The State of Recycling Today:

2024 Recycling Trends and Beyond

rts

A Better Waste Company™

Contents

Five Key Recycling Diversion Insights

Key concepts for businesses to consider in 2024.

1 Governments are raising the bar to encourage more recycling and waste diversion.

As landfills stack up and residents are becoming more environmentally active, city and state governments are enacting stricter recycling laws. San Diego, Washington DC, Phoenix, New York, Seattle, Boise and many others are exploring or have already put new laws in place to drive a reduced waste mindset.

The Business Takeaway: Keep up with local policy. As regulations change, companies and individuals will need to adapt their waste and disposal methods.

2 The recycling industry is still adapting to China's 'National Sword' policy.

In early 2018, China effectively banned the import of some plastics and other materials headed for that nation's recycling processors – creating a backlog of recyclable goods across the globe[1], and leading to countries landfilling recyclables. Though there has been a rise in technology and other tactics to increase cleaner recycling streams, it remains to be seen if the US will adapt.

The Business Takeaway: Residential recycling service costs hit $6.85 per month per household due to repercussions from National Sword - up 11% over 2018 costs[2]. **Commercial and residential recycling costs will continue to rise as countries figure out new ways to handle additional recycling processes.**

The United States is doing better at recycling... but there's room to improve.

Back in 1960, only 7% of US waste was recycled or diverted – today, that number is almost 35%[3], a 5x increase! Education is still a necessity as recyclables in the waste stream are highly contaminated. Yet, each American still generates 4.9 pounds[3] of waste a day on average– and it's growing each year. The US has a long way to go towards achieving a net zero impact.

The Business Takeaway: Overconsumption in the US is a problem. Reduction of waste starts with taking a look at the supply chain and using less.

When it comes to recycling, not all products are created equal.

Reusing or donating a car can save 8,811 lbs. of CO_2 greenhouse emissions[4] (compared to building a new one). Correctly reusing a refrigerator can eliminate 566 lbs. of CO_2 greenhouse gases – and both are notoriously hard to recycle. Yet, recycling a ton of plastic bottles can save 3,380 lbs. of $C0_2$ emissions[4] – and are tricky to traditionally reuse. Correctly understanding environmental impacts and methods for recycling products vs. reusing is critically important.

The Business Takeaway: Based on the product, reuse or donation should be considered before traditional recycling or disposal.

People want sustainability – and they're willing to make changes to get it.

Consumers are shifting to eco-friendly and virtue-based brands – evident by the likes of sustainably sourced goods, plant based foods, and repurposed products. Method soaps, Rothy's shoes, and Beyond Meat are all perfect examples. Additionally, employees want to work with companies that are environmentally conscious, and companies are responding[5]. Today, nearly 3,500 Certified B Corporations exist in the world[6], double the volume from three years ago.

The Business Takeaway: The trade-off between sustainability and profitability no longer exists, sustainable business practices are emerging as market leaders adopt criteria, such as ESG.

1 Yale 2 Solid Waste Association of North America's (SWANA) Applied Research Foundation (ARF)
3 EPA 4 Pew Research 5 Salesforce 6 B-Lab (dba. B Corporation)

There will be more plastic waste in the oceans than there are fish by 2050.

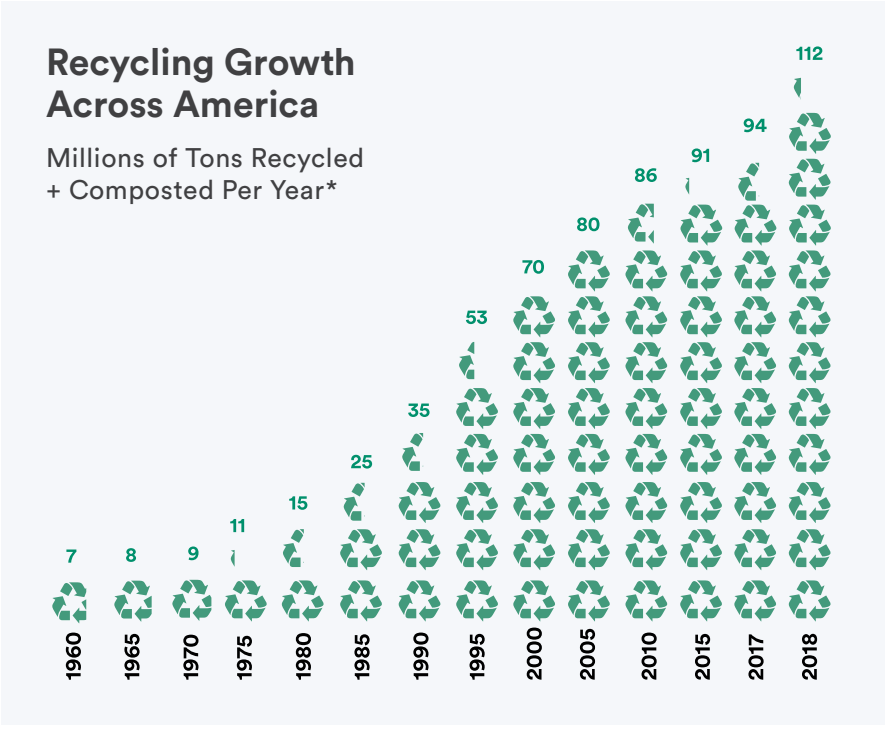
What's Happening in Recycling & Reuse Today?

A brief look at the current state of recycling, reuse, and waste diversion.

The recycling industry is a crucial part of our lives – to make sure we take better care of our planet. Each year, millions of tons of recyclable materials are collected and moved across the world, with nearly 2,000 recycling facilities[7] and tens of thousands of individuals working together to help make sure waste is properly recycled.

Recycling primarily sees strong demand from industrial markets, construction activity, and steady demand from the residential household. Over the last five years, each of the three primary drivers has seen significant growth as the US economy and populations steadily grew. Additionally, evolving government legislation and public awareness have pushed for greater demand of recycling services and other forms of waste stream diversion – with overall waste recycling percentages hitting record highs in 2018[7].

7 IBISWorld



Power of the People

General awareness about humanity's impact on the earth and the growing concern around climate change has increased rapidly over the last decade – now making it a hot topic across the globe. Facebook, Twitter, Instagram, academic research, and news outlets have helped extend the reach of sustainability, and the message that we as humans need to change our ways. The rise of "sustainable influencers" like Greta Thunberg, Stella McCartney, and Mark Ruffalo have elevated the conversation to new levels. Global events like the Climate Strike, the Economist's Sustainability Summit, and the Business Roundtable, shine light on businesses' role in the climate conversation. Elected officials are seeing the impact too, as online petitions and social media channels become an integral part of expression for many constituents.

General awareness about humanity's impact on the earth and the growing concern around climate change has increased rapidly.

Changing Government Regulations

As citizens become more cognizant of their impact on the planet, more people are encouraging their city and state legislators to enact stricter standards for reuse, recycling, and diversion – and legislators are listening.

In 2011, California, one of the more eco-forward states, created a goal to increase their recycling rate from 50% to 75% by 2020[8]. While they did not hit it, they have announced new approaches and initiatives to address the statewide recycling rate are underway. DC recently introduced the "Zero Waste Omnibus Amendment Act of 2019" as part of a larger effort to ensure the city remains on track to meet its goal of achieving "zero waste" by 2032. Florida is following suit - adopting a weight-based recycling rate target of 75% as well[8]. Cities are jumping on board as growing waste volumes continue to hamper city resources. San Francisco, Boston, Washington DC, and many other US cities are adding additional requirements on top of state laws for businesses and residents within the city limits. New York City is pushing the boundaries even further, also focusing on diverting hundreds of thousands of tons of organics. As regulations continue to grow in number and strength, expect recycling players to respond in kind with additional innovative and expanded offerings.

As citizens become more cognizant of their impact on the planet, more people are encouraging their city and state legislators to enact stricter standards for reuse, recycling, and diversion – and legislators are listening.

EPA National Recycling Strategy

National Sword and China's Impact

Over the past several decades, fueled by the country's astronomical growth in industrialization, China has been the single largest importer of recyclable materials, handling almost half of the global volume[9] – buying up and processing secondhand materials at a rapid pace. However, in January 2018, in an attempt to curb the country's growing pollution problem, China enacted a policy called 'National Sword', singlehandedly cutting their import of many recycled materials (primarily plastic waste)[9]. The US and many other industrialized countries like England and Australia, have been hit hard – as they don't have the full resources necessary to handle the backlog of accruing recyclable materials. The events triggered by China's ban drives home the need for expanded and efficient recycling processes, and more easily recyclable products from manufacturers. The US simply does not have the MRF infrastructure in place to process recyclables due to years of exporting to countries like China.

China enacted a law called 'National Sword', singlehandedly cutting their import of many recycled materials.

New Technologies and Processes

Today, drastic new technologies are emerging to help individuals, companies, and recyclers to better handle sustainability.

Agilyx: Agilyx technology produces a premium refinery grade crude oil feedstock that is sold into commerce and provides the flexibility to be used in multiple products[10].

Brightmark: Brightmark's chemical recycling process shreds, pelletizes, and vaporizes plastics which is then captured, cooled, and processed into input for the creation of new plastic[11].

AMP Cortex DRS: AMP Robotics' Cortex machine is a new high-speed robot guided by an AI platform, computer vision, and machine learning to identify and rapidly sort, pick, and place materials at an unprecedented speed of 160 pieces per minute creating optimum productivity[12].

TerraCycle: They take hard-to-recycle materials, such as ocean plastic, and turn them into new products. Their new Loop platform aims to change the way the world shops with favorite brands in refillable packaging offered with convenience and style[13].

8-9 IBISWorld, EPA, Yale, New York Times
10 Agilyx
11 Brightmark
12 AMP Robotics
13 TerraCycle

Recycled aluminum takes 95 percent less energy to make than new aluminum.

Unpacking the True Impact of Products

Should you reduce, reuse, or recycle products?

Many people assume that efforts to recycle an item are equal for all products, but detailed research in the field shows that certain products are significantly better suited for diversion and reuse. Diversion is a key opportunity to alleviate potentially costly and resource heavy recycling efforts. When looking at the potential impact of a variety of products, we begin to see that all products are not created equal in the eyes of the environment. For instance, reusing one car, instead of taking it to the landfill, will save nearly 9,000 pounds of greenhouse gasses that would have been produced in the making of another car[14]. Similarly, appliances and consumer electronics have significant benefits when it comes to being recycled or diverted.

Certain products are significantly better suited for diversion and reuse.

14 Pew Reserach

When this product is recycled or diverted, greenhouse gas emissions are reduced by...




product	1 car	1 ton of plastic bottles	refrigerator	1 computer + monitor
CO_2 equivalent	**8,811 lbs.**	**3,380 lbs.**	**566 lbs.**	**404 lbs.**
gasoline	450 gallons	173 gallons	29 gallons	21 gallons




product	1 washing machine	4 tires	1 television	10 lbs. of cardboard
CO_2 equivalent	**397 lbs.**	**323 lbs.**	**81 lbs.**	**40 lbs.**
gasoline	20 gallons	17 gallons	4 gallons	2 gallons

How well is the US doing at waste recycling?

In terms of actual waste that is being recycled or composted today, the US is achieving mixed results. Some items like batteries, cardboard, food containers, and the like – the US is achieving substantial results, with over 50% of the waste streams being recycled[15]. However, when looking at the flipside, the US is faring incredibly poorly in other categories. Clothing, furniture, food waste, and small appliances have very low recycle rates. With these objects, many residents and businesses are either incapable of recycling them, or simply don't know how. There is a huge opportunity for the US to begin targeting these areas more specifically through the use of education, diversion avenues, and overall adaptive reuse.

Clothing, furniture, food waste, and small appliances have very low recycle rates.

15 EPA

Total MSW Generated by Material, 2018*

Paper & Paperboard	**23.05%**
Food	**21.59%**
Plastics	**12.20%**
Yard Trimmings	**12.11%**
Metals	**8.76%**
Wood	**6.19%**
Textiles	**5.83%**
Glass	**4.19%**
Rubber & Leather	**3.13%**
Other	**1.56%**
Misc. Inorganic Wastes	**1.39%**

*EPA, Pew Research

What are the most compelling reasons to recycle?

Saves energy and conserves natural resources.

Recycled materials — like paper, plastic and glass — almost always use less energy than new, raw materials. The next time you wrap your leftovers with aluminum foil, remember this fun fact: **Recycled aluminum takes 95 percent less energy to make than new aluminum** from raw materials, according to the National Recycling Coalition. Recycling also means extracting less from the earth and protecting natural habitats and resources, such as trees, oil, water and metals.

Reduce greenhouse gas emissions.

Creating and consuming new products equates to extracting resources — like fossil fuels — for industrial manufacturing, transportation and product packaging. **Recycling reduces the generation of carbon dioxide and other greenhouse gases** that contribute to climate change.

Reduces landfill dependency.

Across the US, landfills are piling up at an alarming rate. Recycling means less to throw out, **saving our land** for more environmental, sustainable use.

Creates jobs.

According to the EPA, “recycling and reuse” activities accounted for **681,000 jobs** in one year.

Saves our earth.

We only have one, and we must take care of it. Our rate of waste and overconsumption is jeopardizing the way in which **future generations** will be able to live and meet their most basic needs.

According to the EPA, “recycling and reuse” activities accounted for 681,000 jobs in one year.

Desire to Do Good:

The Call for Sustainability

Consumer and employee behaviors are changing – here's how to stay on the cutting edge.

Today, in the digital age, people are incredibly aware of the environmental impact of humanity - and they expect higher sustainable standards in the companies that they interact with. While millennials may have started the trend, the gen Xers and baby boomers are catching on.

Sustainability in Products

Huge volumes of consumers are taking tangible steps to address global environmental issues by making personal changes – and it's evident in the marketplace that exists today. The strength of the sharing economy through the likes of Lyft, Airbnb, and Rent The Runway. The rise of socially conscious companies like Allbirds, Patagonia, and Beyond Meat, who build sustainability into every aspect of their businesses (supply chain, marketing, and product design). The solid growth of resale venues and consignment stores. Whether it's ethical labor practices, sourcing recycled materials, or doing more with less - these points all insulate the trend that sustainability in consumer products is here to stay. Proof of fact, according to Euromonitor research, nearly 54% of US consumers consider a product's impact on the world in their purchasing decisions[16].

Nearly 60% of employees believe that corporate sustainability is a moral imperative.

Sustainability in Employers

It's not just in products either – people deeply care about the corporate sustainability of their employers. In a recent survey, nearly 40% of millennials have chosen a job because of a company's sustainability mission. 50% of workers in the US also stated that they'd be willing to accept a smaller salary to work for a company that's environmentally responsible[17]. Sustainability and corporate responsibility are critically important to landing new talent, and holding on to them. Nearly 60% of employees believe that corporate sustainability is a moral imperative[18].

Unilever is a great example of how instituting a corporate mission around sustainability can provide massive benefits to the organization. In 2010, Unilever instituted it's "Sustainable Living Plan", focused on corporate social responsibility and overall better sustainability practices, and encouraged the firm's 155,000 employees to take the vision to heart[19]. The plan has since pervaded the entire organization from the C-Suite down to seasonal hires, and was recently adopted in to a key part of Unilever's permanent organizational vision. Upon discussing the impacts of the move, Unilever executives noted more engaged employees, new sustainability initiatives and innovations popping up, and massively increased interest in people wanting to join the organization (they're now the sixth most followed company page on LinkedIn)[20].

In order to stay competitive in today's environment, companies need to seriously consider sustainability's role in their organization, and make changes in turn.

16 Euromonitor, 17 Stanford Social Innovation Review, 18 Fast Company, 19 New York Times, 20 Unilever

What to Expect Going Forward

Lots of activity is happening on the waste management, recycling, and sustainability fronts. Customers and employees demand sustainability. New technologies are redefining and improving the waste management field. Growing populations and increased regulations are driving organizations and citizens to make recycling and reuse practices key parts of their business.

So, What's Next

Today, the US and recycling industry is still pivoting – turning towards technology, innovations, and other methods to aid in the efficiency of the recycling process. Reduction and reuse are initiatives that we can implement immediately to alleviate the strain on many recycling resources. Based on the materials and resources on-hand, a variety of waste management solutions exist to ensure the volume of waste sent to landfills is minimal. One promising (and quickly growing) method is diversion, built around the intent of ensuring that waste materials are simply repurposed as quickly as possible, without seeing the inside of a landfill or holding area. Additionally, the future could bring a bipartisan infrastructure law that could include MRF funding, subsidies, or tax incentives.

What Can You Do About It?

According to World Economic Forum, scientists are predicting that if nothing changes in our plastic consumption habits, there will be more plastic waste in the oceans than there are fish by 2050 – a huge problem. Corporations have massive environmental footprints (not just manufacturers), so today's companies need to be more proactive about sustainability and how it intersects with their business. Whether it be in materials sourcing, service delivery, or waste and recycling management, sustainability is a necessity not an afterthought. **Businesses need to ask:**

How are their materials sourced?

How are services being delivered?

How much waste are they producing?

Can they improve their recycling efforts?

Is there an opportunity to divert from waste streams?

Who can I partner with to help reduce my impact on the environment?

Leaders on corporate sustainability are making strides in a variety of ways-across all industry verticals. As a part of Adidas's mission to end plastic waste, the company has shifted to using 100% recycled polyester in their products by 2024. Burger King is piloting a program with Loop, allowing customers to choose reusable cups and containers for their food. A small deposit fee is applied and refund will be issued upon returning the containers to be cleaned and reused. Barclay's (a LEED Silver Certified stadium) repurposes food waste, composts and has eliminated straws among other sustainability initiatives. 1 Hotels is on a mission to eliminate waste and are taking steps towards their goal by using wood instead of plastic for room keys, using reclaimed materials within the hotel rooms, and inviting guests during holidays to leave gently used clothing behind to be donated to charity.

Thankfully, the research and technologies exist to help make a more environmentally responsible company a reality. Plus, the benefits aren't just for the environment – customers will be happier, employees will be more engaged, and the organization will have stronger and longer lasting growth.

About Recycle Track Systems

Recycle Track Systems, Inc. is pioneering a better way to manage waste and recycling. RTS combines technology with high-touch service to make waste disposal easier, smarter, and more responsible. From on-demand removal to fully integrated waste management solutions, RTS helps companies and municipalities easily track and optimize their pickups. Using data insight, RTS empowers clients with visibility into their waste habits and offers tangible figures on their climate impact to improve their waste and recycling practices. RTS is a certified B-Corporation, reflecting its dedication and commitment to meeting stringent standards of environmental transparency and performance.

rts.com info@rts.com 833-RTS-INFO @rtsgreen