These skyrocketing costs are invisible to consumers who faithfully put out their recycling for collection each week. Americans have confidence in their recycling systems. Nearly three-fourths (74 percent) of Americans believe that all or most of what they put out for recycling is recycled. But that confidence may be at odds with a troubling trend.

Hundreds of local recycling programs are pulling back

The cost of recycling is driving communities across America to reduce or suspend their recycling programs. Waste Dive began chronicling the effects of China's policy change in November 2017.

Its ongoing catalog shows changes in hundreds of cities and counties that are struggling with limited budgets and the stark reality that sending recycling to the landfill is less expensive.

In Philadelphia, Pa., half of the collected recyclables are combusted and converted into energy. The other half is sent for processing. The city is struggling with rapid change to the economics of recycling. In 2012, Philadelphia was paid \$67 a ton to process recyclables. Now it must pay companies \$78 a ton to take those recyclables. Converting waste to energy carries a cost as well but is less expensive at \$67 a ton.

In Florida, Deltona's City Commission voted unanimously to end curbside recycling, citing rising costs. Faced with a 63 percent price increase, Broadway, Va., canceled its recycling program after 22 years.

Kirkwood, Mo., announced plans to end its curbside recycling program, spurring a public backlash that resulted in the city reversing its decision. Kirkwood's residents are hardly outliers. More than eight-in-ten (84 percent) Americans expect their local area to offer a recycling program.

Reinventing a Broken Recycling System

Clearing up the rampant confusion around recycling rules is among the best ways to reduce contamination and make recycling more economically viable. The dizzying patchwork of local rules is likely why only 26 percent of Americans believe the way we recycle now makes sense.

The majority say more standardized rules at the national (46 percent) or state (28 percent) level would bring greater clarity to recycling.

More uniform standards at the national or state level are not on the immediate horizon. But there are promising initiatives helping to bring greater clarity. Supported by brands and retailers, including a host of CPG companies, How2Recycle is a standardized labeling system that gives brief directions for recycling, like “rinse and replace lid” or

“remove label before recycling.” Launched in 2012 with twelve participating companies — including Clorox, Kellogg and General Mills — How2Recycle now has more than 120 organizations, adding P&G, PepsiCo and J.M. Smucker, among several more CPG manufacturers.

Educating Americans on what and how to recycle is possible and, in the case of a pilot program in Atlanta, proven. Coca-Cola joined forces with The Recycling Partnership on a 2017 pilot of 5,000 households in four Atlanta neighborhoods. The program sent out city employees and temporary workers to inspect bins and leave notes about why certain items were not accepted. The pilot achieved a 57 percent decrease in contamination and a 27 percent increase in collected recyclables.



CONCLUSION:

What Can We Do?

America's recycling future is not hopeless. But it does have to adapt.

The CPG industry is a leading force in increasing recyclable content, minimizing packaging and reusing material. But there is no silver bullet — no person, industry or government will solve this alone.

China's National Sword policy upended recycling — but it did not end recycling.

It is imperative that every stakeholder come to the table prepared to make the hard decisions that will create lasting change. Together, we can package with the planet in mind, communicate with American consumers so they understand how and what to recycle and reduce the contamination rates that have led to far too much recyclable material ending its life as waste.

The American recycling system is at a crossroads: allow the problems to calcify or bring stakeholders together to enact change. The choice could not be clearer. The stakes could not be higher.



About Consumer Brands

The Consumer Brands Association represents the world's leading consumer packaged goods companies. The CPG industry plays a unique role as the single largest U.S. manufacturing employment sector, delivering products vital to the wellbeing of people's lives every day.

Consumer Brands' mission is to champion growth and innovation for the industry whose products consumers depend on every day.

For more information, visit consumerbrandsassociation.org.

Methodology: *Reborn in the USA* includes data from a survey of 2,000 U.S. adults (18+), fielded March 20 – March 28, 2019, powered by Toluna Analytics.

