



## The Second Recycling Revolution

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After 20 years of stagnation, recycling is gaining momentum again. But, as the country moves forward from its somnolence, shaken by China's ban on importing contaminated materials, headwinds from "Big Waste," Big Packaging and Big Soda are also gathering to halt this Second Recycling Revolution in the U.S. so they may continue profiting from wasting.

The First Recycling Revolution emerged in the early 1970s from the grassroots. Regular citizens, applying immense self-reliance, imagination and boldness – housewives, college students, airline pilots and flight attendants, stand-up comics, lawyers, doctors, teachers and children – started the recycling movement. Fed up with the Vietnam War, overconsumption, and waste and despoliation of nature, this motley crew started rudimentary recycling drop-off centers in backyards, old gas stations and abandoned strip malls as a way to make personal statements of concern and alarm. "Just Do It" was the call to action, and "Reduce, Reuse, Recycle!" the battle cry.

Cliff and Mary Humphrey's Survival Walk in 1969 from San Diego to Sacramento raised awareness and inspired many of the earliest community recycling efforts in California. Each day, they stopped to start a new recycling drop-off center in towns along the way.

Kathy Evans, one of those inspired by the Humphreys' citizen action events, recalls about her later pioneering work with the Ecology Center in Berkeley, "Our whole view of reality was changing. It's funny to me now, because we didn't yet have the idea of Zero Waste, but 'no waste' was what we thought was possible. Our whole goal even then was to replace garbage collection with a new system that would handle everything as a resource, not a waste. It was some sort of large comprehensive collection system that we had to build. Ahead of that, even from the beginning, all of the recyclers I knew were all about not using things wastefully in the first place. That goal – to replace garbage collection with a new system that would handle everything as a resource, not a waste – is the key."<sup>1</sup>

### Recycling Thrives and Expands

Some of the drop-off centers and small-scale family collection companies spontaneously started curbside collection ventures in the early 1970s that became the model for municipal community programs in the 1980s. By then, public pressure was making recycling a permanent part of municipal services. That shift, augmented by the anti-incineration (1980s) and Zero Waste<sup>2</sup> (1990s) movements, captured the hearts and minds of the average American, spurring a grassroots movement that reached a national recycling level of 35% and still has agency.

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<sup>1</sup> Kathy Evans interview, "The Founders' Hearts," *The Recycling Archives*, 2019

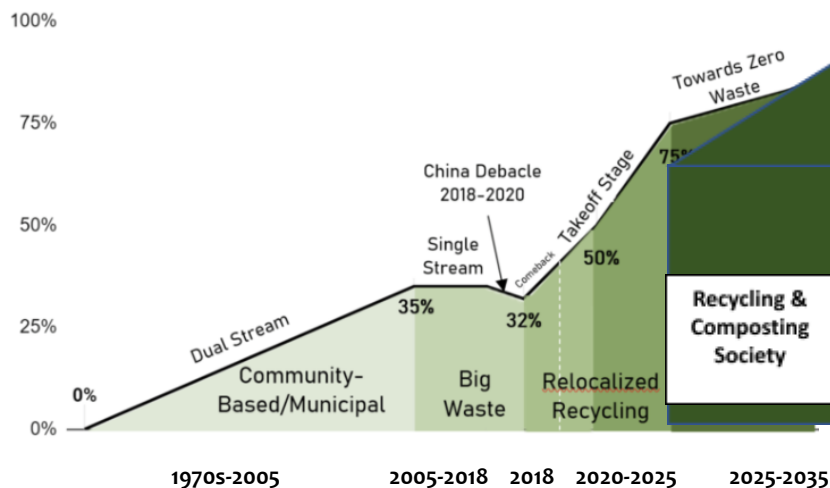
<sup>2</sup> The concept and practice of Zero Waste began in 1995 after Dan Knapp, Urban Ore, returned from a visit with activists in Canberra, Australia.

This robust start was nonetheless stymied by “Big Waste” (national, vertically integrated waste hauling and landfill companies) in the early 2000s, when cities were jockeyed and seduced into dropping dual stream collection and implementing single stream recycling collection programs, often with out-of-town shipment of low-value mixed materials to centralized processing plants. These waste monopolies had also come to dominate the processing of materials, thus closing off options for cities and counties to integrate efficient local and regional collection, processing and manufacturing.<sup>3</sup>

The combination of transportation costs and poor processing with no glass recovery – even though glass was 25% of the recycling stream – characterized this sloppy and wasteful system. It worked because China, for its own reasons, accepted these raw materials as part of a temporary way to jump-start their own industrialization plans.

The system stopped working, however, when China reached production levels that generated enough materials that it could depend on its own internal recycling, as well as an increased wage scale and solutions to serious environmental concerns over primitive recycling practices. U.S. recycling fell to 32%. Only increased composting kept the rate from falling further.

### Trajectory of Modern U.S. Municipal Recycling



### The GOOD NEWS: The Recycling Phenomenon is Back by Popular Demand

The Second Recycling Revolution began in 2018, after China’s National Sword policy banned highly contaminated single-stream materials from the U.S. Despite the fact that China had been warning for years that this cut-off was coming, U.S. recyclers were stunned and unprepared. But eventually, as prices for secondary materials fell in the tumult caused by the Chinese ban, private investment began re-building the U.S. manufacturing sector, and end-use capacity that had languished during the years

<sup>3</sup> Fighting Monopoly Power in Waste, Neil Seldman and David Morris, ILSR, 2020

that recycling collectors shipped a large percentage of materials to China rather than supplying domestic mills, returned to use.

The Second U.S. Recycling Revolution is underway. The paper industry has invested billions for refurbishing and expanding existing and new paper and packaging recycling mills. Funding has flooded into advancing plastics recycling capacity and technology, and industries for processing and repairing electronic discards are flourishing.

Forward-thinking companies pivoted to rediscovering local markets. “We woke up because of the China ban, and I’m glad we woke up. . . If plastic scrap is a valuable commodity in other countries, then it is also valuable here,” said Sunil Bagaria, CEO of New Jersey-based GDB International, Inc. “There is more value in selling pellets than in selling scrap . . . the investment will pay off multiple times.”

In the wake of National Sword, GDB International went from exporting plastic film scrap overseas to pelletizing it into post-consumer resin for domestic sale. Other companies also pivoted to markets in North America for their PET, HDPE, PP and plastic film bales. Investment is coming not only from U.S. companies but also from Chinese, European, and South American companies, as well.

Distributive composting businesses and municipal programs have become the fastest growing component of recycling with the proliferation of backyard and community composting, curbside collection of organics, and aerobic digestion facilities for clean, source separated organics. Once again, community projects led to municipal programs across the country. Increased recovery of organic discards kept the U.S. recycling rate from dipping below 32% after falling from its high of 35% in 2018.

New rules by local and state governments reinforced private investments. State recycling market development agencies were created and existing ones re-invigorated. New programs such as NextCycle in Colorado and Michigan complemented older programs such as California’s Recycling Market Development Zone program and Resource Recovery Parks in Austin, TX and Alachua County, FL. Policy decisions reinforced private investment in infrastructure, training and business expansion – choices such as Right to Repair, mandatory composting, minimum recycled content, waste surcharges, single stream plastic, bans on bags and polystyrene products, universal landfill bans, as well as expanded and new container deposit legislation.

Still more legislation is on the horizon, including packaging taxes (CA), advanced plastic disposal charges (TX) and diverse forms of Extended Producer Responsibility. The flood of new rules surpasses those introduced in prior decades.

At the federal level, a national waste surcharge, or Producer Responsibility fee, a tax on virgin plastic (REDUCE ACT), and a moratorium on virgin plastic production are wending their way through Congress. Local bans on single use take-out ware have opened the way for innovative new enterprises providing restaurants and customers with reusable, washable containers and table ware. Unit Pricing or Pay As You Throw programs operate in thousands of U.S. cities and towns. By introducing this incentive to recycle and disincentive to waste, communities increased their recycling rate by up to 40% in one year.

In the wake of the China ban, cities and towns have reverted back to dual stream collection to escape the high tip fees at single stream processing facilities. Dual stream collection systems benefit from households doing the first separation of materials rather than relying on costly technology. In New Jersey, dual stream processing costs \$80 per ton compared to the \$120 per ton for single stream processing, a one-third savings equivalent to millions of dollars annually for local government and businesses.

Building deconstruction has blossomed as well. Beginning in 2000 with deconstruction of military barracks and then broader programs supported by the U.S. Department of Health and Human Service's Office of Community Services, a growing deconstruction movement now boasts a trade association, the Building Materials Reuse Association (BMRA), and a record of remarkable accomplishments. A pending mandatory deconstruction bill in Baltimore would double the number of workers at Second Chance.<sup>4</sup>

Finally, Zero Waste has captured the hearts and minds of Americans. In the early 1970's when asked about recycling by the EPA, they answered 'more.' Today the answer is Zero Waste. Specifically, 90% reduction of the waste stream, no burning, organics out of landfills, and no toxics.

“Zero Waste, Or Darn Close To It!” is the new mantra complementing the Reduce, Reuse, Recycle mantra from the previous decades. To these ends, local governments have passed over 150 new rules and ordinances to pave the way for Zero Waste.<sup>5</sup>

Yet . . . this new wave of recycling activity is still met with resistance at multiple levels.

### **Headwinds from Big Waste, Big Soda and Big Packaging**

Recycling's trajectory is unstoppable, and yet it is not inevitable.

Single stream processing made an immediate impact. In 1995, only five cities had adopted single stream. By 2003, that number jumped to 93. Between 2005 and 2014, use of single stream systems grew from 29 percent of American communities to 80 percent.

Contrary to single stream's promotional promises, the national U.S. recycling rate stagnated at 35% from 2005-2017, when it fell to 32% after the China National Sword ban led to 150 cities and counties canceling their recycling programs.

The heirs of WMI and BFI (WM, Republic, GFL, etc.) accelerated the pace of mergers and acquisitions, as reported in the trade press.<sup>6</sup> One CEO of an independent waste and recycling company says the consolidation has led to prices paid for solid waste and recycling services running 33% higher than costs should be in a competitive market.

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<sup>4</sup> Treasure in the Walls: Reclaiming Value Through Materials Reuse in San Antonio," 2021

<sup>5</sup> Managing and Transforming Waste Streams: A Tool for Communities, US EPA, 2020  
[Waste Monopoly](#), ILSR, 2021

<sup>6</sup> Landfills, Legislation and Longevity: How Industry Consolidation Fueled the Modern-Waste Sector, Lauren Rathmell, Waste Today, April 2022

**Monopoly power** in the industry continues to frustrate expanded efforts to cut waste. National waste companies try to repeal existing state bans on yard debris from landfills and oppose new ones, despite the ease of mulching and composting these materials.

“Big Soda” monopolies (e.g., Coca-Cola, Pepsi and others) actively oppose and try to repeal container legislation, despite its proven effectiveness in getting clean materials to manufacturers. But certain circumstances rate a different approach. Recently, Big Soda supported container legislation that gives them control over the system and the unredeemed deposits worth hundreds of millions of dollars annually. And in Connecticut, Big Soda snuck in an amendment at the midnight hour to give them control over the state’s system.

In Oregon, with the state having privatized its bottle bill, activists representing bottle and can recyclers are pushing for a more inclusive structure to allow workers to prosper in this growing sector, with better equipment and cooperative companies.<sup>7</sup>

**Preemption of local decision-making** is a key corporate strategy. In California as well as other states, packaging interests pressured the state to pass a bill preventing local authorities from adopting “radical” packaging regulations (e.g., source reduction, refillables, minimum content, bans, and waste surcharges). In Colorado and Kansas, citizens forced a repeal of such a law.

**Extended Producer Responsibility** is the ultimate pre-emption legislation. To many recycling and Zero Waste activists, the demands by Big Packaging (e.g., Unilever, Procter & Gamble, and others) that its EPR goals and objectives have the “force of law” is a “hostile takeover” of a robust recycling industry (thousands of companies, millions of workers, and gross sales of over \$350 billion) by a parasitic bureaucracy that hoards money, has minimal government oversight, and overwhelms public servants with the lobbying and flow of money within the system.

The British Columbia model was held up as THE model for the US. Oregon’s EPR bill approaches this model with some restrictions on corporate actions. The Maine EPR bill states its policy of no Producer Responsibility Organization (PRO) control, but the rules, which will take years to evolve, can still allow PROs to operate.

Thanks to aggressive research, reporting and activism, this EPR model is no longer so popular. Independent economic analyses by York University, Zero Waste Canada, and the British Columbia Bottle Depot and Recycling Association laid bare the false claims from British Columbia (BC). In fact, recycling has stagnated in BC for the length of time EPR has been implemented there, and costs have risen. Further, the PRO system tries to undermine the successful bottle bill system in the Province.<sup>8</sup>

In New York, the Beyond Plastics coalition has fought vigorously to stop an EPR bill that they say “will set recycling back for ten years” if it passes. The coalition has teamed with New York State Assembly members to produce an alternative bill. At the federal level, similar steps were taken to protect the bottle bill. Container legislation has been taken out of the federal EPR bill and an independent bill with requirements for phasing in mandatory refillable containers may move forward.

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<sup>7</sup> [Case Study of OR Bottle Bill](#), Taylor, Cass, Talbot 2022

[In New York and Oregon, Canning Reduces Waste and Changes Lives](#), ILSR, 2022

<sup>8</sup> [York University's Studies of Extended Producer Responsibility Reveal Evidence of Failures](#), ILSR, 2021,

In Hawaii, an alternative EPR bill, with no PRO, passed both legislative chambers but stalled in the conference committee. Under this bill, fees go to a sequestered government fund, which distributes infrastructure investment money only after a Zero Waste plan is presented for funding. The bill stalled in the legislature's Conference Committee after a withering wave of lobbying from global corporations led to the tabling of the bill.

The bill is unique as it focuses on taxing companies with \$15 billion in gross sales, but not small and medium manufacturers.

In June 2022, global corporations undermined a citizens' Zero Waste ballot initiative in California by extending a reported \$30 million for lobbying to pass a monopoly-controlled EPR bill in the legislature that resulted in taking the citizens' initiative off the ballot. This is yet another display of how industry dominates the legislative process.

**A return to incineration** is also part-and-parcel of the EPR debate, leading Zero Waste advocates to prohibit EPR materials from being incinerated, as they fear control by the plastics industry over decision-making. The plastics industry is pushing heavily for “chemical recycling” or “advanced recycling” as euphemisms for incineration as an antidote to the plastics crisis, disregarding the fact that burning plastics contributes to global climate change.

The incineration industry supports EPR legislation that takes decision making out of the hands of organized citizens and small businesses. Already the plastics industry is lobbying intensely for US EPA to reverse its policy that considers “advanced recycling” as incineration. Meanwhile, anticipating that reversal will succeed, the industry has built plants for small-scale pyrolysis gasification systems, touted as models for cities and counties. Hundreds of millions of dollars are waiting to build new virgin plastic manufacturing capacity, once the ‘solution’ to waste plastics is promised by this new wave of incineration.

Yet another threat of garbage incineration comes from the manufacture of what is essentially shredded garbage, minus the glass and metal. The fuel pellets produced are then burned in existing cement kilns and industrial boilers, thus avoiding the scrutiny of citizens who would otherwise be threatened by a new incinerator in their midst.

The emerging consensus among Zero Waste activists is that there is no need for a PRO, and certainly none for a PRO to control funding. Instead, they are advocating “Zero Waste criteria” for investments, and a national bottle bill with a mandated minimum percentage of product being in refillable bottles.

**Penetration of recycling markets** is a goal of major global corporate foundation efforts by the Closed Loop Fund and The Recycling Partnership. By buying up infrastructure for processing and manufacturing, they further restrict the market for municipal and county innovations. Beneficiaries of grants from these sources receive funds for more carts and more single stream recycling. Waste Management (WM) and Republic are purchasing end-use manufacturing capacity, as well, further threatening public decision-making and local control.

Decision-making by major industrial players leads to inefficiencies. Big Waste processing plants do not recover glass for industrial use, even though glass is infinitely recyclable and comprises 20-25% of

the recycling stream. They claim there are no markets for glass. This is a lie that hurts the American glass industry, which currently recycles at the 35% level and would like to reach 90% or more because of energy and equipment savings. But the supply is artificially cut off. The single stream long distance/low value mixed materials model serves industry but comes with a costly system that is unfriendly to the public and the environment, denying cities of jobs and inhibiting the emergence of clean stream recycling needed for both domestic and international markets.

New services and technologies, as well as new business formats, can alter this trend. Road Runner is a recycling hauling company based in Pittsburgh, and rapidly expanding to metropolitan markets throughout the U.S., that uses a shared revenue strategy to get its small business clients to save money on discard management. Customers keep materials separated for careful collection and delivery to processors and end use manufacturers.

New technology offers cities and counties the option to localize recycling through mini-MRFs operating at 50-150 tons per day. These facilities fit into small and urban communities and yield high quality clean materials that earn premium prices in the marketplace.

An older technology is also holding its own within the U.S. panoply of approaches to recycling. Curb sort, where workers separate curb-set materials into a compartmented truck, has been serving rural (Centre County, PA) and urban (Fayetteville, AR) jurisdictions for many years and remains popular. The cost of additional labor en route is more than made up from savings on costs for processing. The curb sort collection is the first step in efficient processing that yields high value materials. Curb sort provides the best education tactic for households, since non-recyclable materials are returned immediately.

Mini MRFs allow for in-town processing, clean materials, and direct access to end users through Cooperative Marketing organizations that avoid needless intermediaries, long distance transportation of low value materials and double handling of collected materials.

### **Extended Producer Responsibility Legislation Raises Concerns**

The Extended Producer Responsibility (EPR) debates have been a welcome breath of fresh air, forcing us to address the key question: Who makes decisions about recycling? Big Soda and Big Packaging, with support from non-profit organizations such as the Product Stewardship Institute (PSI), the National Stewardship Action Council (NSAC), and others, want a monopoly on policy decisions.

Confusion about EPR rattled discussions and mistakenly drew attention away from the goal of reducing waste and stopping plastic pollution. In time, balance was restored in the public's mind as it dawned on many people that giving control of recycling and plastic to companies in the plastic/oil/packaging industrial complex was counter-intuitive. Increasingly, people are asking, "Aren't these the companies that caused the problems and lied to us about their impacts for generations? Why should the foxes be in charge of the hen house? Shouldn't citizens decide on things that will impact their behavior?"

The goal of corporate-controlled EPR is to divert attention from the petroleum/plastics industry's transition to a new profit center. Billions of dollars are already being planned for new virgin plastics production. Their control over recycling will mean more virgin plastics production, more incineration. EPR is thus purposefully complicated, involving paper and metal recycling despite their already being

recycled at high rates. In this confusion, the petroleum/plastics industrial complex will continue to prosper. The environment will continue to degrade.

### **Recycling Is Infrastructure Too!**

#### ***Campaign Promotes American Recycling Infrastructure Plan***

The Recycling Is Infrastructure Too! Campaign (RIIT), coordinated by the National Recycling Coalition, Institute for Local Self-Reliance, and Zero Waste USA, has greatly helped the return of reason. Its advancement of the American Recycling Infrastructure Plan (ARIP)<sup>9</sup> is drawn from four discreet plans for accelerated recycling and Zero Waste and presents a \$16 billion, ten-year plan comprised of diversified, locally approved policies and programs for the 21<sup>st</sup> century. Focused investment and “New Localism” are the keys, and examples of them succeeding include:

- Eureka Recycling in Twin Cities, Minnesota sells 90% of processed recyclables within the state.
- Reuse Minnesota has documented 55,000 jobs in the reuse sector.
- Austin, TX, after 10 years of investing in Zero Waste, has created 600 jobs and added over \$1 billion in economic growth.
- A pending mandatory bill in the Baltimore City Council will double the number of jobs at Second Chance deconstruction company, which already employs 250 workers recruited from hard-to-employ residents of the city.
- Thriving reuse networks crisscross the country, including **The ReUse Corridor** in Central Appalachia (serving Ohio, West Virginia and Kentucky); **Second Chance** in Baltimore (covering the US East Coast, and west into Ohio); **The Reuse People** (coordinating a network of 16 for-profit and nonprofit enterprises); **Saint Vincent de Paul** (operating a network of repair and reuse workshops from Portland, OR to San Francisco, CA, as well as the **Cascade Alliance**, a nationwide network of nonprofit reuse enterprises); **Habitat for Humanity's ReStores** throughout the country; **The South East Recycling Development Council** (southeast U.S.); and **The Building Materials Reuse Association** (the trade association for the deconstruction industry).

Guidelines for the future require careful attention to legislation, as well as focus on rulemaking after laws are passed to guarantee that the principles of decentralization, local recycling and, above all, citizens’ right to vote on decisions that affect them directly remain intact.

Can ARIP and the RIIT Campaign inform legislators, agency staff, industry and the public, as well as stem the tide of Big Waste, Big Packaging and Big Plastic, while assuring steady progress to a Zero Waste economy? Yes, it can, if Americans follow their hearts and their instincts to conserve value in our economy and society.

Here is what we need to do:

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<sup>9</sup> [Recycling Infrastructure Plan](#), Resource Recycling.com  
[Building America's Zero Waste Future](#), ILSR, 2021



- **TAX** what you do not like or want – landfills, hybrid packaging, and plastic products.
- **INVEST** in what you do want – source reduction, distributed composting, resource recovery parks, local recycling and reuse for local and regional markets.
- **BAN** what is toxic and dangerous – single-use plastics, incinerators, polystyrene packaging.
- **VOTE** for elected officials who champion Zero Waste.

Gary Liss, influential thinker for the Sierra Club, National Recycling Coalition and Zero Waste USA, asks, “How much waste do we want?” The answer from Americans is loud and clear – **ZERO** for a fair, ample and safe future.

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